1.2.1: Percentage of Programmes in which Choice Based Credit System (CBCS)/ elective course system has been implemented

Index

Circulars

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ-೦೪, ಬಾಚರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – ೫೯೧೧೫೬

RANI CHANNAMMA UNIVERSITY
Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2019@gmail.com com
Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿಬೆ/ಕುಸಾ/ವಿದ್ಯಾಮಂಡಳ/2020-21/ ೨೦೦೨

ದಿನಾಂಕ: 14 SEP 2020

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2020-21 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ 14-09-2020

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2020-21 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 3 ನೇ ಸೆಮಿಸ್ಟರ್ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಮೂರನೇ ಸೆಮಿಸ್ಟರ್‌ನ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಉಪಕುಲಸಚಿವರು

ಲಗತ್ತು 3 ನೇ ಸೆಮಿಸ್ಟರ್ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ಮುಖ್ಯಸ್ಥರು, ಸ್ನಾತಕೋತ್ತರ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳು, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ ಬೆಳಗಾವಿ.
2. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಹೊಸಪೇಟೆ. ವಿಜಯಪುರ.
3. ಸಂಯೋಜಕರು, ಅನುಭವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
4. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧದ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೊಣಿನಗರ ಬೆಳಗಾವಿ.
6. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

Certificate

It is here by certified that the above letter is the Kannada Order of Rani Channamma University Letter Reference No RCU/Belagavi/RO/P BoE /2020-21/2002 Dated 14 Sept 2020 regarding enforcement of Open Elective Course(**OEC**) from the year 2020-21 to all the PG Course / Programmes of the University.

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223344

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College,
JAMKHANDI. Dist. Bagalkot

Rani Channamma University
N.H.-04 Vidya Sangam Belagavi-591156
Academic Council

Website: **www.rcub.ac.in**

Email: **rcuexam@gmail.com**

Ref No: **RCUB/Belagavi/KSK/Academic Council/2020-21/2002**

Date: **14-09-2020**

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2020-21

References: Vice Chancellor's Approval Date 14-09-2020

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2020-21 Academic Year 3 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator
I Q A C
BLDE Assosiation's
Commerce BHS Arts & TGP Science College,
Jamkhandi. Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science Colle
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI
As Per PG Syllabus

2020-21 Open Elective 3rd Semester Subjects

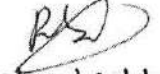| Sl.No.	Name of the Department	OEC-Subject Name
1	Commerce	Personal Finance Management
2	M.B.A	Soft Skills for Employability
3	M.L.I.Sc	Electronic Resources and Library Services
4	Geography	a. Regional Geography of Karnataka
		b. Regional Geography of India
5	Sociology	a. Society, Education & Development
		b. Sociology of Social Deviance
6	Political Science	Indian Political Philosophers
7	Economics	Karnataka Economy
8	M.S.W	Social Work Practice with the Elderly
9	Computer Science	a. E-Commerce
		b. Management Information Systems (MIS)
10	Mathematics	a. Statistics & Quantitative Techniques (Arts & Commerce Stream)
		b. Computational Methods (Science Stream)
11	Marathi	Marathi Wangmay Prakar: Kathani Lalit-Sahitya
12	Education	Personality Development & Communication Skills
13	Criminology & Criminal Justice	Criminal Behavior and Police Investigation
14	Chemistry	Environmental Chemistry (CHEG-3.5)
15	Physics	Physics of Nanomaterials
16	Kannada	Adhunika Kannada Shastreeya Sahithya
17	English	Language through Literature
18	History	History of Social Transformation Movement in India (Modern and Contemporary)
19	M.P.Ed	Community and Family Health
20	Journalism & Mass Communication	Radio & TV Productions

Deputy Registrar

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph: 08353 - 223544

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿದ್ಯಾಸಂಗಮ, ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ – 04, ಭೂತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – 591156

RANI CHANNAMMA UNIVERSITY

Vidyasangama, National Highway - 04, Bhootaramanahatti, Belagavi - 591156

E-mail: rcubacademic2010@gmail.com   ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ   Website: www.rcub.ac.in
rcuregistrar@gmail.com   **Office of the Registrar**   Phone No.: 0831-2565257/34

ಕ್ರ.ಸಂ.: ರಾಚವಿ/ಬೆಳಗಾವಿ/ಕುಸಕಾ/ವಿ.ಮಂ/ಪಠ್ಯಕ್ರಮ/2020–21/ 1687   ದಿನಾಂಕ: 2 8 AUG 2020

ಸುತ್ತೋಲೆ

ವಿಷಯ   :   2020–21 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಸ್ನಾತಕೋತ್ತರ ಎಲ್ಲ ಕೋರ್ಸ್‌ಗಳ 1 ರಿಂದ 4 ನೇ
ಸೆಮಿಸ್ಟರ್‌ಗಳ ಸಿ.ಬಿ.ಸಿ.ಎಸ್ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಅಂರ್ಜಾಲದಲ್ಲಿ ಅಳವಡಿಸಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ   :   1. ಬಿ.ಓ.ಎಸ್. ಅಧ್ಯಕ್ಷರ ಪತ್ರಗಳ ಅನುಗುಣವಾಗಿ.
2. ವಿದ್ಯಾವಿಷಯಕ್ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದನೆ ದಿನಾಂಕ:26-06-2020
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆ ದಿನಾಂಕ:26-08-2020

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಿದವ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ 2020–21 ನೇ
ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಸ್ನಾತಕೋತ್ತರ ಎಲ್ಲ ಕೋರ್ಸ್‌ಗಳ 1 ರಿಂದ 4 ನೇ ಸೆಮಿಸ್ಟರಗಳ ಸಿ.ಬಿ.ಸಿ.ಎಸ್ ನೂತನ
ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಹಾಗೂ ಆಯಾ ಕೋರ್ಸ್‌ಗಳ ಬಿ.ಓ.ಎಸ್. ಅಧ್ಯಕ್ಷರು ರಚಿಸಿದ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ
ಮತ್ತು ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆಯನ್ನು ಪಡೆದು ಈ ಕೆಳಗೆ ನಮೂದಿಸಿದಂತೆ ವಿಶ್ವವಿದ್ಯಾಲಯದ
ಎಲ್ಲ ವಿಭಾಗಳಿಗೆ ಹಾಗೂ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳಿಗೆ ಬೋಧನಾ ಕ್ರಮ ಕೈಗೊಳ್ಳಬೇಕೆಂದು
ತಿಳಿಸಲಾಗಿದೆ ಹಾಗೂ ಇದನ್ನು ವಿಶ್ವವಿದ್ಯಾಲಯದ ವೆಬ್–ಸೈಟ್‌ನಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ.

ಕ್ರ.ಸಂ	ಸ್ನಾತಕೋತ್ತರ ಪದವಿ	ಕ್ರ.ಸಂ	ಸ್ನಾತಕೋತ್ತರ ಪದವಿ
1	ಶಾಸ್ತ್ರೀಯ ಕನ್ನಡ	14	ಗಣಕವಿಜ್ಞಾನ
2	ಇಂಗ್ಲೀಷ	15	ಸಸ್ಯಶಾಸ್ತ್ರ
3	ಮರಾಠಿ	16	ವಾಣಿಜ್ಯಶಾಸ್ತ್ರ . Commerce
4	ಸಮಾಜಶಾಸ್ತ್ರ	17	ಎಂ.ಬಿ.ಎ
5	ರಾಜ್ಯಶಾಸ್ತ್ರ Pol.Science	18	ಪ್ರಾಣಿಶಾಸ್ತ್ರ
6	ಅರ್ಥಶಾಸ್ತ್ರ	19	ಕ್ರಿಮಿನಾಲೂಜಿ & ಕ್ರಿಮಿನಲ್ ಜಸ್ಟಿಸ್
7	ಇತಿಹಾಸ History	20	ಗ್ರಂಥಾಲಯ ಮತ್ತು ಮಾಹಿತಿ ವಿಜ್ಞಾನ
8	ಸಮಾಜಕಾರ್ಯ	21	ಪತ್ರಿಕೋದ್ಯಮ & ಸಮೂಹ ಸಂವಹನ
9	ಭೌತಶಾಸ್ತ್ರ	22	ಪಿ.ಜಿ.ಡಿಪ್ಲೋಮಾ ಇನ್ ಅಂಬೇಡ್ಕರ್ ಸ್ಟಡೀಸ್
10	ರಸಾಯನಶಾಸ್ತ್ರ	23	ಪಿ.ಜಿ.ಡಿಪ್ಲೋಮಾ ಇನ್ ವಚನ ಸ್ಟಡೀಸ್
11	ಎಂ.ಸಿ.ಎ	24	ಪಿ.ಜಿ.ಡಿಪ್ಲೋಮಾ ಇನ್ ಟ್ರಾನ್ಸಲೇಶನ್
12	ಗಣಿತಶಾಸ್ತ್ರ Mathematics	25	ಎಂ.ಎಡ್ (2015–16 ಪರೀಷ್ಟುತ)
13	ಭೂಗೋಳಶಾಸ್ತ್ರ		

ಮುಂದುವರೆದಿದೆ

1

ಸದರಿ ಎಲ್ಲ ಕೋರ್ಸಗಳ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಈ ಕೆಳಗಿನಂತೆ ಬೋಧನಾ ಕ್ರಮ ಕೈಗೊಳ್ಳಬೇಕೆಂದು ತಿಳಿಸಲಾಗಿದೆ

ಕ್ರ.ಸಂ	ಸೆಮೆಸ್ಟರ್	ಪಠ್ಯಕ್ರಮ	ಶೈಕ್ಷಣಿಕ ವರ್ಷ
1	3 & 4	ನಾನ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್	2020–21

ಕುಲಸಚಿವರು

ಲಗತ್ತು:

1. ವಿಶ್ವವಿದ್ಯಾಲಯದ ವೆಬ್–ಸೈಟ್‌ನಲ್ಲಿ ಅಳವಡಿಸಲಾದ 1 ರಿಂದ 4 ನೇ ಸೆಮಿಸ್ಟರ್‌ಗಳ ಸಿ.ಬಿ.ಸಿ.ಎಸ್ ನೂತನ ಪಠ್ಯಕ್ರಮವನ್ನು ಡೌನಲೋಡ್ ಮಾಡಿಕೊಳ್ಳುವುದು.

ಇವರಿಗೆ,

1. ಎಲ್ಲ ಸ್ನಾತಕೋತ್ತರ ವಿಭಾಗಗಳು, ರಾ.ಚ.ವಿಶ್ವವಿದ್ಯಾಲಯ ಬೆಳಗಾವಿ.
2. ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ ಜಿಲ್ಲೆಗಳಲ್ಲಿರುವ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳಲ್ಲಿರುವ ಎಲ್ಲ ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸ್‌ಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳಿಗೆ.

Certificate

It is here by certified that the above letter is the Kannada Order of Rani Channamma University Letter Reference No RCU/Belagavi/RO/P BoE/Syllabus/2020-21/1687 Dated 28 Aug 2020 regarding enforcement of CBCS from the year 2020-21 to all the PG Course from 1 to 4 semester / Programmes of the University.

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223544

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College.
JAMKHANDI. Dist. Bagalkot

2

Rani Channamma University Belagavi

Vidya Sangam National Highway-04 Bhootaramanahatti, Belagavi-591156

Website: www.rcub.ac.in Office of the Registrar EmailID: rcubacadamiccouncil@rcub.ac.in

Ref No: RCUB/Belagavi/RO/AC/Curriculum/2020-21/1687   Date: 28-Aug-2020

Circular

Subject: 2020-21 Academic year all PG Courses 1st to 4th semester CBCS Syllabus uploaded to Website

References:

1. **According to BOS Chairman letters**
2. **Academic Council Meeting Approved Date 26-06-2020**
3. **Honourable Vice Chancellor Approved Date 26-08-2020**

With reference to the above subject Rani Channamma University Belagavi, for the academic year 2020-21 CBCS Syllabus of 1st to 4th semester for all PG courses and their course framed curriculum by respective BOS Chairmans and approved by the Honourable Vice Chancellor and it is uploaded to the university website. According to the below mentioned respective departments and constituent colleges are intimated to adopt the teaching method.

Sl.No.	Post Graduation	Sl.No.	Post Graduation
1	Classic Kannada	14	Computer Science
2	English	15	Botany
3	Marathi	16	Commerce
4	Sociology	17	MBA
5	Political Science	18	Zoology
6	Economics	19	Criminology & Criminal Justice
7	History	20	Library & Information Science
8	Social Work	21	Journalism & Mass communication
9	Physics	22	PG Diploma in Ambedkar Studies
10	Chemistry	23	PG Diploma in Vachana Studies
11	MCA	24	PG Diploma in Translation
12	Mathematics	25	M.Ed (2015-16 Revised)
13	Geography		

1

Coordinator
I Q A C
BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science Colle
JAMKHANDI-587301.

Ref No.: ರಾಚವಿ/ಬೆಳಗಾವಿ/ಕುಸಕಾ/ಪ. ಕ್ರ/2020–21/ 298   ದಿನಾಂಕ: **2 6 MAY 2020**

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2020–21ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸುಗಳಿಗೆ ಸಿಬಿಸಿಎಸ್ (CBCS) ಮಾದರಿಯ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸುತ್ತಿರುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಅನುಮೋದನೆ ದಿನಾಂಕ:12–05–2020

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, 2020–21ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸುಗಳ 1 & 2ನೆಯ ಸೆಮಿಸ್ಟರ್‌ಗಳಿಗೆ ಸಿ.ಬಿ.ಸಿ.ಎಸ್. ಮಾದರಿಯಲ್ಲಿ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಲಾಗುವುದು. ಸದರಿ ಸ್ನಾತಕ ಕೋರ್ಸ್‌ಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ವಿದ್ಯಾವಿಷಯಕ್ ಪರಿಷತ್ತಿನ ಅನುಮೋದನೆಯನ್ನು ಕಾಯ್ದಿರಿಸಿ ಅಳವಡಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, 2020–21ನೆಯ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸುಗಳ 1 ರಿಂದ 6ನೆಯ ಸೆಮಿಸ್ಟರ್‌ಗಳಿಗೆ ಸಿ.ಬಿ.ಸಿ.ಎಸ್. ಮಾದರಿಯ ಪಠ್ಯಕ್ರಮದ Course Structure ಗಳನ್ನು ವಿಶ್ವವಿದ್ಯಾಲಯದ ಅಂತರ್ಜಾಲದಲ್ಲಿ ಅಳವಡಿಸಲಾಗಿದೆ. ಸದರಿ ಪಠ್ಯಕ್ರಮದ ಪ್ರಕಾರ ಬೋಧನೆ ಮಾಡಲು ಕಾರ್ಯ ಪ್ರವೃತ್ತರಾಗಲು ತಿಳಿಸಲಾಗಿದೆ.

ಕುಲಸಚಿವರು

ಇವರಿಗೆ,

ಪ್ರಾಚಾರ್ಯರು, ರಾ.ಚ.ವಿಯ ಎಲ್ಲ ಸ್ನಾತಕ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳು

ಪ್ರತಿ ಮಾಹಿತಿಗಾಗಿ :

1) ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ), ರಾ.ಚ.ವಿ., ಬೆಳಗಾವಿ.
2) ಹಣಕಾಸು ಅಧಿಕಾರಿಗಳು, ರಾ.ಚ.ವಿ., ಬೆಳಗಾವಿ.
3) ಉಪಕುಲಸಚಿವರು, ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗ, ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ, ರಾ.ಚ.ವಿ., ಬೆಳಗಾವಿ.
4) ವಿಶೇಷಾಧಿಕಾರಿಗಳು, ಕುಲಪತಿಗಳ ಕಾರ್ಯಾಲಯ, ರಾ.ಚ.ವಿ., ಬೆಳಗಾವಿ.
5) ರಕ್ಷಾ ಪ್ರತಿ.

Certificate

It is here by certified that the above letter is the Kannada Order of Rani Channamma University Letter Reference No RCU/Belagavi/RO/P Sl No/2020-21/298 Dated 26 may 2020 regarding enforcement of CBCS syllabus from the year 2020-21 to all the UG Course / Programmes of the University.

Coordinator
IQAC
B.L.D.E Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223544

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College,
JAMKHANDI. Dist. Bagalkot.

Website: www.rcub.ac.in

Email: rcuexam@gmail.com

Ref No: RCUB/Belagavi/KSK/Academic Council/2020-21/298

Date: 26-05-2020

Circular

Subject: Implementation of CBCS Syllabus for the academic year 2020-21 to all UG programs

References: Vice Chancellor's Approval Date 12-05-2020

With reference to above subject, from the academic year 2020-21 the CBCS syllabus will be implemented to 1st and 2nd semester of all UG courses. Respective UG courses syllabus has been implemented with waiting for approval from academic council.

Further, from the academic year 2020-21 all UG courses from 1 to 6th semesters CBCS, syllabus course structure have been uploaded on University website. It is hereby informed that according to the Syllabus the teaching methodology should be followed

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator
I Q A C
BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com
Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿಬೆ/ಕುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ/2019–20/ 2381   ದಿನಾಂಕ: 14 SEP 2019

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2019–20 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಮುಕ್ತ ಆಯ್ಕೆ
(Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.
ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ: 06–09–2019

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2019–20 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 3 ನೇ ಸೆಮೆಸ್ಟರ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಮೂರನೇ ಸೆಮೆಸ್ಟರನ ಎಲ್ಲಾ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಾಯಕ ಕುಲಸಚಿವರು

ಲಗತ್ತು: 3 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೋರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧದ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೋನಗರ ಬೆಳಗಾವಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ,

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot

ಪ್ರತಿ ಮಾಹಿತಿಗಾಗಿ:

1. ಸಹಾಯಕ ಕುಲಸಚಿವರು, ಪರೀಕ್ಷಾ ವಿಭಾಗ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ ಇವರ ಮಾಹಿತಿಗಾಗಿ ಹಾಗೂ ಮುಂದಿನ

Certificate

It is to Certify that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2019-20/2381. Dated 14-09-2019 regarding enforcement of OEC from the year 2019 – 20 to all the PG Course from 3rd semester / programmes of the University

Coordinator
IQAC
B.L.
Commerce, BHS Arts & TGP Science College, Jamkhandi.

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PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Website: **www.rcub.ac.in**   Email: **rcuexam@gmail.com**

Ref No: **RCUB/Belagavi/KSK/Academic Council/2019-20/2381**   Date: **14-09-2018**

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2019-20

References: Vice Chancellor's Approval Date 06-09-2019

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2019-20 Academic Year 3 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator
I Q A C
BLDE Association's
Commerce BHS Arts & TGP Science College.
Jamkhandi, Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science Colleg...
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI
As Per PG Syllabus

2019-20 Open Elective 3rd Semester Subjects

Sl.No.	Name of the Department	OEC-Subject Name
1	Commerce	Personal Financial Planning
2	M.B.A	Soft Skills for Employability
3	M.L.I.Sc	Electronic Resources and Library Services
4	Geography	a. Regional Geography of Karnataka
		b. Regional Geography of India
5	Sociology	Society, Education & Development
6	Political Science	Indian Political Philosophers
7	Economics	Karnataka Economy
8	M.S.W	Social Work Practice the Elderly
9	Computer Science	a. E-Commerce
		b. Management Information Systems (MIS)
10	Mathematics	a. Statistics & Quantitative Techniques (Arts & Commerce Stream)
		b. Computational Methods (Science Stream)
11	Marathi	Marathi Wangmay Prakar: Katha ani Lalit-Sahitya
12	Education	Personality Development & Communication Skills
13	M.C.A	a. Management Information System (MIS)
14	Criminology & Criminal Justice	Criminal Behavior and Police Investigation
15	Chemistry	Environmental Chemistry (CHEG-3.5)
16	Physics	Modern Physics
17	Kannada	Adhunika Kannada Shastreeya Sahithya
18	English	Language through Literature
19	History	History of Social Transformation Movement in India (Modern and Contemporary)
20	M.P.Ed	Community and Family Health

(M.S.Deshi)

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College,
JAMKHANDI. Dist. Bagalkot.

Assistant Registrar

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ – 04, ಖಾತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – 591156

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com

Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿ/ಕುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ/2019-20/ 4567

ದಿನಾಂಕ: 29-01-2020

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2019-20 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 2 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ: 27-01-2020

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2019-20 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 2 ಮತ್ತು 4 ನೇ ಸೆಮೆಸ್ಟರ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಅದ್ದರಿಂದ 2 ಸೆಮೆಸ್ಟರನ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಿ/-

ಉಪ ಕುಲಸಚಿವರು

ಲಗತ್ತು: 2 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೊರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೋನಗರ ಬೆಳಗಾವಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ ಬಾಗಲಕೋಟ.

ಪ್ರತಿ ಮಾಹಿತಿಗಾಗಿ:

1. ಉಪಕುಲಸಚಿವರು, ಪರೀಕ್ಷಾ ವಿಭಾಗ ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ ಇವರಿಗೆ ಮಾಹಿತಿ ಹಾಗೂ ಮುಂದಿನ ಕ್ರಮಕ್ಕಾಗಿ

Certificate

This is to Certify that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2019-20/4567. Dated 29-01-2020 regarding enforcement of OEC for the academic year 2019 –20 to the entire PG Course from 2nd semester / programmes of the University.

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot

Commerce, BHS Arts & TGP Science College, Jamkhandi.

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2019-20

References: Vice Chancellor's Approval Date 27-01-2020

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2019-20 Academic Year 2 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 2 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator
I Q A C
BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI

As Per PG Syllabus

2019-20 Open Elective 2nd Semester Subjects

Sl.No.	Name of the Department	OEC-Subject Name
1	M.A. Kannada	Adhunika Sahityad Prakaragalu patyagalu
2	M.A. English	English for Communication
3	M.A. Marathi	Marathi Sahityacha Parichaya
4	M.Com	Personality Development
5	M.A. Economics	Indian Economy
6	MBA	Entrepreneurship Development
7	M.A. History	History of Social Transformation Movement in India (Ancient and Medieval)
8	M.A. Political Science	Human Rights
9	MSW	Social Work Practice with Children
10	M.A. Sociology	Indian Society: Continuity and Change
11	M.Sc. Chemistry	Chemistry for everyday life
12	M.Sc. Computer Science	Computer Concepts and C Programming (Code: 16MSc CS25)
13	M.Sc. Mathematics	a. Set Theory (Arts & Commerce Stream)
		b. Integral Transforms (Science stream)
14	M.Sc. Physics	Modern Physics
15	M.L.I.Sc.	Information Literacy
16	M.C.A	Computer Concepts and C Programming (Code: 16MSc CS25)
17	M.Sc. Geography	a. Geography of Natural Hazards & Disaster Management
		b. Fundamentals of Physical Geography
18	M.Sc. Botany	Medicinal Plants & Herbal drug Technology
19	Criminology	Introduction to Forensic Science
20	M.Ed	Strategies of Teaching
21	M.P.Ed	Diet and Nutrition

Coordinator
IQAC
B.L D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223544

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot

Deputy Registrar

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ–"೦೪", ಭೂತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – ೫೯೧೧೫೬

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com
Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿ/ಕುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ/2018-19/2727   ದಿನಾಂಕ: 23-08-2018

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2018-19 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಮುಕ್ತ ಆಯ್ಕೆ
(Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ: 13-08-2018

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2018-19 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 3 ನೇ ಸೆಮಿಸ್ಟರ್ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಮೂರನೇ ಸೆಮಿಸ್ಟರನ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಿ/-
ಉಪಕುಲಸಚಿವರು

ಲಗತ್ತು: 3 ನೇ ಸೆಮಿಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೊರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧದ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೋನಗರ ಬೆಳಗಾವಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

Certificate

This is to Certify that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2018-19/2727. Dated 23-08-2018 regarding enforcement of OEC for the academic year 2018 –19 to the entire PG Course from 3rd semester / programmes of the University.

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2018-19

References: Vice Chancellor's Approval Date 13-08-2018

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2018-19 Academic Year 3 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator

I Q A C

BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph. 08353-223344

JAMKHANDI
587301

PRINCIPAL

B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI

As Per PG Syllabus

2018-19 Open Elective 3rd Semester Subjects

Sl.No.	Name of the Department	OEC-Subject Name
1	Commerce	Personal Finance Management
2	M.B.A	Soft Skills for Employability
3	M.L.I.Sc	Electronic Resources and Library Services
4	Geography	a. Regional Geography of Karnataka
		b. Regional Geography of India
5	Sociology	Society, Education & Development
6	Political Science	Indian Political Philosophers
7	Economics	Karnataka Economy
8	M.S.W	Social Work Practice the Elderly
9	Computer Science	a. E-Commerce
		b. Management Information Systems
10	Mathematics	a. Statistics (Arts & Commerce Stream)
		b. Computational Methods (Science Stream)
11	Marathi	Marathi Wangmay Prakar: Kathani Lalit Sahitya
12	Education	Personality Development & Communication Skills
13	M.C.A	a. Management Information System (MIS)
14	Criminology & Criminal Justice	Criminal Justice System
15	Chemistry	Environmental Chemistry (CHEG-3.5)
16	Physics	Physics of Nanomaterials
17	Kannada	Adhunika Kannada Shastreeya Sahithya
18	English	Language through Literature
19	History	History of Social Transformation Movement in India (Modern and Contemporary)
20	M.P.Ed	Community and Family Health

Coordinator
IQAC
B.L D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223044

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI, Dist. Bagalkot

Sd/-
Deputy Registrar

Coordinator
IQAC
B.L D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223044

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com

Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿಬ/ಕುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ2018-19/5459   ದಿನಾಂಕ: 18-02-2019

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2018-19 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 2 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ 14-02-2019

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2018-19 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 2 ಮತ್ತು 4 ನೇ ಸೆಮೆಸ್ಟರ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ 2 ನೇ ಸೆಮೆಸ್ಟರನ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಿ/-
ಉಪಕುಲಸಚಿವರು

ಲಗತ್ತು: 2 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೊರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧದ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಶೋಕನಗರ ಬೆಳಗಾವಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Certificate

This is to Certify that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2018-19/5459. Dated 18-02-2019 regarding enforcement of OEC from the year 2018 – 19 to all the PG Course from 2nd Semester / programmes of the University

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223234.

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2018-19

References: Vice Chancellor's Approval Date 14-02-2019

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2018-19 Academic Year 2 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 2 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator

I Q A C

BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL

B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI
As Per PG Syllabus
2018-19 Open Elective 2nd Semester Subjects

Sl.No.	Name of the Department	OEC-Subject Name
1	M.A. Kannada	Adhunika Sahityad Prakaragalu
2	M.A. English	English for Communication
3	M.A. Marathi	Marathi Sahityacha Parichaya
4	M.Com	Personality Development
5	M.A. Economics	Indian Economy
6	MBA	Entrepreneurship Development
7	M.A. History	History of Social Transformation Movement in India (Ancient and Medieval)
8	M.A. Political Science	Human Rights
9	MSW	Social Work Practice with Children
10	M.A. Sociology	Indian Society: Continuity and Change
11	M.Sc. Chemistry	Chemistry for everyday life
12	M.Sc. Computer Science	Computer Concepts and C Programming (Code: 16MSc CS25)
13	M.Sc. Mathematics	a. Set Theory (Arts & Commerce Stream)
		b. Integral Transforms (Science stream)
14	M.Sc. Physics	Modern Physics
15	M.L.I.Sc.	Information Literacy
16	M.C.A	Computer Concepts and C Programming (Code: 16MSc CS25)
17	M.Sc. Geography	a. Geography of Natural Hazards & Disaster Management
		b. Fundamentals of Physical Geography
18	M.Sc. Botany	Medicinal Plants
19	Criminology	Introduction to Forensic Science
20	M.Ed	Strategies of Teaching
21	M.P.Ed	Diet and Nutrition

Sd/-
Deputy Registrar

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI, Dist. Bagalkot

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - 223044

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ – ೦೪, ಭೂತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – ೫೯೧೧೫೬

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com

Website: www.rcub.ac.in

Phone : 0831-2565203,34,36

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ನಂಖ್ಯೆ: ರಾಚವಿವಿ/ಪುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ/2017–18/ ೨೩೮೦   ದಿನಾಂಕ: 01 SEP 2017

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2017–18 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ: 31-08-2017

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2017–18 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 3 ನೇ ಸೆಮೆಸ್ಟರ ತರಗತಿಗಳು ಪ್ರಾರಂಭಪಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಮೂರನೇ ಸೆಮೆಸ್ಟರನ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಉಪಕುಲಸಚಿವರು

ಲಗತ್ತು: 3 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೊರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಸಂಯೋಜಕರು, ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ, ಮಿನಿ ವಿಧಾನಸೌಧದ ಕಟ್ಟಡ ಜಮಖಂಡಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜೆ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೋನಗರ ಬೆಳಗಾವಿ.
5. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

Certificate

It is here by Certified that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2017-18/2380. Dated 01-09-2017 regarding enforcement of OEC for the academic year 2017 –18 to the entire PG Course from 3rd semester / programmes of the University.

Coordinator
IQAC
BLDE Association's

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Website: **www.rcub.ac.in**   Email: **rcuexam@gmail.com**

Ref No: **RCUB/Belagavi/KSK/Academic Council/2017-18/2380**   Date: **01-09-2017**

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2017-18

References: Vice Chancellor's Approval Date 31-08-2017

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2017-18 Academic Year 3 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. **Directors, Vachana Sangam PG Centre**
2. **Coordinator Anubhava Sangama PG Centre Bagalkot**
3. **Principal Sangolli Rayanna First Grade College Belagavi**
4. **Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot**

Coordinator
I Q A C
BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science Colle.
JAMKHANDI-587301.

RANI CHANNAMMA UNIVERSITY BELAGAVI
As Per PG Syllabus

SI.No.	Name of the Department	OEC-Subject Name
	2017-18 Open Elective 3rd Semester Subjects	
1	Commerce	Personal Finance Management
2	M.B.A	Soft Skills for Employability
3	M.L.I.Sc	Electronic Resources and Library Services
4	Geography	a. Regional Geography of Karnataka
		b. Regional Geography of India
5	Sociology	a. Sociology of Social Deviance
		b. Society, Education & Development
6	Political Science	Political Journalism
7	Economics	Karnataka Economy
8	M.S.W	Social Work Practice the Elderly
9	Computer Science	a. Internet & Web Design
		b. E-Learning & E-Commerce
10	Mathematics	Statistics & Quantitative Techniques
11	Marathi	Marathi Wangmay Prakar: Kathani Lalit Sahitya
12	Education	Personality Development & Communication Skills
13	M.C.A	a. Management Information System
		b. E-Learning & E-Commerce
14	Criminology & Criminal Justice	Criminal Justice System
15	Chemistry	Environmental Chemistry
16	Kannada	Adhunika Kannada Shastreeya Sahithya
17	English	Language through Literature
18	History	Modern and Contemorary

Deputy Registrar

Coordinator
IQAC
B.L.D E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph : 08353 - Page 24

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ – ೦೪, ಭೂತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – ೫೯೧೧೫೬

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com

Phone: 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಚವಿವಿ/ಬೆಳಗಾವಿ/ಕುನಾಕಾ/2016–17/2959   ದಿನಾಂಕ: 19–09–2016

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2016–17 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯವನ್ನು
ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಉಲ್ಲೇಖ: ಮಾನ್ಯ ಕುಲಸಚಿವರ ಅನುಮೋದನೆ ದಿನಾಂಕ: 19–09–2016

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಿದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2016–17 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ 3 ನೇ ಸೆಮಿಸ್ಟರ್ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಮೂರನೇ ಸೆಮಿಸ್ಟರ್ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.

ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ದಿನಾಂಕ 25–09–2016 ರೊಳಗಾಗಿ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಿ/–
ಸಹಾಯಕ ಕುಲಸಚಿವರು

ಲಗತ್ತು: ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

Certificate

It is here by Certified that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2016-17/2959. Dated 19-09-2016 regarding enforcement of OEC for the academic year 2016 –17 to the entire PG Course from 3rd semester / programmes of the University.

Coordinator
IQAC
B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.
Ph: 08353 - 223544

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2016-17

References: Vice Chancellor's Approval Date 19-09-2016

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2016-17 Academic Year 3 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval before 25-09-2016

Registrar

Attached/Enclosed 3 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator

I Q A C

BLDE Association's

Commerce BHS Arts & TGP Science College,

Jamkhandi, Ph 08353-223344

PRINCIPAL

B.L.D.E. Association's

Commerce, BHS Arts & TGP Science Colle:

JAMKHANDI-587301.
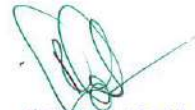
RANI CHANNAMMA UNIVERSITY BELAGAVI
As Per 2015-16 PG Syllabus
2016-17 Open Elective Course- 3rd Sem All Subjects

Sl.No	Name of the Department	Subject Code	Subject Name
1	MA Kannada		ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಪ್ರಕಾರಗಳು
2	MA English	3.6	Language through Literature
3	MA Marathi	3.6	Marathi Wangmaya Prakara: Katha ani Atmakathan
4	MA Political Science	3.6	Political Journalism
5	MA History		Problems of indian history (modern and contemporary)
6	MSW	SW 3.6	Gerontological Social work
7	MA Sociology	3.8 (a)	Sociology of Social Deviance
		3.8 (b)	Society, Education and Development
8	M.Com	3.6	Business Communication
9	MA Economics	90707/4070	Karnataka Economy
10	MBA		1. Soft skills for Employality 2. Small scale Industry Management
11	MSc. Chemistry	CHEG-3.5	Environmental Chemistry
12	M.Sc. Computer Science	12MCA36(1)	Management Information Systems
		12MCA36(2)	E-learning and E-Commerce
13	M.Sc. Mathematics	3.6	Statistics & Quantitative Techniques
14	M.Sc. Physics	3.4	Physics of Nanomaterials
15	M.L.I.Sc	3.8(2)	Electronic Resources & Information Service
16	M.Sc Geography	3.4	Open Elective (Choice any one)
			a. Regional Geography of Karnataka
			b. Regional Geography of India
17	M.Ed		Personality Development and Communication Skills
18	M.P.Ed	3.5	Community and Family Health
19	Criminology & Criminal Justice		CRIMINAL JUSTICE SYSTEM

Coordinator
IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯ

ವಿದ್ಯಾಸಂಗಮ, ಪಿ.ಬಿ.ರಾಷ್ಟ್ರೀಯ ಹೆದ್ದಾರಿ – 04, ಭೂತರಾಮನಹಟ್ಟಿ, ಬೆಳಗಾವಿ – 591156

RANI CHANNAMMA UNIVERSITY

Vidya Sangama, P.B. National Highway – 04, Belagavi – 591156

E-mail: rcuregistrar@gmail.com, rcubacademic2010@gmail.com com

Phone : 0831-2565203,34,36

Website: www.rcub.ac.in

ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯ ವಿದ್ಯಾಮಂಡಳ

ಸಂಖ್ಯೆ: ರಾಜಿವಿವಿ/ಕುಸಕಾ/ವಿದ್ಯಾಮಂಡಳ/2016–17/ 6505

ದಿನಾಂ 01 MAR 2017

ಸುತ್ತೋಲೆ

ವಿಷಯ: 2016–17 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳುವ ಕುರಿತು.

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯದನ್ವಯ, ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರಗಳ ನಿರ್ದೇಶಕರು/ಸಂಯೋಜಕರಿಗೆ ಮತ್ತು ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯದ ಪ್ರಾಚಾರ್ಯರಿಗೆ ಹಾಗೂ ಸ್ನಾತಕೋತ್ತರ ಸಂಯೋಜಿತ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಈ ಮೂಲಕ ತಿಳಿಸುವುದೇನೆಂದರೆ, 2016–17 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನ ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ 2 ನೇ ಸೆಮೆಸ್ಟರ ತರಗತಿಗಳು ಪ್ರಾರಂಭವಾಗಿರುತ್ತವೆ. ಆದ್ದರಿಂದ ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ ಎಲ್ಲ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಸ್ನಾತಕೋತ್ತರ ಅಧ್ಯಯನ ವಿಭಾಗಗಳ ಪಠ್ಯಕ್ರಮದ ಅನುಗುಣವಾಗಿ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯದ ಯಾದಿಯನ್ನು ಈ ಸುತ್ತೋಲೆಯೊಂದಿಗೆ ಲಗತ್ತಿಸಲಾಗಿದೆ.
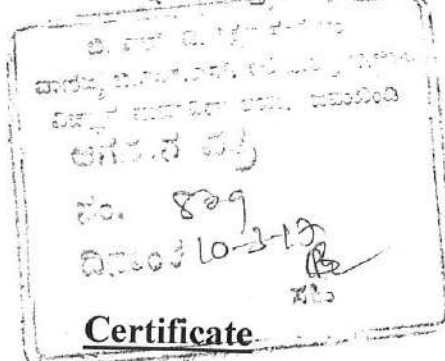
ಮುಂದುವರೆದು, ಲಗತ್ತಿಸಿದ ಮುಕ್ತ ಆಯ್ಕೆ ವಿಷಯಗಳ ಯಾದಿಯಂತೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಮೆರಿಟ್ ಅನುಗುಣವಾಗಿ ಹಾಗೂ ಪ್ರವೇಶ ಮಿತಿಯ ಅನುಸಾರವಾಗಿ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಳ್ಳಲು ಹಾಗೂ OEC ವಿಷಯವನ್ನು ಆಯ್ಕೆ ಮಾಡಿಕೊಂಡ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಾದಿಯನ್ನು ಸಿದ್ಧಪಡಿಸಿ ಒಂದು ವಾರದೊಳಗೆ ಅನುಮೋದನೆಗಾಗಿ ಕುಲಸಚಿವರ ಕಾರ್ಯಾಲಯದ ವಿದ್ಯಾಮಂಡಳ ವಿಭಾಗಕ್ಕೆ ಸಲ್ಲಿಸುವಂತೆ ಕೋರಲಾಗಿದೆ.

ಸಹಾಯಕ ಕುಲಸಚಿವರು

ಲಗತ್ತು: 2 ನೇ ಸೆಮೆಸ್ಟರ ಮುಕ್ತ ಆಯ್ಕೆ (Open Elective Course) ವಿಷಯಗಳ ಯಾದಿ

ಇವರಿಗೆ,

1. ನಿರ್ದೇಶಕರು, ವಚನ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ತೊರವಿ, ವಿಜಯಪುರ.
2. ಸಂಯೋಜಕರು, ಅನುಭಾವ ಸಂಗಮ ಸ್ನಾತಕೋತ್ತರ ಕೇಂದ್ರ ಬಾಗಲಕೋಟ.
3. ಪ್ರಾಚಾರ್ಯರು, ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ ಪ್ರಥಮ ದರ್ಜಿ ಘಟಕ ಮಹಾವಿದ್ಯಾಲಯ, ಅಟೋನಗರ ಬೆಳಗಾವಿ.
4. ಪ್ರಾಚಾರ್ಯರು, ಸ್ನಾತಕೋತ್ತರ ಕೋರ್ಸಗಳನ್ನು ನಡೆಸುತ್ತಿರುವ ಮಹಾವಿದ್ಯಾಲಯಗಳು ಬೆಳಗಾವಿ, ವಿಜಯಪುರ, ಬಾಗಲಕೋಟ.

Certificate

It is here by Certified that the above letter is the Kannada order of Rani Channamma University letter reference No RCU/Belagavi/RO/2016-17/6505. Dated 01-03-2017 regarding enforcement of OEC for the academic year 2016 –17 to the entire PG Course from 2 semester / programmes of the University.

Coordinator

B.L.D.E Association's
Commerce, BHS Arts & Science College, Jamkhandi.
Ph : 08353 - 223544

PRINCIPAL

Com. B.H.S. Arts & I.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot.

Circular

Subject: Selecting of PG Open Elective Course for the academic year 2016-17

References: Vice Chancellor's Approval Date 19-09-2016

With Reference to the above subject, we are informing to RCUB PG Centre's Directors/Co-Ordinators of the affiliated colleges. 2016-17 Academic Year 2 semester classes have been started. Hence open elective course list is attached to this circular in accordance with the various P.G. courses curriculum to select the open elective course for the students of all the disciplines.

Further students are requested to select the OEC subject's in accordance with merits and admission limit and submit the students list of those who have selected the OEC subject to the Registrar office for approval within one week

Registrar

Attached/Enclosed 2 semester Open Elective Course Subject List

To,

1. Directors, Vachana Sangam PG Centre
2. Coordinator Anubhava Sangama PG Centre Bagalkot
3. Principal Sangolli Rayanna First Grade College Belagavi
4. Principal of the P.G. Centre Belagavi, Vijaypur, Bagalkot

Coordinator

I Q A C

BLDE Association's
Commerce BHS Arts & TGP Science College,
Jamkhandi, Ph 08353-223344

PRINCIPAL

B.L.D.E. Association's
Commerce, BHS Arts & TGP Science College,
JAMKHANDI-587301.

Sl.No.	Subject Code	Subject Name	Name of the PG Department	Schools
1	2.6	Adhunika Sahityad Prakaragalu	M.A. Kannada	Classical Kannada Studies
2	2.6	English for Communication	M.A English	Languages
4	2.6	Marathi Sahityacha Parichaya	M.A. Marathi	Languages
5	2.6	Personality Development	M.Com	Business and Economics
6	2.6.1	Indian Economy	M.A Economics	Business and Economics
7	H260	"Concept of Management" "Entreprenuership Development"	MBA	Business and Economics
8	2.6	Problems of Indian History (Ancient and Medieval)	MA History	Social Science
9	2.6	Human Rights	MA Political Science	Social Science
10	2.6	Social Work Practice with Children	Social Work	Social Science
11	2.8	a) Indian Society: Continuity and change	MA Sociology	Social Science
12	2.5	Chemistry for everyday life	MSc. Chemistry	Basic Science
13	16MScCS25/ 16MCA25	Computer Concepts and C Programming	MSc. Computer Science and MCA	Mathematics & Computing Sciences
14		Set Theory (A Language of Mathematics)	M.Sc Mathematics	Mathematics & Computing Sciences
15	2.4	Modern Physics	M.Sc. Physics	Basic Science
16	2.7	information Literacy	M.L.I.Sc	Applied Sciences
17	2.4	a) Natural Hazards & Disaster Management b) Fundamentals of Physical Geography	M.Sc. Geography	Applied Sciences
18		Strategies of Teaching	M.Ed	Education
20	2.6	CYBER CRIME: AN INTRODUCTORY COURSE	Criminology and Criminal Justice	Criminology and Criminal Justice
21	2.4	Medicinal Plants	Botany	Basic Science

Coordinator IQAC
B.L.D.E.Association's
Commerce, BHS Arts & TGP Science College, Jamkhandi.

Assistant Registrar

PRINCIPAL
Com. B.H.S. Arts & T.G.P. Sci. College
JAMKHANDI. Dist. Bagalkot

Page 30

CBCS Structure Details

RANI CHANNAMMA UNIVERSITY BELAGAVI

CHOICE BASED CREDIT SYSTEM (CBCS)

DRAFT REGULATIONS

AND

SCHEME OF EXAMINATION FOR BACHELOR

DEGREE PROGRAMMES

(B.A/ B.S.W/B.COM/B.B.A/BBA A.Mgt/B.SC/B.Sc.CS/B.C.A /C.C.J/S.Sc.Tech/B.H.M)

w.e.f

Academic Year 2020-21 and onward

RANI CHANNAMMA UNIVERSITY, BELAGAVI

Regulations Governing the Choice Based Credit System (Semester Scheme) in the Undergraduate and Integrated Masters Degree Programmes in the Faculties of Arts, Science and Commerce.

(Framed under Section 44 (1) (c) of the KSU Act 2000)

<u>Preamble :</u>

New challenges in higher education have led to a paradigm shift in reconceptualising this sector in terms of what constitutes Higher Education and what the goals of this education ought to be. Traditional educational systems rely on information based knowledge. However the shortcomings in collapsing the task of knowledge acquisition to largely an exercise in imparting information are increasingly felt in society with profound consequences. The need of the hour is to move towards a more holistic approach that integrates providing of skills and specialized training with the values necessary to make a student into a better human being and a useful member of society. Thus the role of Universities and colleges in the 21st Century extends far beyond traditional knowledge creation and dissemination to encompass new expectations for innovations that will have broader social and economic benefits. Rani Channamma University wishes to initiate qualitative and substantial changes in its undergraduate and post- graduate programs, to cater to the needs of students with diverse talents, aspirations and professional requirements. The successful completion of 3-years of the undergraduate programme would lead to the award of the bachelor degree, as at present.

The University Grants Commission has formulated Guidelines for adoption of uniform Choice-Based Credit System (CBCS) across all the universities in the country and asked all the universities to implement them in all the under-graduate and post-graduate programmes. The State Higher Education Council has also communicated general guidelines in this regard.

The credit based semester system provides for flexibility in designing curriculum and assigning credits based on the course content and hours of teaching. The choice based credit system provides a 'cafeteria' type approach in which the students can take courses of their choice, learn at their own pace, undergo additional courses and acquire more than the required credits, and adopt an interdisciplinary approach to learning.

2

Thus the Choice Based Credit Systems make the product of the university at par with the global practices in terms of academic standards and evaluation strategies, retaining the present structures of the undergraduate and post-graduate programmes. In the emerging scenario of Internationalization of Indian Higher Education, it is imperative that the Universities in India should follow this system so that the mobility of their products both within and across the geographical jurisdiction becomes possible. Hence the Rani Channamma University thought it fit to introduce the Choice Based Credit System in all the Undergraduate Programmes in the Schools, effective from the academic year 2020-21. For multifaceted development of students, curriculum emphasizes on wide variety of courses to enhance their knowledge in several core courses including those in languages and subjects in Arts, Science and Commerce, and value-based and skill development courses.

1. TITLE AND COMMENCEMENT:

a) These regulations shall be called "The Regulations Governing the Choice Based Credit System (Semester Scheme) in the Undergraduate Degree Programmes in the Schools/Faculties of Rani Chanamma University, Belagavi"**.**

b) These regulations shall come into force for award of the degrees from the date of assent of the Chancellor (2020-21 batch & onwards).

The Salient Features of the Credit Based Semester Scheme:

Each course shall carry certain number of credits. Credits normally represent the weightage of a course and are a function of teaching, learning and evaluation strategies such as the number of contact hours, the course content, teaching methodology, learning expectations, maximum marks etc. In the proposed programs, generally 1 to 2 hours of instructions per week in a semester is assigned one credit. On these basis, generally, a three-year six-semester degree program will have 124 credits (Arts & BASLP), 136 credits (BSc,BSc CS, CCJ, BSc(FAD and GD)), 138 credits (BSW), 140 credits (BCA, BBA & BBA A.Mgt), 142 credits (Commerce) and 168 credits (BHM).

The general features of the Credit Based Semester Scheme are;

a) The relative importance of subjects of study is quantified in terms of credits.

b) The subjects of study include foundation/compulsory core and skill development courses.

c) The programme permits horizontal mobility in course selections.

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d) The students shall take part in co-curricular and extension activities.

e) The declaration of result is based on the Aggregate Percentage of marks obtained as well as on Aggregate or Cumulative Grade Point Average (CGPA) earned.

2. OBJECTIVES OF CBCS

Introduction of Choice Based Credit System has following objectives:

i. To make the curriculum learner centric.

ii. To encourage inter-disciplinary learning without disturbing the domain centric knowledge.

iii. To promote mobility of the students and help in optimizing learning.

iv. To allow autonomy to the teachers with built-in accountability.

v. Continuous evaluation of students to help in optimizing learning.

vi. To introduce transparency in the evaluation system.

vii. To improve employability of the graduates.

3. APPLICABILITY OF CBCS AND GRADING SYSTEM

i) The Regulation herein specifically applies to all full-time / regular undergraduate programs under Choice Based Credit System (Semester Scheme) offered by colleges affiliated and constituent colleges of Rani Channamma University, Belagavi.

ii) The College imparting undergraduate teaching, hereafter, shall be referred to as College.

4. SCOPE, APPLICATION AND COMMENCEMENT

1. The regulations shall apply to all non-professional undergraduate programmes including B.A/B.S.W/B.COM/B.B.A/A.Mgt/B.SC/B.SC.CS/B.C.A/B.H.M/C.C.J/S.Sc.Tech or any other undergraduate course offered in the Colleges affiliated to Rani Channamma University from 2020-21 onwards.

2. The learning and evaluation is on semester pattern.

3. Eligibility, qualifications and admission procedure for each programme of study is as approved by the Academic Council. The university may make changes in the admission procedure, if need arises, with the approval of the Academic Council.

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4. The existing regulations governing three years Bachelor's degree programme (Semester Scheme) in Schools/Faculties of Science, Social Sciences, Arts and Commerce shall stand repealed.

However, the existing regulations shall continue to be in force for the students who have been admitted to the course before the enforcement of this regulation.

Definitions of Key Words:

1. **Academic Year**: Two consecutive (one odd + one even) semesters constitute one academic year.

2. **Academic Calendar**: An Academic Calendar will be prepared by the University to maintain uniformity in the CBCS of under graduate Programmes in colleges affiliated to the University.

3. **Choice Based Credit System (CBCS):** The CBCS provides choice for students to select from the prescribed courses (core, elective or soft skill etc. courses).

4. **Discipline**: A discipline is a subject, usually referred to as an 'Optional'. A candidate has to select three disciplines of his choice out of the combination of disciplines except BBM and B.Com offered by the college. All the three disciplines carry equal weight. However, if the candidate prefers to study one of the languages as a discipline, he / she can opt for only one language as one of the three disciplines.

5. **Programmes**: An undergraduate programme leading to B.A/B.S.W/B.COM/B.B.A/A.Mgt /B.SC/B.SC.CS/ B.C.A/B.H.M/C.C.J/ S.Sc.Tech or any other Bachelor's degree.

6. **Core Course**: A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core Course.

7. **Elective Course**: Generally, a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline / subject of study or which provides an extended scope or which enables an exposure to some other discipline / subject / domain or nurtures the candidate's proficiency / skill is called an Elective Course.

8. **Discipline Specific Elective (DSE) Course**: Elective courses that may be offered by the main discipline/ subject of study is referred to as Discipline Specific Elective.

9. **Ability Enhancement Course (AEC):** Ability Enhancement Course (AEC) may be of two kinds: Ability Enhance Compulsory Course (AECC) and Skill Enhancement Course (SEC).

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10. **AE Compulsory Course (AECC)** : AECC courses are the courses based upon the content that leads to knowledge enhancement: (i) Environment Studies, (ii) Indian Constitution, and (iii) English and Kannada/Modern Indian Languages (MIL)/Communication. These courses are mandatory for all disciplines

11. **Skill Enhancement Course (SEC):** SEC courses are value-based and / or skill-based and are aimed at providing hands-on-training, competencies, skills etc. so as to increase their employability.

   The concerned Board of Studies may change or delete courses / papers in the undergraduate degree programmes once in every three years as per the curriculum structure designed by Rani Channamma University.

12. **Course**: Usually referred to, as 'papers' is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise lectures/laboratory work/ internal tests/seminars/term papers /assignments /presentations/etc. or a combination of some of these.

13. **Credit Based Semester System (CBSS)**: Under the CBSS, the requirement for awarding a degree/diploma/certificate is prescribed in terms of number of credits to be completed.

14. **Credit**: A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one to two hour of teaching (lecture) or two hours of practical work/field work per week.

15. **Grade Point**: It is a numerical weight allotted to each letter grade on a 10-point scale.

16. **Credit Point**: It is the product of grade point and number of credits for a course.

17. **Letter Grade:** It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, D and F.

18. **Programme**: A programme leading to award of a Degree, diploma or certificate.

19. **Semester**: Each semester one consisting of 16 weeks of academic work equivalent to 90 actual teaching days. The odd semester may be scheduled from July to December and even semester from January to June (including admission/exams/valuations)

20. **Semester Grade Point Average (SGPA)**: It is a measure of performance of work done in a semester. It is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall

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be expressed up to two decimal places.

21. **Cumulative Grade Point Average (CGPA)**: It is a measure of overall cumulative performance of a student over all semesters. The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

22. **Transcript or Grade Card or Certificate:** Based on the grades earned, a grade certificate shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured).

5. PROGRAMMES:

5.1. UNDER GRADUATE PROGRAMME

1. The University is offering several undergraduate courses in the affiliated colleges within the jurisdiction of Belagavi, Bagalkot and Vijayapura districts in the Schools/Faculty of Science, Social Science, Arts and Commerce for the award of degree of ,
   i)   Bachelor of Arts (B.A)
   ii)   Bachelor of Social work(B.S.W.)
   iii) Bachelor of Commerce (B.Com)
   iv)   Bachelor of Business Administration (BBA)
   v)   Bachelor of Business Administration in Aviation Management (BBA A.Mgt)
   vi)   Bachelor of Science(B.Sc.)
   vii) Bachelor of Science in Computer Science(B.Sc.CS)
   viii) Bachelor of Computer Applications (BCA)
   ix)   Bachelor of Arts/Science in Criminology & Criminal Justice (B.A/B.Sc. C.C.J)
   x)   Bachelor of Hotel Management ((B.H.M)
   xi)   Bachelor of Science in Sugar Science & Technology (B.Sc.S.S.Tech)
   and other general degree courses. The jurisdiction of the university may change based on the subsequent decisions of the University and Government of Karnataka.

2. A participant of the programme is a student who registers himself / herself with the University for a degree programme and attends the same on regular basis.

3. Undergraduate progamme is a full time programme where the students study as per the time table / schedule, prescribed by the college and are not employed.

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5.2. COURSE OF STUDY :

1. The duration of the Bachelor's Degree programs in Arts, Science, Commerce and Management, (semester scheme) shall be of three each academic year consisting of two semesters and every semester shall have a minimum of 16 weeks of instructional work.

2. The candidate has to complete the under graduate programme in a maximum of (n+2) years (n-duration of the course) from the date of admission.

3. The medium of instruction shall be English or Kannada with the exception of Modern Indian Languages.

4. The course of study shall consist of a combination of three disciplines of equal importance except for B.Com and BBA. The distribution of (i) two languages (English as compulsory along with Kannada or any other Indian Languages) in semesters I to IV, (ii) Core papers, (iii) Electives — Discipline Specific Elective (DSE) and (iv) Ability Enhancement Compulsory course (AECC) and Skill Enhancement Courses (SEC) are given in Appendix A.

5. The maximum strength of students in each section shall be restricted to sixty students for Science, arts and commerce courses or as the orders may issue by the University from time to time.

6. For conduct of Practical's in batches, there shall be one teacher for a batch of ten students and two teachers if there are more than ten students in a batch. However, the fractions of 5 or less than 5 students should be managed by one teacher.

5.3 COURSE PATTERNS

The details of Course Patterns (hours of instructions per week) and the Schemes of Examinations of the different degree programmes are given in appendix "A". The Syllabi of the courses shall be as prescribed by the University.

5.4. ATTENDANCE AND CHANGE OF SUBJECTS

1. Each semester shall be taken as a unit for the purpose of calculating attendance.

2. A student shall attend the Lectures and Practical's as prescribed by the University during the Semester.

3. A candidate shall be considered to have satisfied the requirement of attendance for a semester if he/she attends not less than 75% of the number of classes actually held up to the end of the semester in each of the subjects. There shall be no minimum attendance requirement for the Co-curricular and extension activities.

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4. If a candidate represents his/her College/ University/ Karnataka State/ Nation in Sports /Republic day parade / NCC / NSS / Cultural / National level events or any officially sponsored activities he/she may be permitted to claim attendance for actual number of days participated, based on the recommendation of the Head of the Institution concerned.

5. The candidate who fails to complete the course in the above stated manner shall not be permitted to appear for the semester examination and he / she shall not become eligible for admission to the next semester. However, he / she can seek re-admission to repeat that Semester in the next academic year. The candidate shall have only one chance in the entire course period for re-admission.

6. An option to change a language/subject may be exercised only once within four weeks from the date of commencement of the I Semester or within 30 days of the last date of admission as referred by the University. The change is permissible on the specific recommendation of the Principal and a payment of necessary fees to the University as preserved by the University from time to time.

7. Whenever a change in a subject is permitted the attendance in the changed subject shall be calculated by taking into consideration the attendance in the previous subject studied.

6. ELIGIBILITY FOR ADMISSION

i) BA / B.S.W/B.COM/B.B.A/B.B.A.A.Mgt:
A candidate, who has passed the two year Pre-University course (10+2) securing a minimum 35% of marks in the Pre-University Board of the State of Karnataka or any other course considered as equivalent there to by the University.

ii) B.Sc/B.Sc.CS/S.Sc.Tech/BCA/CCJ :
a) A Candidate, who has passed the two year Pre-University course(10+2) securing a minimum 35% of marks of the Pre-University Board in the State of Karnataka consisting of at least two science subjects as optionals or any other course considered as equivalent thereto by the University shall be eligible for admission to B. Sc Degree Course.

b) A candidate for the B.Sc. degree shall offer at least two of the optional subjects, which he/she had offered at the Pre-University course.

c) A candidate opting Physics as an optional subject in the B.Sc. degree course should have studied Mathematics as an optional subject in additional to Physics as another optional

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subject at the Pre-University course.

d) A candidate opting Statistics as an optional subject in the degree course should have studied Statistics or Mathematics as an optional subject at the Pre-University course.

e) A candidate opting Botany, Microbiology, Biotechnology and Zoology as optional subjects at the B.Sc. degree course should have studied Biology as an optional subject at the Pre-University Course.

f) A candidate opting Geology or Home Science should have studied at least two Science subjects at the Pre-University course.

g) A candidate opting BCA degree a) any student who has passed Pre-University course Science or Commerce securing a minimum of 35% of marks or b) Any student who has passed JODC or Diploma in Engg. (of three years duration of Govt. of Karnataka) with minimum of 35% of marks aggregate in all the semesters/years.

iii) Admission of Foreign Students: Admission of Foreign Nationals to the above courses shall be governed by the rules framed by the State/Central Government /University Equivalence Committee /Association of Indian Universities guidelines from time to time.

6.1. INTAKE :

Intake capacity for each college for the Bachelor's Degree in Arts, Science and Commerce, Social work, Computer Applications, Business Administration shall be fixed by the Syndicate on the recommendations of the Local Enquiry Committee (LICs). However, the University may increase in consultation with the Syndicate shall be empowered to increase or reduce the intake, if the circumstances so warrant in the interest of the students.

6.2 ADMISSION TO THE COURSE

1. Any applicant, who has passed the Pre University Examination, in the state of Karnataka or any other Qualifying Examination recognized by the Academic Council of **CHSE,** Karnataka as equivalent thereto, may be admitted to the first semester of any course, provided that he or she shall not be admitted into Degree Course in Science unless he or she has passed the qualifying examination in Science.

2. An applicant shall be allowed admission into the first semester of the course within four weeks (including holidays and Sundays) from the date of publication of the results of the Annual Pre University Examination, Karnataka or after the reopening of Summer Vacation whichever is later. In exceptional cases, the appropriate authority may notify

the last date of admission. Also, the **Candidates passing the Supplementary Pre University Examination, Karnatak, may be admitted into a college within two weeks (Including Holidays and Sunday) after the publication of their results. A candidate so admitted shall have his/her attendance calculated in terms of the percentage of lectures attended from the date of his admission.**

3. Candidates who, for some valid reasons, are unable to take admission within the time prescribed may however be admitted into a college within two weeks (including holidays and Sundays) from the last date of admission with a late fee as prescribed by the University from time to time. The Principal of the College shall intimate the names of such candidates as well as the dates of admission, and shall remit the late fee collected to the University in one lot within two weeks from the date of such late admission. Candidates, who have taken admission later than the due date, on payment of the late fee, shall have their attendance calculated in terms of percentage of lectures attended from the date of such admission.

4. Candidates passing the Supplementary Examination of Pre University Examination, Karnatak, may be admitted into a college within two weeks (Including Holidays and Sunday) after the publication of their results. A candidate so admitted shall have his/her attendance calculated in terms of the percentage of lectures attended from the date of his admission.

5. Admission to all semesters other than the first semester of the course, shall be completed within two weeks from the completion of previous semester examination, irrespective of the publication of the result concerned. Candidates seeking such admission should be eligible examinees, who have completed the course work and appeared at practical & tutorial examinations under semester programme.

6. Further, a student, who could not appear at the university examination due to shortage of attendance, (**shall repeat that Couse /semester) be allowed to sit for the next batch of students.**

7. A candidate, whose results of Pre University Examination are published late by the examining authority, may be admitted into the college within two weeks of the publication of his/her results, depending on the availability of seats. However, in no case can a student be admitted into First Semester Class beyond 31st August of the concerned academic year.

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8. The college shall send to the University a list of all admitted candidates with comprehensive profile of subject chosen in a prescribed format. This process should be completed within 4 weeks of the last date of admission so that Register Numbers can be assigned to the candidates for various University examinations.

7. SUBJECTS OF STUDY:

Subjects of study shall comprise the following

PART-I: LANGUAGES:

Two languages are to be studied out of which one shall be English and the other shall be Kannada/ Hindi, Arabic, Marathi, Prakrit, Persian, Sankrit, Urdu, (MIL) and any other language prescribed/approved by the university.

(a) In addition to English, a candidate shall opt for any one of the two languages studied at the Pre-University or equivalent level. However, the candidate may opt for Kannada even if it is not studied at the Pre-University or equivalent level. With the permission of the University, a candidate may opt for any other language listed above even if the candidate has not studied that language at PUC or equivalent level.

(b) Speech/hearing/visually impaired/mentally challenged and study disabled students are exempted from studying one of the languages prescribed. If they produce doctors certificate of earlier years.

PART-II: OPTIONAL SUBJECTS

A candidate shall ordinarily opt for any three Arts subjects for B.A. degree programme and any three Science subjects for B.Sc. degree programmes subject to the restrictions under para7.3. However, for the B.A. degree programmes, one of the science subjects, namely, Psychology, Home Science, Mathematics, Statistics may be opted as one of the optional subjects along with two Arts subjects.

a) B. A. Degree Programme : Arts Subjects :

Approved combinations among the following subjects under the Faculty of Arts:-

i) Arabic, English, Hindi, Kannada, Marathi, Persian, Russian, Prakrit, Sanskrit, Tamil, Telugu, Urdu.

ii) Arabic, English, Hindi, Kannada, Marathi, Persian, Prakrit, Sanskrit, and Urdu,

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Computer Application, Criminology and Forensic Science, Economics, Marketing, Education, Geography, Rural Development, History and Archaeology, Home Science, Journalism, Linguistics, Library and Information Science, Philosophy, Psychology, Political Science, Public Administration, Sociology, Women Studies, Social Work, Tourism, Physical Education and any other subjects as decided by the authorities of the University from time to time.

COMBINATION OF OPTIONAL SUBJECTS

ARTS					
Sl. No.	A	B	C	D	E
1.	Applied Statistics	Computer Application	Arabic	Agri. Marketing	Indion History and Epigraphy
2.	Elements of Mathematics and Statistics	Psychology	Geography	Criminology and Forensic Science	History & Archeology
3.	Kannada	Persian	Hindi	Economics of Rural Development	Journalism & Mass Communication
4.	Marathi	Political Science	Library and Information Science	Economics	Folk literature
5.	Statistics	Sanskrit		Education	Prakrit
6.	Urdu	Yoga	Sociology	Music	-
7.	English	Home Science	Social Work	-	-

Note:
1. A Candidate is allowed to choose any three groups out of five groups (A,B,C,D,E)
2. A candidate is permitted to take three papers in all, but not more than one paper from each group, however subject to the availability of staff and facilities in his/her college.
3. Principals/Candidates are strictly advised to follow the approved regulations in respect of U.G Semester Courses, in addition to the above conditions.

b) B.S.W. Degree Programme: Social Work and Other Subjects:

Social work subjects, languages, foundation and skill development courses in accordance with the course pattern and the scheme of examinations as given in Appendix A.

c) B.Sc. Degree Programme: Science Subjects:

Approved combinations among the following subjects under the Faculty of Science: Applied Botany, Applied Statistics, Biochemistry, Biotechnology, Botany, Chemistry, Computer Science, Electronics, Environmental Science, Genetics, Geology, Home Science, Instrumentation, Mathematics, Microbiology, Physics, Sericulture, Statistics, Zoology and such other subjects permitted by the university from time to time.

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COMBINATION OF OPTIONAL SUBJECTS

			SCIENCE		
Sl. No.	A	B	C	D	E
1.	Microbiology	Chemistry	Biotechnology	Botany	Library and Information Science
2.	Physics	Electronics	Home Science	Computer Science	Statistics
3.	-	Geography	Mathematics	Criminology and Forensic Science	Zoology
4.	-	-	-	-	Geology

Note:
1. A candidate is allowed to choose any three **groups** out of five groups (A, B,C,D,E)
2. A candidate is permitted to choose one paper from each group subject to the following conditions:
   a) The Students opting for Physics as one of the optional subjects must offer Mathematics.
   b) The students opting Microbiology/Biotechnology as one of the optional subjects must offer Chemistry and Botany or Zoology.
3. Principals/Candidates are strictly advised to follow the approved regulations in respect of U.G. Semester Courses, in addition to the above conditions.

e) B.C.A. Degree Programme: Computer Application and other Subjects

Computer application related subjects, languages, foundation and skill development courses as per the course pattern outlined in Appendix A.

f) B.Com. Degree Programme: Commerce and Other Subjects.

Commerce related subjects, languages and foundation and skill development courses as per the course pattern outlined in Appendix A.

g) B.B.A./A.Mgt Degree Programme: Business Administration and Aviation Programs.

Business administration related subjects, languages and foundation and skill development courses as per the course pattern outlined in Appendix A.

h) BA/B.Sc/B.Sc.CS/CCJ Degree Programme: Criminology & Criminal Justice related

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subjects, languages and foundation and skill development courses as per the course pattern outlined in Appendix A.

i) **B.Sc.S.S.Tech Degree Programme:** Sugar Science & Technology related subjects, languages and foundation and skill development courses as per the course pattern outlined in Appendix A.

j) **B.H.M. Degree Programme:** Hotel Management and Other Subjects.

Hotel management related subjects, languages, foundation and skill development courses as per the course pattern and the scheme of examinations as outlined by the concerned BOS (Appendix A).

The University may add any new subject or may change the nomenclature of any of the above subjects from time to time, if need be.

Combination of Subjects:

a) A candidate shall not opt for more than one language under optionals.

b) A candidate opting for Electronics/Physics/Statistics/Computer Science as an optional subject shall also opt for Mathematics as an optional subject and any other subject.

c) A candidate opting for Biotechnology as an optional subject shall also opt Chemistry/ Biochemistry and Microbiology/Botany/Zoology/Home Science as optional subjects

d) A candidate opting for Microbiology as an optional subject shall also opt for Chemistry / Biochemistry and Biotechnology / Botany / Zoology / Home Science as optional subjects

e) A candidate opting for Biochemistry as an optional subject shall also opt for Biotechnology / Botany / Zoology / Sericulture / Microbiology as optional subject.

f) A candidate opting for Environmental Science as an optional subject shall also opt for Chemistry / Biochemistry and Botany / Zoology / Microbiology / Biotechnology / Sericulture / Geology as optional subject.

g) A candidate opting for Genetics as an optional subject shall also opt for Chemistry/ Biochemistry and Botany / Zoology / Microbiology / Biotechnology / Sericulture as optional subjects.

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8. SCHEME OF EXMINATION

PART-III:

A) **Foundation, Skill Development or Interdisciplinary Courses**

(Common for all Programmes):

i) Compulsory courses in the first and second semesters one in each semester.

   1. Constitution of India / Human Rights.
   2. Environment / Public Health.

ii) Any four skill development courses in the third, fourth, fifth and sixth semesters, one in each semester as prescribed by the concerned faculty and approved by the Academic Council.

B) Co-curricular and Extension Activities

A student shall opt for one of the following activities offered in the college, in each of the first four semesters of the undergraduate programmes. The activity carries a credit each and will be internally assessed for 50 marks.

a) N.S.S. / N.C.C

b) Sports and Games

c) Physical Education or Activities related to Yoga

d) Field studies / Industry Implant Training.

e) Community work such as promotion of values of National Integration, Environment, Human rights and duties, Peace, Civic sense etc.

f) A Small project work concerning the achievements of India in different fields

g) Evolution of study groups/seminar circles on Indian thoughts and ideas

h) Computer assisted/web-based learning and e-library skills

Evaluation of Co-curricular and Extension Activities shall be as per the procedure evolved by the university from time to time.

8. INTERNAL ASSESSMENT:

Total marks for each course shall be based on continuous assessments and end term examinations. As per the decision of the Karnataka State Higher Education Council, it is necessary to have uniform pattern of 20 : 80 for IA and End Term examinations

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respectively, among all the Universities, their affiliated and autonomous colleges.

Total Marks for each course = 100% (100/50 marks)

Continuous assessment (C1) =10% marks (10/5 marks)

Continuous assessment (C2) = 10% marks (10/5 marks)

Semester End Examination (C3) = 80% marks (80/40 marks)

Evaluation process of IA marks shall be as follows.

1. The first component (C1) of assessment is for 10% (10/5) marks. This shall be based on test, assignment, seminar, case study, field work, project work etc. This assessment and score process should be completed after completing 50% of syllabus of the course/s and within 45 working days of semester program.

2. The second component (C2) of assessment is for 10% (10/5) marks. This shall be based on test, assignment, seminar, case study, field work, internship / industrial practicum / project work etc. This assessment and score process should be based on completion of remaining 50 percent of syllabus of the courses of the semester.

3. During the 18th – 20th week of the semester, a semester end examination of 3 hours duration shall be conducted by the University for each course. This forms the third and final component of assessment (C3) and the maximum marks for the final component will be 80% (80/40 marks)

4. In case of a student who has failed to attend the C1 or C2 on a scheduled date, it shall be deemed that the student has dropped the test. However, in case of a student who could not take the test on scheduled date due to genuine reasons, such a candidate may appeal to the Program Coordinator / Principal. The Program Coordinator / Principal in consultation with the concerned teacher shall decide about the genuineness of the case and decide to conduct special test to such candidate on the date suitable to the concerned teacher but before commencement of the concerned semester end examinations.

5. For assignments, tests, case study analysis etc., of C1 and C2, the students should bring their own answer scripts (A4 size), graph sheets etc., required for such tests/assignments and these be stamped by the concerned department using their department seal at the time of conducting tests / assignment / work etc.

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6. The outline for continuous assessment activities for Component-I (C1) and Component-II (C2) of a course shall be as under.

Outline for continuous assessment activities for C1 and C2.

Activities	C1	C2	Total Marks
Session Test/ seminars, assignments/ Case study / Assignment /Field work / Project work etc	10% marks (10/5 marks)	10% marks (10/5 marks)	20% (20/10 marks)

- For practical course of full credits, Seminar shall not be compulsory. In its place, marks shall be awarded for Practical Record Maintenance.

- Conduct of Seminar, Case study / Assignment, etc. can be either in C1 or in C2 component at the convenience of the concerned teacher.

- The teachers concerned shall conduct test / seminar / case study, etc. The students should be informed about the modalities well in advance. The evaluated courses /assignments during component I (C1) and component II (C2) of assessment are immediately provided to the candidates after obtaining acknowledgement in the register by the concerned teachers(s) and maintained by the Chairman in case of a University Post-Graduate Department and the Principal / Director in the case of affiliated institutions. Before commencement of the semester end examination, the evaluated test, assignment etc. of C1 and C2 shall be obtained back to maintain the same till the announcement of the examination results of the concerned semester.

- The marks of the internal assessment shall be published on the notice board of the department / college for information of the students.

- The Internal assessment marks shall be communicated to the Registrar (Evaluation) at least 10 days before the commencement of the University examinations and the Registrar (E) shall have access to the records of such periodical assessments.

- There shall be no minimum in respect of internal assessment marks.

- Internal assessment marks shall be shown separately in the marks card. A candidate who has failed or rejected the result, shall retain the internal assessment marks.

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8.2 REGISTRATION FOR EXAMINATIONS:

A candidate shall register for all the papers of a semester when he/she appears for the examination of that semester for the first time.

8.3 CONDUCT OF EXAMINATIONS:

1. There shall be Theory and Practical examinations at the end of each semester, ordinarily during November for odd semesters and during May for even semesters, as prescribed in the Scheme of Examinations.

2. Unless otherwise stated in the schemes of examination, practical examinations shall be conducted at the end of each semester. They shall be conducted by two examiners, one internal and one external and shall never be conducted by both internal examiners. The statement of marks sheet and the answer books of practical examinations shall be sent to the Registrar (Evaluation) by the Chief Superintendent of the respective Colleges immediately after the practical examinations.

3. The candidate shall submit the record book for practical examination duly certified by the course teacher and the H.O.D/staff in-charge. It shall be evaluated at the end of the Semester at the practical examination.

8.4. MINIMUM FOR A PASS:

1. No candidate shall be declared to have passed the Semester Examination as the case may be under Part I / Part II / Part III unless he/she obtains not less than 35% marks in written examination / practical examination and 40% marks in the aggregate of written / practical examination and internal assessment put together in each of the subjects and 40% marks (including IA) in Project work & viva wherever prescribed.

2. If a candidate fails in a subject, either in theory or in practicals, he/she shall appear for that subject only at any subsequent regular examination, within the maximum period prescribed for completing the programme. He/she must obtain the minimum marks for a pass in that subject (theory and practicals separately) as stated.

8.5. CARRY OVER:

A candidate who fails in a lower semester examination may go to the higher semester.

8.6. DECLARATION OF RESULTS AND CLASSIFICATION OF SUCCESSFUL CANDIDATES AND GRADES:

1. The result of the candidate who has passed VI semester examination, but not passed the lower semester examinations shall be declared as **"NCLE".** Such candidate shall become eligible for the degree only after completion of all the lower semesters' examinations.
2. The candidate who secures minimum of 32 marks in Theory and 20 Marks in Practical examinations and aggregate of 60 Marks including Internal Assessment Marks is declared to have passed that Course (Paper). In case of Courses without Practical Examination, the candidate who secures minimum of 32 marks in Theory and an aggregate of 40 including Internal Assessment marks shall be declared to have passed that Course (Paper).
3. The Class, Rank and Grade shall be declared on the basis of aggregate marks obtained by the candidate in all the six semesters' examinations.
4. Only the candidate who passes all the six semesters in the first attempt shall be eligible for declaration of Rank. The first TEN ranks shall be notified.
5. A candidate who passes the Semester examination in parts is eligible for only Class and not for Ranking or medal.
6. The classification of candidates shall be as follows:

Table I: Conversion of Percentage of Marks into Grade Points in a Paper

% Marks in a paper/practical	Grade Point (GP)
98-100	**10**
93-97	**9.5**
88-92	**9.0**
83-87	**8.5**
78-82	**8.0**
73-77	**7.5**
68-72	**7.0**
63-67	**6.5**
58-62	**6.0**
53-57	**5.5**
48-52	**5.0**
43-47	**4.5**
40-42	**4.0**
Below 40	**0**

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7. The Semester Grade Point Average (SGPA) shall be computed by dividing the sum of the Credit Points (CP) of all the subjects of study by the maximum credits for the semester. The CP are in turn calculated as the product of the grade points earned in the paper and the credits assigned to that paper. The details are given in Appendix B. Appendix B gives a summary of marks and credits assigned to different subjects of study in Bachelor Degree programmes in all the semesters. This is followed with illustrations of computing semester grade point averages (SGPA) and aggregate or cumulative grade point averages (CGPA).

8. The Aggregate or Cumulative SGPA (CGPA) at the end of the sixth semester shall be calculated as the weighted average of the semester grade point averages. The CGPA is obtained by dividing the total of semester credit weightages by the maximum credits for the programme.

9. A candidate shall be declared to have passed the UG program if he/she secures at least an aggregate SGPA/CGPA of 4.0 (or Course Alpha-Sign Grade P).

Table II: Final Result / Grades Description

Semester / Program % of Marks	Semester GPA / Program CGPA	Alpha-Sign / Letter Grade	Result / Class Description
90.0-100	9.00-10.00	**O** (Outstanding)	Outstanding
80.0-<90.0	8.00-<9.00	**A++** (Excellent)	First Class Exemplary
70.0-<80.0	7.00-<8.00	**A+** (Very Good)	First Class Distinction
60.0-<70.0	6.00-<7.00	**A** (Good)	First Class
55.0-<60.0	5.50-<6.00	**B+**(Above Average)	High Second Class
50.0-<55.0	5.00-<5.50	**B**(Average)	Second Class
40.0-<50.0	4.00-<5.00	**C**(Pass)	**Pass Class**
Below 40	Below 4.00	**F** (Fail)	Fail/Reappear
Absent	0	**Ab** (Absent)	

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10. The candidates who pass all the semester examinations in the first attempts in Three Academic Years or Six Semesters are eligible for ranks provided they secure above 60% marks or at least an Alpha-Sign Grade B+.

11. The results of the candidates who have passed the VI semester examination but not passed the lower semester examinations shall be declared as NCL (Not Completed Lower semester examinations). Such candidates shall be eligible for the degree only after completion of all the lower semester examinations.

12. A candidate who passes the semester examinations in parts is eligible for only class and not for ranking.

8.7. IMPROVEMENT OF PERFORMANCE AND REAPPEARANCE

1. The candidate who has passed the undergraduate degree examination under semester scheme conducted by this university shall only be allowed to improve his / her performance by reappearing at the subsequent chances either for I / III / V or II/IV/ VI semesters or for all the semesters simultaneously, in all the theory papers and except internal assessment prescribed thereof without keeping fresh terms, while retaining their performance at the examination /s, if any, of the remaining semesters within a maximum period of six years from the date of admission to the Bachelor's Programme.

2. The previous performances for which the candidate seeks improvement shall be deemed to have been surrendered when once such a candidate improves his / her performance except internal assessment. In the event of non-improvement of performance, the marks secured in the Previous performance prevails.

3. The class shall be determined on the basis of his / her improved performance. However, it shall not be considered for the declaration of rank /s.

4. The candidate seeking improvement shall be given only five additional chances within a period of three succeeding years after the successful completion of the entire course. Further, once a candidate obtains an improved class that shall be treated as final.

5. When the syllabus changes, a candidate reappearing either for the improvement or as a repeater shall be allowed to take examination / s as per the current syllabi.

6. There is no improvement for Internal Assessment/Practical / Field Work / Project report

8.9 REJECTION OF RESULTS:

A candidate may be permitted to reject result of the whole examination of any semester. Rejection of result paper-wise/subject-wise shall not be permitted. The candidate who has rejected the result shall appear for the immediately following examination.

The rejection shall be exercised only once in each semester and the rejection once exercised shall not be revoked.

Application for rejection of results along with the payment of the prescribed fee shall be submitted to the Registrar (Evaluation) through the College of study together with the original statement of marks within 30 days from the date of publication of the result.

A candidate who rejects the result is eligible for only class and not for ranking.

Transfer of Admission: Transfer of admissions is permissible only for III and V semesters for the students of other universities and within the University, if the parents of the students are transferred from one place to another place such students may be allowed to take transfer within the University.

8.10 POWER TO REMOVE DIFFICULTIES

If any difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may by order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty. Every order made under this rule shall be subject to ratification by the Appropriate University Authorities.

Repeal and Savings:

The existing Regulations governing three years Bachelor degree programmes in the faculties/schools of Arts, Science and Commerce shall stand repealed. However, the above Regulations shall continue to be in force for the students who have been admitted to the course before the enforcement of this regulation.

COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS

COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.A/** PROGRAMMES

(T: Theory, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	3X2=6
Part 1 DSC	3 Optional Subjects of 3 credits each	3 T	3X5	3X3	3X20	3X80	3X100	3X3=9
Part 3	AECC(I & II Sem) /SEC (III & IV Sem)	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
							Total Credits per Semester	**18**
								18 X 4= 72
b) V / VI Semester								
Part 2 DSE	3 Subjects of 8 credits each	3X2 T	3X2X4	3X2X3	3X2X20	3X2X80	3X2X100	3X2X4=24
Part 3	SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
							Total Credits per Semester	**26**
								26 X 2= 52

I –IV - 18X4 = 72 / 600 Marks

V –VI - 26X2 = 52 / 650 Marks

Total Credits/ Marks : 124 / 3700

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.Com** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 1 DSC	4 core subject papers	4 T	4X4	3X3	4X20	4X80	4X100	4X3=12
Part 2	Practicals on Skill Development	1 P	1X2	1X2	10	40	50	1X1=1
Part 3	AECC (I & II Sem) /SEC (III & IV Sem)	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
						Total Credits per Semester		**22**
								22 X 4 = 88
b) V / VI Semester								
Part 1 DSE	6 core subject papers	6 T	6X4	6X3	6X20	6X80	6X100	6X4=24
Part 2	Practicals on Skill Development	1 P	1X2	1X2	10	40	50	1X1=1
Part 3	SEC	1 T	1X3	1X3	1X10	1X40	1X50	1X2=2
						Total Credits per Semester		**27**
								27 X 2 = 54

I - IV - 22 X 4 = 88 / 750 Marks

V - VI – 27 X 2 = 54 / 700 Marks

Total Credits / Marks : 142 / 4400

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.B.A/A.Mgt**
PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 1 DSC	4 core subject papers	4 T	4X4	3X3	4X20	4X80	4X100	4X3=12
Part 2	Practicals on Computer Science	1 P	1X2	1X2	10	40	50	1X1=1
Part 3	AECC (I & II Sem) /SEC (III & IV Sem)	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
						Total Credits per Semester		**22**
								22 X 4 = 88
b) V / VI Semester								
Part 1 DSE	6 core subject papers	6 T	6X4	6X3	6X20	6X80	6X100	6X4=24
Part 2	SEC	1 T	1X3	1X3	1X10	1X40	1X50	1X2=2
						Total Credits per Semester		**26**
								26 X 2 = 52

I - IV - 22 X 4 = 88 / 750 Marks

V - VI – 26 X 2 = 52 / 650 Marks

Total Credits / Marks : 140 / 4300

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.Sc./B.Sc.CS/**

SUGAR SCIENCE & TECHNOLOGY PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 1 DSC	3 Optional Subjects with Practicals of 4 Credits each	3T 3P	3X4 3X3	3X3 3X2	3X20 3X10	3X80 3X40	3X100 3X50	3X3=9 3X1=3
Part 2	AECC (I & II Sem) /SEC (III & IV Sem)	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
					Total Credits per Semester			**21**
								21 X 4 =84
b) V / VI Semester								
Part 1 DSE	3 Optional Subjects with Practicals of 10 Credits each	3X2T 3X2P	3X2X4 3X2X3	3X2X3 3X2X2	3X2X20 3X2X10	3X2X80 3X2X40	3X2X100 3X2X50	3X2X3=18 3X2X1=6
Part 2	SEC	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
					Total Credits per Semester			**26**
								26 X 2 = 52

I - IV - 21 X 4 =84 / 750 Marks

V - VI – 26 X 2 = 52 / 950 Marks

Total Credits / Marks : 136 / 4900

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.C.A** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 1 DSC	3 Optional Subjects with Practicals of 4 Credits each	3T 3P	3X4 3X3	3X3 3X2	3X20 3X10	3X80 3X40	3X100 3X50	3X3=9 3X1=3
Part 2	AECC (I & II Sem) /SEC (III & IV Sem)	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
					Total Credits per Semester			**21**
								21 X 4 =84
b) V / VI Semester								
Part 1 DSE	5 Optional Subjects with Practicals of 10 Credits each	5XT 3XP	5X4 3X4	5X3 3X3	5X20 3X20	5X80 3X80	5X100 3X100	5X4=20 3X2=6
Part 2	SEC	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
					Total Credits per Semester			**28**
								28X 2 = 56

   I - IV - 21 X 4   =84 / 750 Marks

   V - VI – 28 X 2 = 56/ 850 Marks

   Total Credits / Marks : 140 / 4700

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.S.W.**PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Instruction hrs/week	Duration o Exam(hrs)	Marks			Credits
					IA	Exam	Total	
a) I/II III/IV Semester								
Part 1 AECC	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 2 DSC	3 Theory Papers and 1 practicum (field work) Paper	3 T 1 P	3X4 1X8	3X3 Viva-voce	3X20 1X20	3X80 1X80 Viva-voce	3X100 1X100	3X3=9 1X3=3
Part 3	I AECC Paper for I & II Sem and I SEC Paper for III & IV	I T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC / E A	-	-	-	50	-	50	1
						Total Credits per Semester		21
b) V/ VI Semester								
Part 2	5 Theory Papers and 2 practicum (field work and Activities such as Camp, Exposure Visit, Disseration & Block placement) Papers	5 T 2 P	5X4 2X6	5X3 Viva-voce	5X20 2X20	5X80 2X80 Viva-voce	5X100 2X100	5X4=20 2X2=4
Part 3	I SEC Papers	1 T	1X4	1X3	1X20	1X80	1X50	1X2=2
						Total Credits per Semester		26

I-IV= 21X4 = 84/650 Marks

V-VI= 26X2 = 54/750 Marks

Total Credits / Marks : 138 / 4100

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **BA/B.Sc. (CCJ) –CRIMINOLOGY & CRINAL JUSTICE)** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Teaching Hrs/week	Duration of Exams (hrs)	Marks			Credits
					IA	Exam	Total	
a) I / II / III / IV Semester								
Part 1 AECC	2 Languages	2T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 1 DSC	3 Optional Subjects with Practicals of 4 Credits each	3T 3P	3X4 3X3	3X3 3X2	3X20 3X10	3X80 3X40	3X100 3X50	3X3=9 3X1=3
Part 2	AECC (I & II Sem) /SEC (III & IV Sem)	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC/EA	-	-	-	50	-	50	1=1
					Total Credits per Semester			**21**
								21 X 4 =84
b) V / VI Semester								
Part 1 DSE	3 Optional Subjects with Practicals of 10 Credits each	3X2T 3X2P	3X2X4 3X2X3	3X2X3 3X2X2	3X2X20 3X2X10	3X2X80 3X2X40	3X2X100 3X2X50	3X2X3=18 3X2X1=6
Part 2	SEC	1T	1X2	1X2	1X10	1X40	1X50	1X2=2
					Total Credits per Semester			**26**
								26 X 2 = 52

I - IV - 21 X 4 =84 / 750 Marks

V - VI – 26 X 2 = 52 / 950 Marks

Total Credits / Marks : 136 / 4900

COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.Sc. (FAD) - FASHION AND APPAREL DESIGN** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
a) I/ II/III/IV Semester								
Part 1	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 2	3 FAD papers with practicals	3 T	3X4	3X3	3X20	3X80	3X100	3X3=6
		3 P	3X3	3X2	3X10	3X40	3X50	3X1=3
Part 3	AECC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC /& E A				50	-	50	1
						Total Credits per Semester		21
b) V/ VI Semester								
Part 2	6 FAD Papers with practicals	5 T	5X4	5X3	5X20	5X80	5X100	5X3=1
		5 P	5X3	5X2	5X10	5X40	5X50	5X1=5
		Training*	6	Training Evaluation	1x10	1x40	1x50	1
		One or more of the papers may be without practicals						
		1 T	1X4	1X3	1X20	1X80	1X100	1X3=3
Part 3	SEC	1 T	1X2	1X2	1X10	1X40	1X50	2
						Total Credits per Semester		26

* There may be in house training in V Semester.

I-IV=18X4=72/750 Marks

V-VI=26X2=52/950 Marks

Total Credits / Marks : 136 / 4900

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.Sc. (GRAPHIC DESIGN) (GD)** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
a) I/ II/III/IV Semester								
Part 1	2 Languages	2 T	2X4	2X3	2X20	2X80	2X100	2X3=6
Part 2	3 GD papers with practicals	3 T	3X4	3X3	3X20	3X80	3X100	3X3=9
		3 P	3X3	3X2	3X10	3X40	3X50	3X3=3
Part 3	AECC/SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC & EC	-	-	-	50	-	50	1
						Total Credits per Semester		21
b) V/ VI Semester								
Part 2	6 GD papers of 3 credits each with practicals	5 T	5X4	5X3	5X20	2X80	5X100	5X3=15
		5 T	5X3	5X2	5X10	5X40	5X50	5X1=5
		Training*	6	Training Evaluation	1X10	1X40	1X50	1
		One or more of the subjects may be without practicals						
		1 T	1X4	1X3	1X20	1X80	1X100	1X3=3
Part 3	1 SEC	1 T	1X2	1X2	1X10	1X40	1X50	2
						Total Credits per Semester		20

* There may be in house training in V Semester.

I-IV = 18X4 = 72/750 Marks

V-VI = 26X2 = 52/950 Marks

Total Credits / Marks : 136 / 4900

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **BACHELOR OF AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY, BASLP (FOUR YEARS PROGRAMME)**

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course,

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course)

Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
				IA	Exam	Total	
a) I/ II/ III/ IV Semester							
SLPA Papers	4 T	4X4	4X3	4X20	4X80	4X100	4X3=12
	2 P	2X10	2X3	2X50	2X100	2X150	2X3=6
Foundation / Skill Development Course AECC/ SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
CC & EC	-	-	-	50	-	50	1
					Total Credits per Semester		21
b) V/ VI Semester							
SLPA Papers	4 T	4X4	4X3	4X20	4X80	4X100	4X3=12
	2 P	2X10	2X3	2X50	2X100	2X150	2X3=6
SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
					Total Credits per Semester		20
c) VII/ VIII Semester							
The students shall undergo Internship during the Fourth year (VII/ VIII Semester) of the Programme.							

I-IV = 21X4 = 84/750 Marks

V-VI = 20X2 = 40/750 Marks

Total Credits / Marks : 124 / 4500

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COURSE PATTERNS, SCHEMES OF EXAMINATIONS AND CREDITS FOR **B.H.M (FOUR YEARS)** PROGRAMMES

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities
AECC: Ability Enhancement Compulsory Course,
DSC: Discipline Specific Course
DSE: Discipline Specific Elective
SEC: Skill Enhancement Course)

a) I/ III Semester

	Subjects	**Paper**	Instruction hrs/week	Duration of Exam(hrs)	**Marks**			**Credits**
					IA	Exam	Total	
Part 1	1 Language	1 T	1X3	1X3	1X20	1X80	1X100	1X2=2
Part 2	Hotel Management Papers	5 T	5X3	5X3	5X20	5X80	5X100	5X2=10
		4 P	4X3	4X3	4X10	4X40	4X50	4X1=4
Part 3	AECC/SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC & EC	-	-	-	50	-	50	1
						Total Credits per Semester		19

b) II / IV Semester

Part 1	1 Language	1 T	1X3	1X3	1X20	1X70	1X100	1X2=2
Part 2	5 Hotel Management Papers	5 T	5X3	5X3	5X20	5X70	5X100	5X2=10
		4 P	4X3	4X3	4X10	4X35	4X50	4X1=4
Part 3	SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
	CC & EC	-	-	-	50	-	50	1
						Total Credits per Semester		19

c) V/ VI Semester

Part 2	6 Hotel Management Papers	6 T	6X4	6X3	6X20	6X80	6X100	6X3=18
Part 3	SEC	1 T	1X2	1X2	1X10	1X40	1X50	1X2=2
						Total Credits per Semester		20

D) VII Semester

Part 2	6 Hotel Management Papers	6 T	6X4	6X3	6X20	6X80	6X100	6X4=24
Part 3	SEC	1 T	1X2	1X2	1X20	1X80	1X100	1X2=2
						Total Credits per Semester		26

E) VIII Semester

Part 2	6 Hotel Management Papers	5 T	5X4	5X3	5X20	5X80	5X100	5X4=20
		Project work *	8	Report Evaluation	1X20	1X80	1X100	1X4=4
Part 3	SEC	1 T	1X3	1X3	1X20	1X80	1X100	1X2=2
						Total Credits per Semester		26
						Program Grand Total of Credits		168

* There may be one of the special papers in lieu of the Project work.

    I-IV = 19X4 = 76/960 Marks

    V-VI = 20X2 = 40/650 Marks

    VII-VIII = 26X4 = 52/700 Marks

   Total Credits / Marks : 168 / 6300

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COMPUTATION OF SEMESTER GRADE POINT AVERAGE (GPA)

AND AGGREGATE OR CUMULATIVE GRADE POINT AVERAGE (CGPA)

Table 1: Table of Subjects of Study, Marks and Credits for B.A Degree

Group/ Part	I (AECC)		II			III		
			DSC 1	DSC 2	DSC 3	AECC (I-II)		
Semester/	L1	L2	O1	O2	O3	SEC(III-IV)	CC/E A	Total
I	100 (3)	100 (3)	100 (3)	100 (3)	100 (3)	50(2)	50(1)	600
II	100 (3)	100 (3)	100 (3)	100 (3)	100 (3)	50(2)	50(1)	600
III	100 (3)	100 (3)	100 (3)	100 (3)	100 (3)	50(2)	50(1)	600
IV	100 (3)	100 (3)	100 (3)	100 (3)	100 (3)	50(2)	50(1)	600
V	-		200 (8)	200 (8)	200 (8)	50(2)	-	650
VI	-		200 (8)	200 (8)	200 (8)	50(2)	-	650

Computation of Semester GPA:

The Semester Grade Point Average shall be computed by dividing the sum of the Credit Points (CP) of all the subjects of study by the maximum credits for the semester. The credit points are in turn calculated as the product of the grade points earned in the subject and the credits assigned to that subject.

SGPA $(S_i) = \Sigma(C_i \times G_i) / \Sigma C_i$

where C_i is the number of credits of the ith course and G_i is the grade point scored by the student in the ith course.

I Semester Marks:

Subject	L1	L2	S1	S2	S3	FC	CC/E A	Total
Max. Marks	100	100	100	100	100	50	50	600
Marks Obtained	69	74	72	78	66	40	39	438
Grade Point (G_i)(1)	7.0	7.5	7.5	8.0	6.5	8.0	8.0	-
Credits (C_i)(2)	3	3	3	3	3	2	1	18
Credit Points (CP)(1x2)	21.0	22.5	22.5	24.0	19.5	16.0	8.0	125.51

Semester Aggregate Marks: **438/600=73.00 %**

Classification of Result**:** First Class Exemplary Semester Grade Point Average (GPA)

= Total Credit Points/ Maximum Credits for the Semester

= 125.51/18=6.97

Semester Alpha Sign Grade: **A**

Calculation of Aggregate or Cumulative GPA (CGPA):

The aggregate or cumulative SGPA (CGPA) at the end of the sixth semester shall be calculated as the weighted average of the semester grade point averages. The CGPA is calculated taking into account all the courses undergone over all the semesters of a programme, i.e. The CGPA is obtained by dividing the total of semester credit weightages by the maximum credits for the programme.

CGPA = $\Sigma(C_i \times S_i) / \Sigma C_i$

where S_i is the SGPA of the ith semester and C_i is the total number of credits in that semester.

An illustration is given below.

Semester	I	II	III	IV	V	VI	Total
Total Marks / Semester	600	600	600	600	650	650	3700
Total Marks Secured	438	442	450	443	492	506	2771
Semester GPA(3)	6.97	6.97	7.58	7.41	8.16	8.41	-
Semester Credits(4)	18	18	18	18	26	26	124
Semester Credit Weightages, 3x4	125.46	125.46	136.44	133.38	212.16	218.66	951.56

Aggregate Percentage of Marks = 2771/3700 = 74.89 **%**

Classification of Result**:** *First Class Exemplary*

Aggregate or Cumulative Grade Point Average (CGPA)

= Total of Semester Credit Weightages / Maximum Credits for the programme

= 951.56/124=7.34

Programme Alpha Sign Grade: **A+**

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Table 2: Table of Subjects of Study, Marks and Credits for B.Com. Degree

Group/ Part	I (AECC)		II DSC 1 DSC 2 DSC 3			III AECC (I-II)		
Semester	L1	L2	O1	O2	O3	SEC (III-IV)	CC/E A	Total
I	100 (3)	100 (3)	100 (3)	100 (3)	100 (3) 100 (3)	50(1) 50(2)	50(1)	750
II	100 (3)	100 (3)	100 (3)	100 (3)	100 (3) 100 (3)	50(1) 50(2)	50(1)	750
III	100 (3)	100 (3)	100 (3)	100 (3)	100 (3) 100 (3)	50(1) 50(2)	50(1)	750
IV	100 (3)	100 (3)	100 (3)	100 (3)	100 (3) 100 (3)	50(1) 50(2)	50(1)	750
V			100 (4) 100 (4)	100 (4) 100 (4)	100 (4) 100 (4)	50(1) 50(2)	-	700
VI			100 (4) 100 (4)	100 (4) 100 (4)	100 (4) 100 (4)	50(1) 50(2)	-	700

Computation of Semester GPA:

I Semester Marks :

Subject	L1	L2	S1	S2	S3	S4	practical	FC	CC/E A	Total
Max. Marks	100	100	100	100	100	100	50	50	50	750
Marks Obtained	78	72	71	68	75	74	38	35	36	547
Grade Point (G_i)(1)	8.0	7.0	7.0	7.0	7.5	7.5	7.5	7.0	7.0	7.50
Credits (C_i)(2)	3	3	3	3	3	3	1	2	1	22
Credit Points (CP)(1x2)	24.0	21	21	21	19.5	19.5	7.5	14.0	7.0	154.5

Semester Aggregate Marks : **547/750 = 72.93%**

Classification of Result **: First Class Distinction**

Semester Grade Point Average

= Total Credit Points / Maximum Credits for the Semester

= 154.5/22=7.02

Semester Alpha Sign Grade**: A+**

Calculation of Aggregate or Cumulative GPA (CGPA) :

An illustration is given below.

Semester	I	II	III	IV	V	VI	Total
Total Marks / Semester	750	750	750	750	700	700	4400
Total Marks Secured	547	560	560	571	532	542	3312
Semester GPA(3)	7.02	7.43	7.43	7.56	7.09	7.22	-
Semester Credits(4)	22	22	22	22	26	26	140
Semester Credit Weightages, 3x4	154.44	163.46	163.46	166.32	184.34	187.72	1019.74

Aggregate Percentage of Marks = 3312/4400=75.27 **%**

Classification of Result**: *First Class Distinction***

Aggregate or Cumulative Grade Point Average

= Total of Semester Credit Weightages / Maximum Credits for the programme

= 1019.74/140=7.28

Programme Alpha Sign Grade: **A+**

Table 3: Table of Subjects of Study, Marks and Credits for B.Sc./CCJ Degree

Group/ Part	I (AECC)		II DSC 1 DSC 2 DSC 3			III AECC (I-II)		
Semester/	L1	L2	O1	O2	O3	SEC(III-IV)	CC/E A	Total
I	100 (3)	100 (3)	150 (3)	150 (3)	150 (3)	50(2)	50(1)	750
II	100 (3)	100 (3)	150 (3)	150 (3)	150 (3)	50(2)	50(1)	750
III	100 (3)	100 (3)	150 (3)	150 (3)	150 (3)	50(2)	50(1)	750
IV	100 (3)	100 (3)	150 (3)	150 (3)	150 (3)	50(2)	50(1)	750
V			300 (8)	300 (8)	300 (8)	50(2)	-	950
VI			300 (8)	300 (8)	300 (8)	50(2)	-	950

Computation of Semester GPA:

I Semester Marks :

Subject	L1	L2	S1	S2	S3	FC	CC/E A	Total
Max. Marks	100	100	150	150	150	50	50	750
Marks Obtained	81	71	121	125	130	40	40	608
Grade Point $(G_i)(1)$	8.0	7.0	8.0	8.5	8.5	8.0	8.0	-
Credits $(C_i)(2)$	3	3	4	4	4	2	1	21
Credit Points (CP)(1x2)	24.0	21.0	32.0	34.0	34.0	16.0	8.0	169.0

Semester Aggregate Marks : **608/750 = 81.07%**

Classification of Result **: First Class Distinction**

Semester Grade Point Average

= Total Credit Points / Maximum Credits for the Semester

= 169/21 = 8.04

Semester Alpha Sign Grade**: A ++**

Calculation of Aggregate or Cumulative GPA (CGPA) :

An illustration is given below.

Semester	I	II	III	IV	V	VI	Total
Total Marks / Semester	750	750	750	750	950	950	4900
Total Marks Secured	608	601	606	601	796	791	4003
Semester GPA(3)	8.04	7.95	8.04	7.95	8.30	8.15	-
Semester Credits(4)	21	21	21	21	26	26	136
Semester Credit Weightages, 3x4	168.84	166.95	168.84	166.95	215.8	221.9	1109.28

Aggregate Percentage of Marks = 4003/4900=81.69 **%**

Classification of Result**: *First Class Distinction***

Aggregate or Cumulative Grade Point Average

= Total of Semester Credit Weightages / Maximum Credits for the programme

= 1109.28/136=8.15

Programme Alpha Sign Grade: **A ++**

RANI CHANNAMMA UNIVERSITY

"VIDYASANGAMA" BELAGAVI

Syllabus for

MASTER OF ARTS [HISTORY & ARCHAEOLOGY]

(I Semester)

Under Choice Based Credit System

To be effective from the Academic Year 2017-2018

Department of Studies in History & Archaeology

Rani Channamma University

Vidyasangama

Belagavi - 591156

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Course Description :

The course is aimed to develop knowledge and understanding of human activity in the past and to promote understanding the present over developing historical perspective on issues of contemporary importance. It is also aimed to develop knowledge and understanding of Indian history Hence in order to fulfill, this course covers wide range of topics pertaining to the core, supportive and interdisciplinary domains of historical knowledge. The course is designed with consistency within the paper and between the papers. The course intends the students to develop the ability to think critically on the historical inheritance.

Objectives of the course (M.A. in History & Archaeology) :

1. To develop knowledge and understanding of human activity in the past.
2. To promote understanding of the present through the development of a historical perspectives on issues of contemporary importance.
3. To develop knowledge and understanding of history.
4. To develop students understanding of historical concepts.
5. To provide students with a perspective of change in a world of change.
6. To develop an awareness of different interpretations of particular historical issues.
7. To develop a range of research skills essential to the study of history.
8. To develop an appreciation of the nature and variety of historical evidence.
9. Students should acquire knowledge and develop understanding of
   ➢ The specific listed elements of topics studied
   ➢ How the actions and experience of previous generations have helped to influence the world of their successors.

Name of the course :

The course shall be called **"Master of Arts"** in History & Archaeology.

Duration of the course :

The course of study for **M.A. Degree in History & Archaeology.** shall extend over a period of fours semesters spreading over two academic years.

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REGULATIONS :

Eligibility for Admission:

Candidates who have passed B.A. examinations with History as optional subject of Rani Channamma University, Belagavi or any other university recognized as equivalent are eligible for admission to M.A. History course. Candidates will be selected for admission as per the general guidelines issued by the Rani Channamma University, Belagavi from time to time.

Intake Capacity :

The intake capacity for the master of Arts (M.A. in History) shall be generally 30 seats (25 seats under normal fee structure and 5 seats under enhanced fee structure), but however university has discretion to increase or decrease the seats according to the situation prevail.

Medium of Instruction :

The medium of instruction for M.A. History program will be English. However student can write his/her paper in kannada also.

Program structure :

There shall be two categories of papers namely core and optional papers. Optional papers are divided into groups namely A, B, C and D. the First Semester consist five(5) core papers along with one optional group paper and second and third semester shall have four(4) core papers and one open elective course (OEC) paper along with optional group papers. For fourth semester there are four(4) core papers and one optional group's paper. In additional to these papers HI 4.5 is a Research Project consisting of 100 marks (80 marks for Dissertation and 20 marks for viva-voce examination) based on students study Tour/Field Work/Survey of Historical Source

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like Monuments/Literature etc. the Dissertation shall be supervised by a qualified Teachers and submitted to the university immediately after the theory examination.

Allotment Of Optional Group Papers :

The course consist four optional namely A,B,C and D. Each group shall have maximum of 25% seats of the total intake. Groups shall be allotted to the students based on the merit of B.A. Degree course.

Attendance :

Each paper shall be taken as a unit for the purpose of calculating attendance. Every student has to satisfy the required attendance for each paper. If he/she has less than 75% of the total number of instructional hours during the semester he/she not eligible to appear for the examination. There is no provision for condoning shortage of attendance.

Examination :

There shall be an examination at the end of each semester conducted by either university/ PG Department/College as per the circular issued from time by R.C.U Belagavi.

The examination of Dissertation shall be conducted by the panel of examiners to be appointed by board of studies R.C.U Belagavi. At the end of the examination a Viva-Voce shall be conducted by panel of examines. The panel for Viva-Voce examination shall consist one internal and one external examiner. Internal examiner may be the chairman of the course/ a regular teacher appointed to the course.

Evaluation :

Each course shall have two evaluation components. Internal assessment(IA) and the semester end examination. The IA Component in each course, shall carry 20 marks except dissertation. However, the number of IA components per course per semester shall not be less than two. IA marks shall be awarded by teacher who teaches

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the respective papers after assessing students paper. There is no provision for seeking improvement of internal Assessment marks.

Maximum duration for completion of the programme :

A candidate admitted to M.A. in History programme shall complete the course within a period which is double of the programme from the date of admission. Whenever the syllabus is revised, the candidate reappearing shall be allowed for the examinations only according to the new syllabus or as per the guidelines issued by Rani Channamma University Belagavi.

Miscellaneous :

Students are required to pay the prescribed fees immediately after the admission list is announced. Students claiming fee concession etc. are required to produce the relevant documents as may be prescribed by the Government from time to time. Expenditure towards study Tour/Field work/ and for the preparation of Dissertation and any other essential activity shall be entirely borne by the University.

Pattern of Question Paper:

There shall be five Questions with Internal choice
Each Question has 16 marks.   (5 x 16 = 80)

I Semester M.A Degree Examination, December – 2017
History & Archaeology
(Regular)

Paper – 1.1: Historical Method

Time: 3 Hours   **Max, Marks**: 80

Instructions: ಸೂಚನೆಗಳು:

1. Answer **All** the questions
   ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೂ ಉತ್ತರಿಸಿರಿ.

2. All questions carry equal marks
   ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳಿಗೂ **ಸಮಾನ** ಅಂಕಗಳು.

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1. (a) _____   16

   Or/ ಅಥವಾ

   (b)_____

2. (a) _____   16

   Or/ ಅಥವಾ

   (b) _____

3. (a) _____   16

   Or/ ಅಥವಾ

   (b)_____

4. (a) _____   16

   Or/ ಅಥವಾ

   (b)_____

5. (a) _____   16

   Or/ ಅಥವಾ

   (b)_____

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DETAILS OF THE CREDITS

S. No	Semester	Hard Core Paper	Soft Core Paper	OEC Paper	Total Credits
1	I	4x4=16	2x3=6		22
2	II	3x4=12	2x3=6	1x5=5	23
3	III	3x4=12	2x3=6	1x5=5	23
4	IV	3x4=12 + 1x5=5=17	2x3=6		23
		57 (62.6%)	24 (26.4%)	10 (11%)	91 (100%)

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CBCS

Syllabus

Course Outline for History Programme

Department: Department of Studies in History

Course Title: M.A. in History

SEMESTER : I

Sl. No.	Paper. No.	Domain	Paper no's and Title of the paper	Max. Marks		Total Marks	Hrs./ week	Credits
				I.A.	Sem Exam			
1	HI-1.1	HC	Historical Method	20	80	100	04	4
2	HI-1.2	HC	Political Ideas In Ancient India	20	80	100	04	4
3	HI-1.3	HC	History Of Medieval India (1206-1707)	20	80	100	04	4
4	HI-1.4	HC	Society And Culture Of India Up To 1200 A.D	20	80	100	04	4
5	HI-1.5	HC	Intellectual History Of Modern India	20	80	100	04	3
OPTIONAL GROUPS								
6	HI-Gr-A.1.6	SC	Principles and Methods of Archaeology	20	80	100	04	3
7	HI-Gr-B.1.6	SC	Art And Architecutre Of Karnataka	20	80	100	04	3
8	HI-Gr- C.1.6	SC	Intellectual History Of Karnataka	20	80	100	04	3
9	HI-Gr-D. 1.6	SC	History of the USA since 1776 A.D.	20	80	100	04	3

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HI – 1.1 Historical Method

Unit : I

Introduction : Aim and Scope – Meaning and Definitions of History – History and its Relations with other Social Sciences – concepts of History

Unit : II

Sources of History – Traces – History as a Science, Art or a Social Science- Uses and Abuses of History.

Unit : III

Historical Method- Heuristics, Auxiliary Sciences- External Criticism and Internal Criticism- Hyper Criticism and Dilettantism.

Unit : IV

Synthetic Operation – Exposition and Presentation – Causation and imagination in History- Historical Thought.

Unit : V

Problems in the writing of History-objectivity and subjectivity in History- Role of individual in History-Pattern in History-Trends in the writing of History.

Books for study :

1. E.H.Carr, what is History?
2. A.L.Rouse, Use of History.
3. K.Rajayyan, Historical Method and Historiography.
4. B. Sheikh Ali, History, its theory and Method.
5. N. Subramaninan, Historiography
6. Allen Johnson, The Historian and Historical Evidence.
7. R.G.Collingwood, The Idea of History.
8. G.J.Renier, History, its Purpose and Method.
9. Carter.U.Good, Methods of Research.
10. Thompson, History and Historians and Writings.
11. M.Rose Arnold, Thoery and Method in Social Science.
12. Arthur Marwick, The Nature of History.

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HI – 1.2 POLITICAL IDEAS IN ANCIENT INDIA

Unit : I

Sources – Concept of Dharma and its impact on Ancient Indian Political Ideas-Ideals of State.

Unit : II

Foundations of Ancient Indian Political Ideas – The Vedic Age – The Tribal State Structure – Theories of Kingship – Coronation Ceremony and its Constitutional Significance.

Unit : III

Legitimacy of Political power – Dharma – Shastras – Typology of States – Monarchy – Epics – Ramayana – Mahabharata(Shantiparva)-Jaina and Buddhist Literature – Critical evolution.

Unit : IV

Ideas of Proto – Republicanism – History of Proto – Republics- Their Origin and Growth – Constitution, Deliberations and Disappearance.

Unit : V

Ancient Indian Political Thinkers : Manu, Kautilya – Rights and Duties of the King and the Subjects.

Books for study :

1. Beniprasad : Theory of Government in Ancient India
2. A.S.Alterkar : State and Government in Ancient India
3. Sukhtankar : Politics in India Epics
4. V.B.Sen : Hindu Dharma Sastras
5. Romila Thapar : State in Ancient India
6. K.P.Jayaswal : Hindu Polity
7. Shama Shastri (Ed) Kautilya's Arthasastra
8. R.S.Sharma, History of Indian Political Ideas and Institutions
9. S.Radhakrishnan, Indian Philosophy.
10. B.A.Salatore, Ancient Indian Political Thought and Institutions.

HI – 1.3 HISTORY OF MEDIEVAL INDIA (1206-1707)

Unit : I

Sources – Establishment of the Sultanate of Delhi – Itumish, Razia Sultana and Balban – theory of Kingship.

Unit : II

"Khiliji Revolution" – Alauddin Khilji, Expansion of Delhi Sultanate, Reforms of Alauddin Khilji- Mohammaed-bin-Tughlaq and Reforms. Fall of the Sultanate.

Unit : III

The Mughals in India : Akbar, Jahangir, Shahjahan and Aurgngzed – Administration of the Mughals Agrarian Structure – Revenue Administration – Minilitary Administration, Man-Sbdari.

Unit : IV

Political Strategies : Rajput Policy – Religious Policy – Deccan and North Western Fronkler Policy's Fall of the Mughal Empire.

Unit : V

Rise of Shivaji – Peshwas – Mughal Martha Relations – Decline of Marathas.

BOOKS FOR REFERENCE :

1. A.B.M. Habibullah : Foundation of Muslim Rule in India
2. Mohammed Habeed : Medieval History of India
3. Ishwari Prasad : Medieval India.
4. B.N.Puri : Indian Administration, Vol.II.
5. Kundra and Bawa : Medieval India.
6. J.N.Sarkar, The Mughal Administration.
7. R.C.Majumdar, Moghul Age.
8. S.S.A.Rizvi, Wonder That Was India.
9. Cambridge Economic History of India, Mughal Empire.
10. Ashwini Agaarwal, Studies in Mughal History.
11. Tapan Rayahaudari and Irfan Habib, Cambridge Economic History of India,Vol I.
12. Mahdi Hussain Aga, Tughlaq Dynasty.
13. K.S.Lal, History of Khiljis.

HI – 1.4 SOCIETY AND CULTURE OF INDIA UP TO 1200 A.D

Unit : I

Survey of sources-Main Features of Indian Culture-Races. Pre-historic Culture-Harappan Culture- Town Planning-Society and Religious of Indus Valley- Decline of urban Centres-Theories of Destruction.

Unit : II

Survey of Vedic Literature-Society and culture as reflected in Vedic Literature-Social Formation - Varna-Marriage an Social Change-Women-Samakaras.

Unit : III

Rise of new cults-Charuvaka and Ajivaka- Emergence of Philosophies.- Jainism-Buddhism-Philosophy-Social Transformation. Caste, Slavery and women-Society and Culture under the Mauryas, Ashoka's Dharma and Spread of Buddhism-Satavahana Society- Buddhist Art and Architecture.

Unit : IV

Gupta Society-Features of Gupta Age – Literature – Science and Technology – Brahminist Religion, Society and Literature ,Position of women. Harsha and His Times.

Unit : V

Sangam Literature – Tamil Society and Culture – Society and Culture Under the Badami Chalukyas – Art and Architecture. Pallava Art and Architecture – Rashtrakuta Literature and Architecture.

BOOKS FOR REFERENCE :

1. D.B.Chattopadhaya : Indian Philosophy
2. R.C.Majumdar : History and Culture of Indian People Vol 1 to V (B.V.Series)
3. Romila Thapar : Ancient India
4. K.A.Nilakantansastri : A History of South India.
5. R.G.Bandarkar : Early History of Deccan
6. B.N.Lunia : Evolution of Indian Culture.
7. A.L.Basham : Wonder that was India.
8. Burton Stein – Peasant State and Society in Medieval South India.
9. Orient Langaman(Pub), A Comphersive History of India Vol I to IV

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HI – 1.5 INTELLECTUAL HISTORY OF MODERN INDIA

Unit : I

Introduction – Renaissance-Raja Ram Mohan Roy- The Legacy of Brahmo Samaj and young Bengal Movement- Bankim, Sharath and Construction of India. Vivekananda Theosophy and Anni Besant- Dayananda and Arya Samaj.

Unit : II

The Debates – Orientalism-Liberalism-Debate over white Man's Burden – James Mill – Dialogue over the system of Education. Economic Drain – Dadabhai Navoroji – Controversy over Socio – Religious Reforms Liberal democratic Stragergy –Jythibha Phule and Naryana Guru.

Unit : III

Emergency of Indian National Identity-Syed Ahmed and Pan-Islamic. Tilak – Aurobhindo- Gandhi-Ambedkar- Abdual Kalam Azad.

a) Emergence of group identities- Hindu Mahasabha and Savarkar-Hindutva-R.S.S-Muslim League and Jinnah – Non Brahmin Movements, Separate Electorates – concept of Social Justice – Periyar and Self Respect Movement.

Unit : IV

The Socialist thought – Jawaharlal Nehru, S.C.Bose - Congress Socialist Party – Lohia – Communism- M.N.Roy.

Books for study :

1. J.P.Andrees : The Renaissance in India
2. David Kopf : British Orientalism and Indian Renaissance
3. Rosalind O. Hanlon : Caste, Conflict, Ideology. Mahatma Jyotirao Phule and Lower Class Protest In 19th Century Wester India.
4. P.K.Gopalkrishna : Development of Economic Ideas in India
5. A.R.Desai : Social Background of Indian Nationalism
6. V.D.Savarkar, Hindutva.
7. M.S.Golwalkar, We.
8. Beniprasad , The Hindu-Muslim Question.
9. C.A.Chintamani, Indian Politics Since The Mutiny.
10. Banskohn – History of Nationalism in the East.
11. Bipin Chandra , Communalism in Modern India.

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HI-GR-A.1.6 PRINCIPLES AND METHODS OF ARCHAEOLOGY

Unit : I

Definition; Goals of Archaeology; Archaeology and other disciplines; Kinds of Archaeology; History of Archaeology in Europe; Antiquity of Mankind; History of Archaeology in pre-Independent India.

Unit : II

Archaeological Theories: Concept of Culture; Culture-Historical Approach; Functionalism; New Archaeology; Processual Theory; General Systems Theory; Behavioural Archaeology; Post-Processual approaches; Contextual Archaeology; Archaeology and gender; Archaeology today.

Unit : III

Exploration Methods: Determinants of Archaeological data; Type of sites; Selection of a site; Problem oriented approach; Research design; Site surface survey; Factors in survey design; Site survey methods; Specialized survey methods; Site data form.

Excavation Methods: Development of field techniques; Excavation techniques; Excavation types; Principles of excavation.

Unit : IV

Dating Methods in Archaeology; Dating system; Relative dating techniques; Absolute dating techniques; Derivative dating techniques.

Practical training in Field Archaeology: Excavation/Exploration (Compulsory) –Two to Four weeks; Submission of Field Report.

BOOKS FOR REFERENCE :
1. Archaeological Site Manual, 1994, Museum of London, London.
2. Atkinson, R.J.C., 1953, Field Archaeology, 2nd edition, Methunen, London.
3. Barker, Philip, 1977, Techniques of Archaeological Excavation, B.T.Batsford Ltd., London.
4. Binford, L.R., 1972, An Archaeological Perspective, Seminar Press, New York.
5. Brothwell, D.R., 1982, Digging up Bones, 3rd edition, Cornell University Press, Ithaca, New York, London.
6. Connah, G., (ed.), 1983, Australian Field Archaeology: A Guide to Techniques, Australian Institute of Aboriginal Studies, Canberra, Australia.
7. Dancey, W.S., 1981, Archaeological Field Methods: An Introduction, Burgess, Minneapolis.
8. Dean, Martin, et.al., (ed.), 1995, Archaeology Underwater – The NAS Guide to Principles and Practice, Nautical Archaeology Society, Archetype Publications Ltd., London.
9. Dever, G.William and Darrel Lance, H., (ed.), 1978, A Manual of Field Excavation, Handbook for Field Archaeologists, Hedrew Union College-Jewish Institute of Religion, New York.
10. Dillon, B.D., (ed.), 1989, Practical Archaeology: Field and Laboratory Techniques and Archaeological Logistics, Archaeological Research Tools 2, Institute of Archaeology, University of California, Los Angeles, U.S.A.
11. Drewett L. Peter, 1999, Field Archaeology – An Introduction, UCL Press, London.

14

HI –Gr-B- 1.6 ART AND ARCHITECUTRE OF KARNATAKA

Unit : I

General Characteristics of Indian Art- Meaning and Significance of Symbols – Main Features Satavahana Architecture – Hindu Rock –Cut Halls, Under the Chalukyas of Badami and Rashtrakutas.

Unit : II

Origin of the Hindu Temple Styles – Beginnings of Temple Architecture – the Chalukyan Temples – Sculptures of the Period – The Kalyani Chalukyan Temples – Characteristics of the Hoysalas Temple Architecture.

Unit : III

Final Phase of the Temple Architecture – the Vijayanagara Empire.

   a) Secular Architecture – Palace, Fortress, Lotus Mahal, Queen's Bath, Stables.
   b) Religious Architecture, Temples of Hampi Vijayanagara Sculptures and monolitihs.

Unit : IV

Painting –Principles – Materials-Rock Paintings. Paintings under Satavahanas-Chalukyan and Rastrakutas – A study of Vijayangar Paintings with Particular reference to Hampi Lepakshi temples.

Unit : V

Secular and Religious Architecture under Bahamani and BIjapur Rulers.

BOOKS FOR REFERENCE :

   1. S.Srikantha Sastry : Hoysala Vastusilpa
   2. B.Venkoba Rao : Mysoredesada Vasthsilpa
   3. E.B.Havell : The Ancient and Medieval Architecture of India
   4. Masti Venkatesh Ayyangar : Popular culture in Karnataka Vasthshilpa.
   5. Srinivasan K : South Indian Temples
   6. S.Rajashekhara : Karnataka Architecture
   7. Long Hurst : A.H : Ruins of Hampi
   8. Narsimhachar R : Temples of Belur
   9. Shivarama Karanath : Karnatakadalli Chitrakale Chalukya Vasthsilpa

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HI –Gr-C- 1.6 INTELLECTUAL HISTORY OF KARNATAKA

Unit : I

Introduction – the origin of the state- Influence of Buddhism – Jainism in Karnataka – Influence of Jainism on the state – Shankara's Advaitha.

Unit : II

The Vachana Movement – Basava, Allama, Akka – Language and Literature – Anubhava Mantapa – the Revolution in Kalyana – The Concepts of Kayaka and Dasoha.

Unit : III

Revival of Brahamnical Religion – Sri Ramanuja and his Visishtadawita –Influence on Karnataka – Madwacharya and Dwaitism – the Conflict between orthodoxy – and rationality – The Bhakti Movement – The Dasa tradition – Purandara and Kanaka – Ramadhanya charitre – vidyaranya – Sufism in Karnataka.

Unit : IV

The Transition To Modernity – Shishunalsheriff – Renaissance in Karnataka – Social Reform Movement – Tilakian and Gandhian Nationalist Politics – Alur Venkata Rao – D.V.Gundappa, Hardikar Manjappa.

BOOKS FOR REFERENCE :

1. Leila Dushkin : Non – Brahmin Movement in Princely Mysore
2. B.L.Rice : Mysore Gazeteers
3. James Manor : Political Change In and Indian State, Mysore 1881 -1947.
4. K.Veerathappa : Readings in the History of Modern Mysore
5. Bjorn Hettne : Political Economy of Indirect Rule Mysore 1881-1947
6. S.Chandra Shekar : Adhunika Karnatakada Andholanagalu
7. B.Sheikh Ali (Ed) : Karnataka Charitre Vols – 1 to 7.
8. D.V.Gundappa : Jnapaka Chitrashale.
9. Shamba Joshi : Karnataka Samskrutiya Purva Pitike.
10. Halappa G.S. and M.V.Krishna Rao : The History of Freedom Movement in Karnataka Vol-I-II
11. R.R.Diwakar : Karnataka Through the Ages.
12. Srinivasan K : South Indian Temples.

HI –GR-D- 1.6 HISTORY OF THE USA SINCE 1776 A.D.

Unit : I

British Colonization – American Revolution. Causes and Nature. George Washington-Election of 1800 and Thomas Jefferson – 1812 war – Foreign Policy of Federalist Era.

Unit : II

Jacksonian Democracy : War on the Bank, King Cotton-John C. Calhoun & Nullification Doctrine- West ward Movement.

Unit : III

The Civil war – Abraham Lincoln-Red Indian Parpticipation in the American Civil War-Stand Watie, Reconstructional Process.

Unit : IV

The rise of Big Business- the Sherman Anti-trust Act of 1890-Industrialization and Social Change- Populist Movement-Progressive Movement – Theodore Roosevelt – Big Stick Policy – Dollar Diplomacy- I World War- Wilsonian Fourteen Points

Unit : V

Hervert Hoover and the Great Depression – Franklin Delana Roosevelt and the New Deal – The U.S. and the Second World War.

BOOKS FOR REFERENCE :

1. K.Rajayyan : A History of the U.S.A
2. Thomas Bailey : The American Pageant
3. Edmund Morgan : The Meaning of Independence
4. Edmund Morgan : The challenge of the American Revolution
5. R.D.Morris : The American Revolution
6. H.B.Parks : United States of America – A History
7. Allen and Nevis : A Concise History of the U.S.A.
8. Carl Sandberg : Abraham Lincoln.
9. Richard Hofstadter : A History of the U.S.A and others.
10. Link, Woodrow Wilson and the Progressive Era.

17

RANI CHANNAMMA UNIVERSITY

"VIDYASANGAMA" BELAGAVI

Syllabus for

MASTER OF ARTS [HISTORY & ARCHAEOLOGY]

(II Semester)

Under Choice Based Credit System

To be effective from the Academic Year 2017-2018

Department of Studies in History & Archaeology

Rani Channamma University

Vidyasangama

Belagavi - 591156

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SEMESTER :II

Sl. No	Paper no	Domain	Title of the paper	Max. Marks I.A.	Max. Marks Sem Exam	Total Marks	Hrs./ week	Credits
1	HI-2.1	HC	Historiography	20	80	100	4	4
2	HI-2.2	HC	Political And Administrative Institutions Of India	20	80	100	4	4
3	HI-2.3	HC	History Of Freedom Movement In India 1857-1919	20	80	100	4	4
4	HI-2.4	HC	Society And Culture Of India – 1200-1750 A.D	20	80	100	4	3
OPTIONAL GROUPS								
5	HI-Gr-A.2.5	SC	Pre and Proto History of India	20	80	100	4	3
6	HI-Gr-B.2.5	SC	Art And Architecture Of India	20	80	100	4	3
7	HI-Gr-C.2.5	SC	Socio – Economic History Of Karnataka (1336-1799)	20	80	100	4	3
8	HI-Gr-D.2.5	SC	History of West Asia Since : 1900	20	80	100	4	3
OPEN ELECTIVE COURESE (OEC) IN HISTORY								
9	HI-OEC-2.6	OEC	History of Social Transformation Movement in India : (Ancient and Medieval)	20	80	100	4	5

2

HI – 2.1 HISTORIOGRAPHY

Unit : I

Historiography-Evolution of Historical writings – Greek Historiography - Herodotus, Thucydides – Roman Historiography – Titus Livy, Cornelius Tacitus.

Unit : II

Christianity and writing of history – Features of Church History – Historiographers of Church History - Renaissance and its influence on the course of Historical writings.

Unit : III

Cartesian and Anti – Cartesian Historiography-History of Positivism, Enlightenment Period and Romanticism – Geographical Discoveries and the Writing of History.

Unit : IV

Scientific History-Niebuhr and Ranke - Colonial Historiography – Philosophy of History – Scientific Materialism of Karl-Marx – Biological History of Oswald Spengler and Natural Philosophy of Toynbee – Arab Historiography – Ibn Khaldun.

Unit : V

Indian Historiography- Kalhanas' Rajatarangini- Alberuni- Modern Historiographers – J.N.Sarkar, K.A.N. Sastry, K.M.Pannikar, D.D.Kosambi, R.S.Sharma and Romila Thapar.

BOOKS FOR REFERENCE :

1. K.Rajayyan : Historical Method and Historiography
2. N.Subramanian : Historiography
3. Sheik Ali : History, its theory and Method
4. Gardnier : Theories of History
5. Herodotus : Historia
6. R.G.Collingwood : The Idea of History
7. Arnold J Toynbee : A Study of History, 12 Vols.
8. Titus Livy : History of Rome
9. Oswald Spengler : Decline of the West.
10. Walsh. W.H : An introduction to the Study of History.
11. St. Augustine : The City of God.

3

HI – 2.2 POLITICAL AND ADMINSTRATIVE INSTITUTIONS OF INDIA

Unit : I

Sources – Foundations of Indian Political Institutions – Vedic/ Institutions : Sabha and Samiti, Sena and Vidhatha.

Unit : II

Ancient Political Institutions – Mauryan Political Institutions – Military Organization – State Revenue and Expenditure – Legal System – Gupta polity – Sangam Age – Chola polity with Special Reference to Village Administration.

Unit : III

Medieval Political Institutions – Sultanate of Delhi – Nature of the State Machinery Theocentric Features – Sources of Revenue and Agrarian Structure – Vijayanagar Polity.

Unit : IV

Mughal Administration – Persian and Arab Influence – Central Administration – Mansabdari System – Local institutions, Revenue, Judicial and Military Administration.

Unit : V

Martha Polity – Monarchy – Astapradhan – Provincial and Local Administration – Military Organization – Revenue System.

BOOKS FOR REFERENCE :

1. T.V.Mahalingam : South Indian Polity
2. J.N.Sarkar : History of the Marathas
3. J.N.Sarkar : Mughal Administration.
4. Beni Prasad : The State in Ancient India
5. Romila Thapar : Ancient India
6. B.A.Salatore : Ancient Indian Political Thought And Institutions
7. R.S.Sharma : Political Ideas and Institutions in Ancient India
8. N.Subramaniam : Sangam Polity.
9. I.H.Qureshi : The Sultanate of Delhi.
10. Burtar Stein : Vijayanagara.
11. Jhon F Richards : The Mughal Empire.
12. K.A.N.Sastri : Studies in Chola History and Administration.
13. A.L.Srivastava : The Sultanate of Delhi.

4

HI – 2.3 HISTORY OF FREEDOM MOVEMENT IN INDIA 1857-1919

Unit : I

Historiography of Freedom Movement – British Conquest and Consolidation – Colonial Transformation -Social Religious Reforms – Modernization of the Social Structure – western impact and English Education – Social –Cultural revolution.

Unit : II

Colonial Economy – the Drain of wealth – Dadabhai Navroji, Land Tenure and change in the Indian agrarian structure, commercialization of Indian agriculture – Drain and deindustrialization.

Unit : III

Political Movement – 1857 – its interpretations – constitutional Developments and policy of association, Genesis of Indian Nationalism – Repressions of Nationalism – Education, Press and Literature, Pre- Congress Nationalist Organization – Establishment of INC – Congress Programmes and establishment of INC – Congress Programmes – Congress and Classes, Methods of Political work and British attitude towards Congress.

Unit : IV

Curzon and Nationalism – Growth of Militant Nationalism – Partition of Bengal – Anti – Partition Agitations – Swadeshi and Boycott – growth of Revolutionary terrorism – Muslim Awakening – Aligarh Movement – Simla Deputation and Muslim League Politics of Separatism – Congress Split – Morley Minto Reform.

Unit : V

Impact of I world war Revolutionaries Abroad – Luck now Pact and unity of Extremists and Moderates – Home Rule Legue Movements - Besant and Tilak – Montague Declaration – Reforms of 1919 – Entry of Gandhi.

BOOKS FOR REFERENCE :

1. C.F.Andrews : The Renaissance in India
2. R.C.Majumdar : History of Indian Political thought from Ram Mohan to Dayananda
3. Beni Prasad : The Hindu – Muslim Questin
4. A.R.Desai : Social Background of Indian Nationalism
5. A.R.Desai : Peasant Movements in India.
6. Ravindra Kumar : Essays on the Social History of Modern India.
7. P.K.Gopalakrishnan : Development of Economic Ideas in India.
8. C.Y.Chintamani : Indian Politics Since the Mutiny
9. Peter G.Robb : The Evolution of British Policy towards Indian Politics 1880-1920.
10. K.P.Karunakaran : Indian Politics from Dadabhai Naoroji to Gandhi.

5

HI – 2.4 SOCIETY AND CULTURE OF INDIA – 1200-1750 AD

Unit : I

Structure of Society : Rural Society – Forms of Dominance, Resistance, Conflicts and Mechanisms of Resolution – Composition of Urban Society, Classes and Communities

Unit : II

Movements and Cults : Jagannatha Cult – Vithoba Cult – Dasa Movement – Virasaivism – Influence of the Acharya Triumvirate.

Unit : III

Bhakti and Sufi Movements

a) Sufism – origins-concepts and practices – Sufi orders, Bhakti – Origin – Concepts and Practices – Ramananda-Kabir-Nanak, Sants – Chaitanya, Tulsidas, Namdev.
b) Partiarchy, Gender Relations and Women Bhakta – Meera, Akka Mahadevi.

Unit : IV

Elements of Conflict and Sythesis : Ruling Groups – State and Orthodoxy-Religious and Sectarian Communities – Evolution of Composite Culture.

Unit : V

Art, Architecture and Literature : Sultanate and Mughal Architecture, Painting – Mughal, Rajput and Kangra : Sanskrit, Hindu, Urdu Languages and Literature.

BOOKS FOR REFERENCE :

1. R.H.Major : India in the 15th Century.
2. H.K.Shervani : Cultural Trends in Medieval India.
3. Irfan Habib : Medieval India
4. K.N.Chitnis : Social and Economic Aspects of Medieval India.
5. S.M.Jaffar : Some Cultural Aspects of Muslim Rule in India.

<center>**Optional Groups**</center>

Paper - HI-Gr-A.2.5 Pre and Proto History of India

Unit : I

The geological ages and hominid evolution; Hominid remains in the Indian sub-continent; Palaeo-environments; Classifying the Indian stone age; The Palaeolithic Age: Lower Palaeolithic sites and types of tools; Middle Palaeolithic sites and types of tools; Upper Palaeolithic sites and types of tools; Palaeolithic art and cults; The life-ways of Palaeolithic Hunter-Gatherers; The Mesolithic Age: Mesolithic sites and types of tools; The magnificence of Mesolithic art.

Unit : II

The Neolithic Age and the beginnings of food production; Why domestication? The identification of domestication and food production in the archaeological record; The transition to food production in the Indian sub-continent; The earliest village settlements in the Indian sub-continent, c. 7000-3000 BCE; Neolithic, Neolithic-Chalcolithic, and Chalcolithic communities, c.3000-2000 BCE; The life of early farmers; Changes in cultic and belief systems.

Unit : III

Archaeological profiles of different regions of the subcontinent, c.2000-500 BCE: Neolithic-Chalcolithic and Chalcolithic cultures.

Unit : IV

From Copper to Iron: Early Iron Age cultures of the subcontinent; The impact of Iron technology; The problem of co-relating literary and archaeological evidence.

BOOKS FOR REFERENCE :

1. Agrawal, D. P. 1982. The Archaeology of India. Surrey: Curzon Press.
2. Agrawal, D.P. & J.S. Kharakwal. 1102. South Asian Prehistory. Delhi: Aryan Books International.
3. Allchin, Bridget and Raymond Allchin. 1983. The Rise of Civilization in India and Pakistan. New Delhi: PressSyndicateUniversity of Cambridge.
4. Allchin, Raymond and Bridget Allchin. 1997. Origins of a Civilization: The Prehistory and Early Archaeology of South Asia. New Delhi: Viking.
5. Bhattacharya, D.K. 1972. Prehistoric Archaeology. Delhi: Hindustan Publishing Corporation.
6. Chakrabarti, Dilip K. (Ed.). 2004. Indus Civilization Sites in India - New Discoveries. Mumbai: Marg.
7. Chakrabarti, Dilip K. 2006. The Oxford Companion to Indian Archaeology: The Archaeological Foundations of Ancient India – Stone Age to AD 13th Century. New Delhi: OxfordUniversity Press.
8. Chakrabarti, Dilip K. and Makkhan Lal. 2013. History of Ancient India Series - Vol.I: Prehistoric Roots; Vol.II: Protohistoric Foundations; Vol.III:The Texts, Political History and Administration (Till c.200 BC); Vol.IV: Political History and Administration (c.200 BC-AD 750); Vol.V: Political History and Administration (c.AD 750-1300). New Delhi: Vivekananda International Foundation and Aryan Books International.
9. Chakrabarti, Dilip K. and N. Lahiri. 1996. Copper and Its Alloys in Ancient India. Delhi: South Asia Books.
10. Chakravarty, K.K. & R.G. Bednarik (Ed.). 1997. Indian Rock Art and Its Global Context. Delhi: Motilal Banarasidass.

<center>7</center>

HI –Gr-B- 2.5 ART AND ARCHITECUTRE OF INDIA

Unit : I

Characteristics of Indian Art and Architecture – Symbolism – Lalithakala Symbols – Beginning of Indian Art-Indus Valley Art.

Unit : II

Beginning of Rock Cut Tradition – Mauryan Rock Cut Traditions – Ashokan Pillars – Sculptures, Achamanean Influence – Symbolism of Sarnath Capital.

Unit : III

Development of Buddhist Rock – Architecture – Hinayana Chaityas and Viharas – Stupas, Nasik and Karla. Origin of the Stupa and its Development with Particular to Sanchi.

Unit : IV

Indigenous Art-Sunga- Kanva-Folk Characteristics, Mathura School o Art-Gandhara School of Art. Origin of the Buddha Images – Gandhara and Mathura a Comparative Study – Mahapurusha Lakshanas – Amaravathi.

Unit : V

Emergence of Hindu Structural Temples – Gupta period – Styles of Temple Styles, Nagara, Dravida and Vesara- Badami Chalukyan Temples, Pallava Rock – cut and structural Temples – Zenith under the cholas.

BOOKS FOR REFERENCE :

1. Benjamin Rowland : Art and Architecture of India.
2. Percy Brown : Indian Architecture. (Buddhist and Hindu)
3. V.A.Smith : A History of Fine Art in India and Ceylon.
4. E.B.Havell : Indian Art and Architecture.
5. V.S.Agarwal : Studies in Indian Art, Gupta Art.
6. S.K.Saraswathi : A Survey of Indian Sculpture.

HI –Gr-C- 2.5 SOCIO – ECONOMIC HISTORY OF KARNATAKA (1336-1799)

Unit : I

Factors favoring the emergence of Vijayanagara – Changes in the Social formation – State and Society – Religion and Society – Status of Women – Foreign accounts on Vijayanagara.

Unit : II

Economic conditions under Vijayanagara- Agriculture – Irrigation – Industries – Trade and Commerce – State Income – Coins – impact of the wars on the Economy and Society.

Unit : III

Religious Conditions – Veerashaiva Movement, Concept of Kayaka and Dasoha – Vachana Sahitya – the Haridasa Movement – Sufism in Karnataka.

Unit : IV

State Income under the Bhamanis – Gawan's Reforms – State Income Under Shahis – Revenue Settlement of Shivappa Nayaka – Overseas Trade Under Keladi – Impact of European Trade – the Anglo – Mysore Wars and their impact on Karnataka polity.

Unit : V

Sothern Karnataka – Fiscal Reforms of Chikkadevaraja Wodeyar- Haider Ali – Fiscal and Economic Reforms of Tippu – Agriculture – Industries – Trade and Commerce.

BOOKS FOR REFERENCE :

1. Saletore B.A: Social and political life in Vijayanagara – 2 vols
2. Desai .P.B(Ed) : Basaveswara and his times
3. Hiremullur Eswaran : Lingayatha Dharma, Samaja, Mattu Samskriti.
4. Gopa; M.H : Tippu Sultan's Mysore, A Economic Study
5. Hayavadana Rao . C : History of Mysore – 3 Vols
6. Rahamath Tarikere : Karnatakadalli Sufi Dharma.
7. Maqbul Ahmed : Khanuni Islam – Islam In India
8. Sherwani and Joshi (Ed) : The Bahamanis of Deccan.
9. Mahalingam .T.V : Administritive and Social life in Vijayanagara – 2 Vols
10. Sharma Rao . M : Modern Mysore – 2 Vols
11. Masti Venkatesh Iyengar : Popular Cultures in Karnataka.
12. Kumaraswamy . S : Lingayat Movement.

HI –Gr-D- 2.5 HISTORY OF WEST ASIA SINCE : 1900

Unit : I

Introduction – European Interests in West Asia – First World War – Peace Settlements.

Unit : II

Arab Nationalism –French and British Policies – Beginnings of Arab unity-Zionist Movement – the Palestine Question – Arab-Israeli Conflict.

Unit : III

Turkey- Young Turk Movement-Mustafa Kemal Pasha – Modern Turkey- The Kurdish Minority – Problems and effects of secularization.

Unit : IV

Iraq – Iran and Modernization of Iran – Rise of Nationalism in Iraq – Anglo – Iran Treaty of 1930- The Minority Problems – Iran-Iraq war – Kuwait War – Oil Crisis and O.P.E.C

Unit : V

Egypt – Nationalism – Republic of Egypt and Nasser- Suez Crisis and its Impact – Egyptian – Israeli war – West Asia and UNO – Non- Aligned Movement.

BOOKS FOR REFERENCE :

1. Lewis Barnard –:Emergence of Modern Turkey
2. Hitti Philip K : History of the Arabs
3. Nuscibeh Hazem Zaki : The Ideas of Arab Nationalism
4. Anaitara Mukherjee : Sindi Arabia –:The Land Beyond Time
5. Berger M : Arab World Today
6. Michael Adams(Ed) : Middle East
7. Arlocius George : Communism and Nationalism in the Middle East.
8. Zaiqch : Syria and Lebanon
9. Khadduri Majid : Independent Iraq.
10. Nicolo : Syria and Lebanon.

10

OPEN ELECTIVE COURSE

Semester – II

HISTORY OF SOCIAL TRASFORMATION MOVEMENT IN INDIA

(ANCIENT AND MEDIEVAL)

Unit : I

Ajivikas and Lokayats- Sources, Philosophy,Carvaka

Unit : II

Jainisism-Origin and Growth of Jainism,Mahaveer and his Teachings, Sects in Jainism and its decline

Unit : III

Buddhism-Origin and Growth of Buddhism,Buddha and his Teachings and its Relevances.

Unit : IV

Shaiva and Vaishnava Sects- Origin,Growth and expansion of Shaivism and Vaishnavism and its Philosophy.

Unit : V

Veersaivism- Origin and Growth of Veersaivism, Basaveshwar,Principles of Veersaivism and social Transformation Movements in Medieval India.

Books for References:

1. C.J.Shah-Jainisim in North India.
2. A.K.Warder- Indian Buddhism.
3. P.V.Kane –History of Dharmsastras.
4. R.Shamashatty- Koutilya,Mysore-1905.
5. R.S.Sharma-Advent of the Aryans in India ,MotilalBanarasidass,- Delhi-1992.
6. Chattopadhya and Prasad: Lokayat- A study in Ancient Indian Materialism-New Delhi,1992.
7. Basham A.L-The wonder that was India,London-1954.
8. Dr.P.B.Desai-Basaveshwara and His Times ,Karnatak University ,Dharwad-1968.
9. H.P.Malledevaru- Essentials of Verasaivism, BharatiyaVidyaBhavan,Bombay.

SEMESTER : III

Sl. No	Paper no	Domain	Title of the paper	Max. Marks		Total Marks	Hrs./ week	Credits
				I.A.	Sem Exam			
1	HI-3.1	HC	Constitutional History of Modern India: (1773-1950)	20	80	100	4	4
2	HI-3.2	HC	History of Modern Mysore(1881-1956)	20	80	100	4	4
3	HI-3.3	HC	History Of Freedom Movement In India 1919-1947	20	80	100	4	3
4	HI-3.4	HC	Social Reform Movements In Modern India	20	80	100	4	4
OPTIONAL GROUPS								
5	HI-Gr-A-3.5	SC	Indian Epigraphy	20	80	100	4	3
6	HI-Gr-B-3.5	SC	Political Economy Of Modern India	20	80	100	4	3
7	HI-Gr-C-3.5	SC	History of South India up to 1336 A.D	20	80	100	4	3
8	HI-Gr-D-3.5	SC	Literacy Movement In Modern Karnataka	20	80	100	4	3
OPEN ELECTIVE COURSE (OEC) IN HISTORY								
9	HI-OCE	OEC	History of Social Transformation Movement in India(Modern and Contemporary)	20	80	100	4	5

1

HI – 3.1 Constitutional History of Modern India: (1773-1950)

Unit : I

Regulating Act-1773 to 1858 - Regulating Act -1773, Pitts Acts -1784 Charter Acts-1793, 1813, 1833, Queens proclamation 1858.

Unit : II

Indian council Acts and Govt of India Act-1861-1919- Indian Council Act- 1861,1892, Minto - Morley Reforms-1909,Montague –Chelmsford Reforms - 1919,Nature and working of Dyarchy.

Unit : III

Constitutional Development (1927-1932) - The Simon Commission -1927,The Nehru Report-1928, The Fourteen points of M.A. Jinnah-1929, Round Table conference 1930-1932 and Poona Pact.

Unit : IV

Constitutional Development (1935-1942)- Govt. of India Act-1935, Salient features of the Act, Nature and working of provincial autonomy, August offer- 1940, Cripps mission -1942.

Unit : V

Constituent Assembly and Making of New constitution - Cabinet Mission Plan-1946, Constituent Assembly, The Making of the New Constitution, The Salient features of the Constitution-1950

BOOKS FOR REFFERENCE :

1. Banerjee A.C- Constitutional History of India (1919-1977), Vol.3, Delhi 1978.
2. Desikachar S.V.(Ed) - Readings in the Constitutional History of India', (17571947), Delhi, 1983
3. Shree Govind Mishra -Constitutional Development and National Movement in .India', Patna, 1978.
4. HasanMishiral-Nationalism Communal Politics in India (1916-1928) New. Delhi, 1979.
5. Ahir. D.C - Dr. Ambedkar and Indian Constitution, Buddha Vihar, Lakhnou, 1973
6. Shing. S.P. and Ambedkar-Vision of the Indian Constitution, Suvarna MShing A.K Publication, Patna, 1987
7. ChhabraG.S-AdvancedStudyinConstitutionalHistoryofIndia(1773-1947)NewAcademic Publication Company, Jullundar, 1973.
8. L.P.Sharma- Indian National Movement Laxmi

HI – 3.2 HSTORY OF MODERN MYSORE 1881-1956

Unit : I

Introduction, Rendition of Mysore – Rendition and the instrument of Transfer 1881- Administration of Rangacharlu, 1881-1883 Establishment of Mysore Representative Assembly.

Unit :II

Administration of Sheshadri Iyer-Mysorean and Madrasi Controversy Chamaraja Wodeyar – Administration during the Regency. V.P.Madhava Rao – Mysore – 1901-1912 P.N.Krishna Murthy News paper Regulation. Administration of Mysore – 1918-1925

Unit : III

M.Kantharaj Urs and A.R.Banerji – Economic Development – Brajendranath Seal Committee Report – Constitutional Reforms – 1924. Non-Brahmin Movement – Prajamithra Mandali – Miller Committee Report – Praja Paksha 1930-35- Samyukta Praja Paksha.

Unit : IV

Mirza-Ismail, 1926-Industrial Development-Sultanpet Disturbances – Irwin Canal Agitation. Movement for Responsible Government –Genesis of Mysore Congress Shivapur Session – Viduraswath Disturbances Mirza and Mysore Congress – Constitutional Reforms of 1938 – 1941 Nalwadi Krishnaraja Wodeyar – Resignation of Mirza – Ismail.

Unit : V

N.Madhava Rao, Implementation of Reforms – Quit India Movement in the state – Isur Disturbances- Accession of Mysore to Indian Union – Mysore Chalo Movement - Establishment of Responsible Government – Jaya Chamaraja Woderyar. Mysore- 1947-1956. From Independence to K.C.Reddy, 1947-1956 Kengal Hanumanthaiah – Unification Movement –State Reorganization Commission Report – Formation of Karnataka.

BOOKS FOR REFFERENCE :

1. B.L.Rice : Mysore 2 Vols

2. D.V.Gundappa : Mysurina Dewanarugalu

3. K.Veerthappa : Mysore Samasthanadalli Swatantra Chaluvalli

4. K.Veerthappa : Readings in the History of Modern Mysore

5. C.Hayavadana Rao : Mysore Gazetter 5 Vols.

6. M.Shama Rao : Modern Mysore 2 Vols.

7. N.S.Chandrashekar : Dewan Rangacharlu

8. N.S.Chandrashekar : Dewan Seshadri Iyer

9. V.Shitaramaiah : M.Visvesvaraya.

10. R.L.Handa : Freedom Movement in Princely State.

11. D.V.Gundappa : Jnanapaka Chitra Shale.

12. Doreswamy H S : Horatada Ditta Hejjegalu.

3

HI – 3.3 HISTORY OF FREEDOM MOVEMENT IN INDIA 1919-1947

Unit : I

Emergence of Gandhi – Early Experiments and Mass Mobilization – Rowlatt Act – Non-Co-Operation-Khilafat Movements- "No-Changers"- Swarajists Communalism and Communal Organizations .

Unit : II

Emergence of New Forces – The Communists – Peasant an Labor Movements – Simon Commission and Nehru Report – Bose and Nehru- Lahore Congress and Poona Swaraj.

Unit : III

Civil Disobedience Movement – Salt Satyagraha - RTC-Gandhi Irwin Pact – Communal Award and Poona Pact – Growth of Socialist Ideas in Congress – Government of India Act 1935, Elections and Congress Ministries- Muslim League Tactics and Growth of Communalism.

Unit : IV

Congress Crisis and formation of Forward Bloc-II world war and Political deadlock – August offer – Cripps Mission – Quit India Movement – Demand for Pakistan – C.R.Formula – Wavell Plan – INA Trials.

Unit : V

Elections of 1946 – Naval Mutiny – Cabinet Mission – Interim Government – Mountbatten Plan – Partition and Independence – Aftermath – Integration of Princely States.

BOOKS FOR REFERENCE :

1. D.A.Low – Britain and Indian Nationalism
2. Andrews and Mukherjee : Rise and Growth of the Congress.
3. Jayaprakash Narain : Nation Building in India.
4. Bipan Chandra(ed) : India's Struggle for Independence.
5. Sumit Sarkar : History of Modern India
6. Ravi Dayal : We Fought Together for Freedom
7. Hari Singh : Gandhi Rowlatt Satyagraha and British Imperialism.
8. V.D.Savarkar : Hindutva.
9. Wainright(ed) : Perspectives 1939-1947.
10. V.P.Menon : The Partition Omnibus.
11. V.P.Menon : The Story of Integration of Indian States.
12. Bipan Chandra and others : India after Independence.
13. Ravindra Kumar : Selected Documents of Lala Lajput Rai.
14. B.R.Grover(Cmpiled & Ed) – Curzon and Congress.
15. Simon Commission Report on India.

4

HI – 3.4 SOCIAL REFORM MOVEMENTS IN MODERN INDIA

Unit : 1

Colonial Discovery of India : Orientalism, Anglicism, Evangelism-Understanding Indian Society. The Concept of Modernity : Western Impact – Indian Response – Renaissance in Bengal –Young Bengal Movement – Rajaram Mohan Roy and Brahmo Samaj-Dharma Sabha-Keshav Chandra Sen-Reform Issues – Jathi Customs, Rituals and Perceptions of women.

Unit :II

Revivalism – Dayananda and Arya Samaj-Nationalism and Society – Prarthana Samaj-Ranade and his notions of Reform.

Unit : III

 Communalism Rise and Growth of Communalism in India, Charcterstics of Communalism Causes of Communalism, Eradication of Communalism, Muslim Legue, Wahabi and Pan Islamism-Syed Ahmed and Aligarh Movement.

.Unit : IV

The debate over the interpretation of Shastras – Ishwar Chandra Vidya Sagar - B.M.Malabari – Vivekanad –M.G. Ranade—Bal Gangadhar Tilak-M.K.Gandhi-Dr.B.R.Ambedkar-E.V.Ramswamy Periyar and Sri.Narayanguru.

Unit : V

The reformers – Kandukuri Veereshalingam – Pandit Shivanatha Shastry – Gopal Ganesh Agarkar-K.T.Telang-Maharma Jyoti Rao Phule-D.K.Karve Maharaj Saiyyaji Rao Gaekwad of Baroda – chatrapathi Shahu Maharaj of Kolhapur and Maharaja Krishnaraja Wodeyar IV of Mysore.

BOOKS FOR REFERENCE :

1. Nararajan : A Century of Social Reform in Indian.
2. Seetharam Singh : Nationalism and Social Reform in India
3. Dhananjaya Keer : Ambedkar, Life and Mission
4. Dhananjaya Keer :Mahatma Jyoti Rao Phule : Father of Social Revolution in India
5. Charless Heimsath R : Indian Nationalism and Hindu social Reform
6. A.S.Altekar : Position of Women In Hindu Civilization.
7. Gail Omvedt : Cultural Revolt in a Colonial Society – The Non – Brahmin Movements in Western India.
8. Gail Omvedt : Dalits and Democratic Revolution.
9. Ravindrakumar : Selected Documents of B.G.Tilak.
10. S. Ramkrishna : Social Reform Movements in Andhra
11. M.K.Gandhi : Women and Social Injustice.

5

HI –Gr-A. 3.5 INDIAN EPIGRAPHY

Unit : I

Epigraphy- Definition and Scope and Importance,   Evaluation of scripts in General, Origin and Antiquity of script in India.

Unit : II
Indian Scripts: Brahmi and Kharoshthi scripts- origin and Characteristics, Indian Numerals.
Nagari- Devanagari, Nagari, Sharada, Bengali, Shanku Scripts.

Unit : III
Dating systems and Eras. Writing materials. Stampage system and materials, Indian important inscriptions: Hathigumpha inscription of Kharavela, Allahabad pillar inscriptions, Kurkyala Inscription of Jina vallabha.

Unit : IV
South Indian Scripts: Shatavana, Kadamba, Ganga, Badami Chalukya, Pallava, Rashtrakuta, Kalyana Chalukya, Hoysala and Vijayanagara,

Unit : V
  Important inscriptions of Karnataka- Ashokan edicts, Halmidi inscription, Aihole inscription of   Pulukeshi II, Shravanabelagola inscription of Bukka.

BOOKS FOR REFERENCE :

1. zÉÃªÀgÀPÉÆAqÁgÉrØ, 2006, °¦UÀ¼À °ÀÄlÄÖ ªÀÄvÀÄÛ ¨É¼ÀªÀtÂUÉ, PÀ£ÀßqÀ C©üªÀÈ¢Þ ¥Áæ¢üPÁgÁ ¨ÉAUÀ¼ÀÆgÀÄ.
2. £ÀgÀ¹AºÀªÀÄÆwð J.«.1975, PÀ£ÀßqÀ °¦AiÀÄ GUÀªÀÄ ªÀÄvÀÄÛ «PÁ¸À PÀ£ÀßqÀ CzsÀåAiÀÄ£À ¸ÀA¸ÉÜ, ªÉÄÊ¸ÀÆgÀÄ «±Àé«zÁå¤®AiÀÄ.
3. PÀ®§ÄVð JA.JA, ªÀiÁUÀÕð I, II and III ¸À¥Àß §ÄPï ¸ÁÖ¯ï, UÁå¤ü£ÀUÀgÀ, ¨ÉAUÀ¼ÀÆgÀÄ.
4. Annual Reports on Indian Epigraphy, ASI, New Delhi, 1947 onwards.
5. Annual Reports on South Indian Epigraphy, Government Press, Calcutta, 1887 onwards.
6. Buhler G. 1959, Indian Palaeography, New age Publisher Pvt,Ltd. Delhi, India.
7. Buhler, G 1904, Indian Palaeography, India Antiquary XXXIII.
8. Chaudhary R.K. 1983, Inscription of Ancient India for Gupta Inscription-Meerut.
9. Corpus Inscriptionum Indicarum, (Vol. III), Inscriptions of Early Gupta Kings and their Successors Inscriptions, Fleet, J.F., Calcutta, 1888.
10. Epigraphia Āndhrica, Related Vols., Directorate of Archaeology and Museums, Govt. of Andhra Pradesh, Hyderabad.
11. Epigraphia Carnatica, Related Vols., Government Press, Madras/ Mysore, 1886-1958.
12. Epigraphia Indica, A.S.I., Calcutta/Delhi, 1892 onwards.
13. Inscriptions of the Vijayanagara Rulers, Related Volumes. Shrinivas Ritti & B.R. Gopal (eds.), ICHR, Northern Book Centre, New Delhi.
14. South Indian Inscriptions, Related Volumes, Government Press, Madras.

HI –Gr-B. 3.5 POLITICAL ECONOMY OF MODERN INDIA

Unit : I

Introduction –Late Pre-Colonial order : Polity, Economy, Society, British Conquest – Ideology of Expansion and Mercantilism. Policies, Programmes and Instruments of Expansion – wars and annexations.

Unit : II

Colonial Construction of India :

a) Administrative Structure Arms of the State – Police, Army and Law – Ideologies of the Raj.
b) Economic Organizations- Transformation of Rural Economy – Commercialization of Agriculture – Land Legislations – Stratification of the Rural Society – Peasantry – Landlords – Tenants, Urban Economy – De Industrialization – Market Economy – Railways, Transport, Communication – Capitalist Development – Foreign, Indigenous – Drain of Wealth – Debate.

Unit : III

Resistance to Colonialism : Forms of Resistance – 1857 Revolt – Tribal and Peasant Uprisings – No – Revenue Movements – Rise of Working Class.

Unit : IV

National Movement : Approaches to Nationalism – Extremist Economic Programmes. Gandhian Movements – World Wars and Indian Economy – the Great Depression – Leftism – Labor and Kisan Movements – Peasant Rebellion – Tehaga, Punnapra-vyalar, Telangana. The Bombay Plan, Visions of New India – Gandhian and Nehruvivan.

BOOKS FOR REFERENCE :

1. R.C.Dutt : The Economic History of India (2 Vols)
2. Dharma Kumar (Ed) : The Cambridge Economic History of India Vol – II
3. Bipan Chandra : Rise and Growth of Economic Nationalism In India.
4. M.G.Ranade : Essays of Indian Economics.
5. P.C.Joshi : Land Reforms in India.
6. Kapil Kumar : Pesants in Revolt.
7. Parth Chatterjee : Ntionalist Thought and the Colonial World, A derivative Discourse?
8. Sumit Sarkar : A Critique of Colonial India.
9. A.R.Desai : Social Background of Indian Nationalism
10. Anil Seal : The Emergence of Indian Nationalism.

HI –GR-C. 3.5 . HISTORY OF SOUTH INDIA UPTO 1336 A.D.

Unit –I

Sources – Archaeological Sources-Inscriptions, Numismatics and Monuments, Literary sources and Foreign Accounts.

Unit –II

Satavahana Period – Gautami Putra Satakarni –Religion – Literature– Trade and Commerce. Sangam Age – Sangam Literature Socio-Religious Life of Sangam Age – The Gangas of Talakadu – Achievements of Durvinita – Bhutuga II – Ganga Art and Architecture.

Unit –III Kadambas of Banavasi – Mayur varma and Cultural Contribution –Chalukyas of Badami – Pulakeshi II,Art and Architecture. The Pallavas of Kanchi – Chalukya – Pallava Conflict –Pallavas Art and Architecture – Age of Rashtrakutas- Govinda III- Nruptunga Amoghavarsh, Liteature, Art and Architecture.

Unit –IV

Chalukyas of Kalyani – Vikramaditya VI, Administration – Literature, Art and Architectur. Kalachuris – Bijjala-II – History of Cholas – Rajendra Chola – Local Self Government – Art and Architecture.

Unit –V

The Seuna Yadavas of Devagiri, The Kakatiyas of Warangal, Hoysala of Dwarasamudra Vishnuvrdhan, Ballal II –Ballal-III– Literature -Religion- Art and Architecture.

Books for Reference :

1. Desai P.B.   : History of Karnataka.
2. Desai P.B.   : Basaveshwara and his Times.
3. Altekar A.S.   : The Rashtrakutas and Their Times.
4. Subramanyam N.   : Sangam – Polity.
5. Nilkantha Shastri K.A. : History of South India.
6. Nilkantha Shastri K.A. : The Cholas.
7. Nilkantha Shastri K.A. : The Pandyas Kingdom.
8. Ritti Srinivas   : The Sevunas.
9. Gururajachar   : Social & Economic Condition of Karnataka.
10. Ansari Zakia Khanum S. : Some Feudatory families of Medieval Karnataka.
11. Derret D.   : The Hoysalas.
12. Gopal B.R   : The Chalukyas of Kalyan and kalachuries.
13. Sheikh Ali (Ed)   : Karnataka Charitre (Karnataka).Vol.3,Hampi 1997.

HI –GR-D. 3.5 LITERACY MOVEMENT IN MODERN KARNATAKA

Unit : I

Modern Kannada Literary Movements – Antiquity of Kannada Literature – A Survey of Ancient and Medieval Literature. Introduction to modern Kannada Literature – the transition – Impact of western Romanticism – Influence of the Renaissance – the search for Kannada Identity – the Karnataka Vidya Vardhaka Sangha.

Unit : II

The Navodaya Movement – B.M.Sri, Bendre, Kuvempu, Karanth – Nationalism and Colonialism as reflected in the works of Navodaya Writers. The Concerns of the Movement imprints of the British and native regimes on the literary imagination – Navodaya, a critique.

Unit : III

Transition from Navodaya to pragatisheela – influence of socialist thought . Kattimani and Niranjana. Critique of the political dispensation. Pragatisheela, an assessment.

Unit : IV

Navya Movement – Adiga Centric – Anathamurthy – Lankesh. Existentialism and Individualism- A Critique of the Navya.

Unit : V

The New awakening among the Subaltern – the Bandaya Movement – Devanur and Siddalingaiah. Emergence of the Dalit literary Movement. Impact of the Bandaya and Dalit Movements on Kannada Literature.

BOOKS FOR REFERENCE :

1. R.S. Mughali Heritage of Karnataka.
2. S.K,Havanuru, Hosagannda Arunodaya.
3. Mysore University Publications, Kannada Sahitya Charitre(All Vols)
4. Bangalore University Publications, Samgraha Kannada Sahitya Charitre (all vols)
5. Academy Publications, Makers of Modern Kannada Literature.
6. K.D.Kurthakoti : Yugadharana and Sahitya Dristhi
7. K.D.Kurthakoti : Nadedubanda Dari.
8. D.R.Nagaraj : Amrutha Mathu Garuda.
9. D.R.Nagaraj : Sakti Shardeya Mela
10. D.R.Nagaraj : Sahitya Kathana.
11. Academy Publication, Makers of Modern Kannada Literature.

9

OPEN ELECTIVE COURSE

Semester – III

HISTORY OF SOCIAL TRASFORMATION MOVEMENT IN INDIA
(Modern and Contemporary)

Unit : I

Non-Brahmin Movement-Mahatma JyotibhaPhule,SatyashodhakSamaja,The Upliftment of women,Role of Matoshri Savitribai Phule, Shudra and Untouchables, The Social Transformation Movement of Chh.Shahu Maharaj.

Unit : II

Ezva Movement-Role of Narayan Guru,Socio-Religious conditions of Ezvas, Narayan Guru's views on Social Transformation Movement, Nature and works of the Ezva Movement-SNDP.

Unit : III

Self Respect Movement in South India-Socio-Religious views of PeriyarE.V.Ramaswamy,The Self Respect Movement, KrishnarajWodeyar-IV- Millar Commission.

Unit : IV

Dr.Babasab Ambedkar's Movement-Social issues and 'Broken Men Theory', Constitutional Remedies and Missions of Dr.Babasaheb Ambedkar,Emancipation of Dalits,OBC's and women, Concept of Prabuddha Bharat.

Unit : V

Bahujan Movement in India- Role of Kanshiram and his views on integrated India.

BOOKS FOR REFERENCE :

1. KeerDhananjay –Mahatma Jyotirao Phule-Father of Indian social Revolution,Bombay,1974.
2. Patil.P.G (Tran)-Collected works of Mahatma Jyotirao Phule Vol-I,and II, Government of Maharashtra Publication,Bombay-1991.
3. MadhuvanAyyappath (Tran)- Narayan Guru:BharatiyaVidyaBhavan, Mumbai-1978
4. E.Sa.Vishwanathan- The Political career of E.V.Ramaswami Naiker,Madras-1983.
5. Devanandan.P.D.-The DravidKazalgam-A Revolt against Brahmanism,Bangalore-1959.
6. KeerDhananjaya- Dr.Ambedkar –Life and Mission,Popular Prakashan,Mumbai-2002.
7. Vasanta Moon (Ed)-Dr.Babasaheb Ambedkar writings and speeches,Vol.1-18,Government of Maharashtra Publication,Mumbai.
8. ZelliotElenor-Dr.Ambedkar and the Untouchables Movement, Blue Moon Books New Delhi-2004.
9. Chandra Bharill-Social and Political Ideas ofDr.B.R.Ambedkar, Aalekh Publishers,Jaipur,1977.

10

SEMESTER - IV

Sl. No	Paper no	Domain	Title of the paper	I.A	Sem Exam	Total Marks	Hrs./ week	Credits
				Max. Marks				
1	HI-4.1	HC	History of Modern World (1900-1939)	20	80	100	4	4
2	HI-4.2	HC	Politics and social conflict in 20th century India special reference to Ambedkar	20	80	100	4	4
3	HI-4.3	SC	History & Tourism	20	80	100	4	3
4	HI-4.4	HC	History of Bijapur Adil Shahi	20	80	100	4	4
5	HI-4.5	HC	Research Project	--	80+20	100	4	5
OPTIONAL GROUPS								
6	HI-Gr-A-4.6	SC	Indian Numismatics	20	80	100	4	3
7	HI-Gr-B-4.6	SC	Problems in Indian History	20	80	100	4	3
8	HI-Gr-C-4.6	SC	History of South Indian(1336-1948)	20	80	100	4	3
9	HI-Gr-D-4.6	SC	South India as seen by foreign visitors	20	80	100	4	3

1

HI – 4.1 HISTORY OF MODERN WORLD 1900-1939

Unit : I

Legacy of the 19th Century :

a) Growth of Capitalism and Imperialism – UK-France-Germany, Japan.
b) Liberalism, Socialism, Nationalism.
c) Power and Ideology in International relations.

Unit : II

World Order 1919 – 1939 :

a) First world war – Nature of the war – peace Settlements Long – Term Conquences – Woodrow wilson's 14 points
b) Reparation Problem – Paris Resolution – London Schedule – Ruhr Occupation – Inter – allied Debts- Dawes and young plans – Hoover Moratorium
c) Economic Crisis –Its Impact on International Affairs.

Unit : III

World Between the Two wars

a) League of Nations – Collective security – French quest for security – little Entente – Locarno Pacts – Disarmament efforts.
b) Foreign Policy of Soviet Union.

Unit : IV

Rise of Fascism and Militarism

a) Fascism and Militarism in Italy, Germany, Japan
b) Policy of Appeasement and its Impact – Munich Conference Pact – Effects.

BOOKS FOR REFERENCE :

1. W.S.Churchill – The world Crisis 1911 – 1928
2. Lipson E – Europe 1914-1939
3. A.C.Roy – International Relations Since 1919.
4. Zin Mern.A. – The League of Nation and Rule of Law.
5. A history of Anglo – Soviet Relations.
6. Ward and Gooch – The Cambridge History of British Foreign policy.
7. Fisher Louis : The Soviet in the world affairs.
8. David Thomplan : Europe Since Napoleon.
9. M.G.Gupta : International Relations Since 1919.

2

HI – 4.2 POLITICS AND SOCIAL CONFLICT IN 20th CENTURY INDIA SPECIAL REFERENCE TO AMBEDKAR

Unit : I

Background – Colonial Perception of the Indian Society – the Nationalist Response – Nations of Nationalism and their limitation – Policy of Divide and Rule.

Unit : II

Congress and the Classes – Democratic Stirrings among the Deprived Sections – Songs of the Soil Theory – Non Brahmin Movements – Origin of the Dalit Movement – Namasudra – Adidhrama Movements – Mahima and the Tribal Movements.

Unit : III

Towards the consolidation of Dalit Identity Emergence of Ambedkar – His Articulation of the Dalit Problem – Gandhi, Congress and the Problem of Untouchability – The Poona Pact – the Dravidian Movement and Periyar – Theory of Broken Men.

Unit : IV

The Debate over Separate Electorates – The Backward Classes Commissions – Miller, Kaka Kalelkar and Mandal Commission Reports.

Unit : V

The Politics of Dalit Emancipation and the Bahujan Samaj Party – Politics of the Backward Classes – The Samajwadi and Rashtriya Janata Dal Parties – Estimate.

Books For Reference :

1. James Massey : Down Trodden : The Struggle of India's Dalits for Identity, Solidarity and Liberation.
2. Gail Omvedt : Dalits and the Democratic Revolution – A Study of Ambedkar and Dalit movement.
3. E.F.Irschwick : Politics and Social Conflict in South India – Non-Brahmin Movement and Tamil Separatism.
4. W.N.Kuber : Dr. Ambedkar – A Critical Study
5. S.Chandrashekar : Ambedkar mathu Gandhi
6. Dhananjay Keer : Dr.B.R.Ambedkar – A study in Social Demorcacy.
7. S.Chandrashekar : Ambedkar Mathu Gandhi.
8. G.S.Oodie : The Oppressed And The Depressed
9. Sumit Sarkar : History of Modern India
10. Hasan Mushirul : Nationalism and Communal Politics in India 1885 – 1930.
11. N.K.Wagle : Writers, Editors and Reformers : Social and Political Transformation of Maharastra 1830-1930.

3

HI – 4. .3 HISTORY AND TOURISM

Unit : I

Meaning Scope and Importance of the study – History of Tourism – Tourism as an Industry – prospects of Tourism – Tourism in India – Pre- Independence Period – Sargent Committee.

Unit : II

History as a Tourism Product – Types of Tourism – WTO – Indian Tourist Organization – India as a Tourist Destination – Historicity of India – Monuments – World Heritage Centers in India – Cultural Tourism of India.

Unit : III

Tourism Infrastructure – Tourism and Environment – Sustainable Tourism – Conservation of Cultural Heritage and Resources – Protection of Ancient Monuments Act – Social and Economic Impact of Tourism.

Unit : IV

Place of Karnataka in the Tourist Map of India – Bijapur as a Tourist Destination – Potential of Tourism in India – The Negative impact of Tourism in India – The Problems and Prospects of Tourism in India and Karnataka.

BOOKS FOR REFERENCE :

1. Chris Cooper and Fletcher : Tourism, Principles and Practices
2. A.K.Bhatia : Tourism, Principles
3. Edward D Mills : Design for holidays and Tourism
4. Elliot and Dawson : History of India as told by its own Historians
5. Percy Brown : Indian Architecture.
6. R.R.Diwakar : Karnataka Through the Ages
7. B.M.Lunia : Evolution of Indian Culture.
8. S.U.Kamal : Karnataka Gazetter
9. S.Wahab : Tourism Marketing.
10. Douglas Pierce : Tourism to-day, a geographical Analysis.

HI – 4.4 HISTORY OF BIJAPUR ADIL SHAHI

Unit : I

Sources: Archaeology, Literary, Foreign Accounts.
Factors for the rise and establishment of Adil Shahi kingdom.

Unit : II

Adil shahi rulers, There life Achievements.
1.Yusuf Adil Shahi 2.Ali Adil Shahi I 3.Ibrahim Adil Shahi II 4.Mohammad Adil Shahi .
 Polity and Accession, Council of ministers. Cental, Provincial and Local Administration
and military organization.

Unit : III

 Society and Culture , Social conditions. Food and Habits. Dress and Decoration. Games
 and Amusements. Position of Women. Economic conditions. Agriculture, trade-Internal

 and external. Industry, Import and export. Commercial relations with Foreign countries.

Unit : IV

Sufi movements –chief Sufi saints of Bijapur. Shia and Sunni sects. Impact on Sufi movement on
society.

Unit : V

Advancements of Learning – Educational Institutions. Maqtabs, Khanqas. Developments of
Literature.- Urdu, Persian, Kannada. Art and Architecture, Painting and   Calligraphy.

Books for reference

1.Verma D C., History of BIjapur, New Delhi.

2. Verma .D.C. Social, Economic and Cultural history of Bijapur.

3. Cousen Henry-Bijapur and Its Architecture remains. New Delhi.

4. John Briggs-History   of the Rise of the Mohamadean Power in india Vol I to IV

5.Joshi, P.M., The reign of Ibrahim Adil Shahi of Bijapur.

6 .Nayeem   : External Relations of Bijapur.

HI – 4.5 : PROJECT

5

Optional Groups

HI –Gr-A. 4.6 INDIAN NUMISMATICS

Unit : I

Numismatics as a source of history. Origin and antiquity of coinage in India. Authority of issuing coins – Janapadas, Cities, Guilds, Ganas and Dynasties.

Unit : II

Metal content of coins, weight and shape. Technique of minting coins: Punch-marked, cast, die-struck. Symbols on coins.

Unit : III

Broad characteristics and identification of dynastic coins of: Indo-Greek, Saka (Scythians), Satavahana, Kushana, Gupta.

Unit : V

Broad characteristics and identification of dynastic coins of: Chola, Delhi Sultanate and Vijayanagara.

Books for References :

1. Altekar, A.S. 1954. The Gupta Gold Coins in the Bayana Hoard. Numismatic Society of India: Varanasi.
2. Goyal, S. R. 1995. The Coinage of Ancient India. Kusumanjali Prakashan: Jodhpur.
3. Goyal, S.R. 1995. The Coinage of Ancient India. Kusumanjali Prakashan: Jodhpur.
4. Gupta P.L. 1969. Coins. National Book Trust: New Delhi.
5. Gupta, P.L. & Jha, A. (Ed.). 1987. Numismatics and Archaeology. Indian Institute of Research in Numismatic Studies: Nasik.
6. Narasimha Murthy, A.V. 1991. Early Historical Archaeology and Numismatics of Karnataka. Madras University: Madras.
7. Valentine, W. H. 1994. Sassanian Coins. Agam Kala Prakashan: New Delhi.

Kannada Works:

1. Narasimhamurthy A.V. 1996. Vijayanagara Nanyasampathu, Prasaranga, Mysore University: Mysore.

HI –Gr-B. 4.6 PROBLEMS IN INDIAN HISTORY

Unit : I

Antiquity – Debate over Indus Valley Civilization – Chronology, Ethnicity, Theories of Aryan Origin in Orientalists, Utilitarian, Nationalist, Neo-Nationalist Post –Modernist, the Arya Dravida Dichotomy-Controversy regarding Races, Varna, Jati.

Unit : II

Nature of the state – Formulations and postulations of the Ancient Indian Political Yhought – Despotism Vs/Republics. Concept of static Village Community, Emergence of New Religions – Vedic and Non-Vedic – Debate over causes for decline of Buddhism, theories regarding revival of Vedic religion – The concept of the Golden Age- Pan Hinduism and the theory of Greater India – Feudalism –Asiatic Mode of production – coming of Islam – Debate over Islamisation – Synthesis of Cultures – Theocracy and the Indian State.

Unit : III

Perceptions of Colonialism – Colonial Economics – Colonial Modernization – Peasant Insurgency. Nationalism – Political Nationalism / cultural Nationalism – Debate over betterment of women's position problem of the Minorities – Social Vs/ Political Democracy – Dalit Question –Affirmative Action – The Gandhi Ambedkar Debate – Debates over the Nature of the Indian State – Civil State and Civil Society and Civil Rights.

Unit : IV

Communalism – Secularism – Terrorism – Human Rights –Review of Indian Constitution – Uniform Civil Code – Globalization – Liberalization.

BOOKS FOR REFERENCE :

1. R.S. Sharma : In Search of Aryans
2. R.S. Sharma : Indian Feudalism
3. R.S. Sharma : Political Ideas and Institution
4. R.S. Sharma : Studies in Ancient India
5. Romila Thaper : Ancient India
6. Romila Thaper : in Defense of Ancient India
7. Romila Thaper : Ancient India Social History Some Interpretations
8. J.P.Sharma : Republics in Ancient India
9. P.V.Kane : History of the Dharmashastras.
10. Jyothiba Phule : Gulam Giri
11. B.R.Ambedkar : Collected works
12. Ranjit Guha (ed) : Subaltern Studies Vols. I –II.
13. M.K.Gandhi : Collected Works.
14. S.R.Goyal : Ancient History of the Imperial Guptas.

7

HI –Gr-C. 4.6 .   HISTORY OF SOUTH INDIA(1336-1948)

UNIT-I:
Sources- Archaeological Sources-Archaeological- Inscriptions, Numismatics, Monuments, Literary Sources -Foreign Accounts and Folklore Literature.

UNIT-II:
Political Conditions of South India in Early 14th Century-Origin of Vijayanagar Empire- BukkaI-I, Harihara, Harihara-II, Devaraya-I,   Devaraya II- Saluva Narasimha-   Krishnadevaraya-His Conquests and cultural Contribuations-Administration- Nayankara System.

UNIT-III:
Achyutaraya- His Battle -Ramaraya – Foreign Policy- Battle of 1565 A.D. and Its Consequences- The Aravidu Dynasty and the Disintegration of the Vijayanagara Empire.

UNIT-IV:
Rise of the Bahmani Kingdom: Allauddin Hasan Bahman Shah- Muhammad – III, Mahmud Gawan-Cultural Contributions- Decline of Bahmani   dynasty and Disintegration of the Bahmani Kingdom.

UNIT-V:
Hyderabad   Nizams- (1724-1948) Origin, Political History, Administration and Developments, Mir Usman AliKhan-His Administration and Development.

 BOOKS FOR REFFERENCE :

1. Nilakanta Sastri K.A.(Ed.) -   Further Sources of Vijayanagara History, Madras,   1946.

2. Saletore, B.A.   -   Social and Political Life in the Vijayanagara Empire, 2 Vols.
                                       Madras, 1934.

3. Krishnaswami;   -   The Tamil country under Vijayanagara, Annamalai, 1964.

4. Mahalingam, T.V.   -   Administration and Social Life under Vijayanagara,
                                       Parts I & II, Madras, 1975.

5. Sherwani, H.K.   -   Bahamanis of the Deccan, Hyderabad, 1970.

6. Rajasekhara, S.   -   Masterpieces of Vijayanagara Art, Bombay, 1983.

7. Sivaramamurti, C.   -   Vijayanagara Paintings, New Delhi, 1987.

8. Desai, P.B. (Ed.)   -   A History of Karnataka, Dharwad, 1970.

13 Sherwani H.K   &
     Joshi P.M   -   History of Medieval Deccan Vols.I & II, Hyderabad,
                                       1973-74.

14 Shaik Ali (Ed.)   -   Karnataka Charitre (Kannada), Vol.3, Hampi, 1997.

15 Ramesh N   - Freedom Struggle in Hyderabad Vol.I-IV.

8

HI –Gr-D. 4.6 SOUTH INDIA AS SEEN BY FOREIGN VISITORS

Unit : I

South India – its Geography, the People, the Flora and the Fauna as depicted in the Periplus of the Eritrean Sea. Plotemy's Geography- Pliny and his accounts of India – Herodotus on India – The Chinese Accounts.

Unit : II

Arab Historiography on South India. The Rulers and the Nobles. The People – Caste System – Geography of South India. Economic Conditions of South India as depicted in Arab Writings.

Unit : III

Macro –Polo and his Accounts of South India. Foreign travelers and their descriptions of Vijayanagara Kingdom. Bahmani Sultanate as seen by the Foreign Travellers.

Unit : IV

Geographical explorers – the Portugese, the Dutch, the English and the French Travel accounts on south India and her people.

Unit : V

South India as depicted by the British Colonial Writers – Accounts of Buchanan. Abbe Dubois on South India.

BOOKS FOR REFFERENCE :
1. Ptolomy : Geography
2. Hamilton Gibbs(ed) : Travels of Ibn Batuta
3. Garner. W.A : Travellers Diary.
4. Beazly . C.R : Prince Henry the Navigator.
5. Beal(Irans) : Travels of Huien – Tsang.
6. Bejain Land Strom : The Quest for India
7. H.M.S.Nainar : Arab Geographers Knowledge of South India
8. Buchanan's : Travells 3 vols
9. A.L.Bhasham : Wonder That was India Vol.I.
10. Abbe Denudot : Ancient Relations of India with the West.
11. Henry Yule : the Book of Marco Polo.
12. Scoff, Periplus of the Earithvan Sea.
13. B.A.Salat : Karnatakas trans, Ocean Contracts.
14. Poonen. I.T, Dutch Beginnings in India.

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COURSE STRUCTURE AND REVISED SYLLABUS
For PG Studies in Political Science
(I Semester)

Under Choice Based Credit System
2017-18 Onwards (2016-17 Scheme)

Course structure-PG in Political Science, 2016-17 onwards

I Semester

Course No.	Course Title	Credits
HC 101	Ancient and Medieval Western Political Thought	4
HC 102	Indian Political System	4
HC 103	Theories of Public Administration.	4
HC 104	Theory and Practice of International Relations	4
HC 105	Public Policy	4
SC 106 (a)	Indian National Movement.	
SC 106 (b)	Environmental Administration	4
SC 106 (c)	Constitutional Development of India.	
	Total Credits	24

II Semester

Course No.	Course Title	Credits
HC 201	Modern Western Political Thought	4
HC 202	Political Process in India	4
HC 203	Major Issues in International Relations	4
HC 204	Administrative Thinkers	4
SC 205 (a)	Caste Politics in India	
SC 205 (b)	Karnataka Government and Politics	4
SC 205 (c)	Socio-Political Movements in India	
206	Human Rights (OEC)	4
	Total Credits	24

III Semester

Course No.	Course Title	Credits
HC 301	Ancient and Medieval Indian Political Thought.	4
HC 302	Research Methodology in Political Science	4
HC 303	Contemporary Political Theories	4
HC 304	Foreign Policy of India	4
SC 305 (a)	Local Government in India.	
SC 305 (b)	Dalit Movements in India	4
SC 305 (c)	Development Administration	
306	Indian Political philosophers	4
	Total Credits	24

IV Semester

Course No.	Course Title	Credits
HC 401	Modern Indian Political Thought	4
HC 402	Indian Administration	4
HC 403	International Organizations	4
HC 404	Comparative Government and Politics	4
HC 405	Project Work	4
SC 406 (a)	Gender Politics	
SC 406 (b)	Disarmament and Nuclear Non-Proliferation	4
SC 406 (c)	Public Management	
	Total Credits	24

HC.101. Ancient and Medieval Western Political Thought

Unit – I   a) Nature and Origin of Political Thought
           b) Nature and Characteristics of Greek Political Thought.

Unit – II   a) Plato: Justice, Education, Philospher - King
           b) Aristotle: State, Classification of Constitutions, Revolution.

Unit – III   a) Nature of Roman Political Thought
           b) Polybius: Sovereignty,
           c) Cicero: Natural Law, Mixed form of Govt.

Unit – IV   a) The Nature of Medieval Political Thought and Controversy between Church
                and State
           b) St. Augustine: Features of two cities
           c) St. Thomas Aquinas: Classification of Law

Unit – V   a) Dante: Universal Monarchy
           b) Marsilivus- state and religion

BOOKS FOR REFERENCE:
1) G. H. Sabine   -   A History of Political Theory
2) R.G. Gettel   -   History of Political Theory
3) V. S. Nersasyant -   Political Thought of Ancient Greek.
4) D.R.Bhandari   Studies in Plato & Aristotle.
    And R.R.Sehti
5) Dunning   -   Western Political Theory
6) D.R. Bhandari   -   History of European Political Philosophy.
    And R.R. Sethi
7) J.P. Suda   -   History of Modern Political Thought.
                        Ancient and Medieval Indian Political Thought
8) Mukarjee & Ramswamy - A History of Political Thought
9) B.R. Nelson   -   Western Political Thought.
10) J.P. Mayer   -   Political Thought: European Traditions.

HC. 102. Indian Political System

Unit – I   a) Framing of the Indian Constitution – Role of the Constituent Assembly and Preamble.
b) Salient features of the Constitution.

Unit – II   a) Fundamental Rights and Duties.
b) Directive Principles of State Policy.

Unit – III   Indian Federalism.
a) Nature and Centralized Features
b) Issues and Problems in centre – state relations, trends in Indian Federalism.

Unit – IV   Union Government.
a) Legislative,
b) Executive
c) Judiciary.

Unit – V   Political Parties and Pressure Groups in India.
a) Nature, Characteristics and their role.
b) Coalition Politics in India.

BOOKS FOR REFERENCE:
1) D. Basu, Shorter Constitution of India New Delhi: Prentice of India, 1994.
2) Bridge Kishore Sharama, Introduction to the Constitution of India, New Delhi. Prentice Hall of India: 2004.
3) Constituent Assembly Debates, New Delhi: Lok Sabha Secretatiat, 1989.
4) Granvile Austin, Working of a Democratic Constitution: The Indian Experience, New: Oxford University Press, 2000.
5) M. V. Pylee, our Constitutions, Government and Politics, New Delhi: Universal 2002.
6) S.C. Kashayap, Reforing the Constitution, New Delhi: UBSPD, 1992
7) Robert Hardgrave, India: Government and Politics in Developing Nations Delhi: Freedom Book Company, 1979.
8) Atul Kohli, The Success of India's Democracy, Cambridge: Cambridge University press, 2001.
9) Ranani Kothari, Politics in India, New Delhi : Orient Longman, 2003.
10) B.L. Padi, Contemporary Indian Politics, Agra: Sahitya Bhavan, 1988.
11) C.P.Bhambri, Indian Politics Since Independence New Delhi: Shipra, 1994.
12) J.C. Johari, Indian Politics, Jalundar: Vishal, 1990.
13) A.C. Kapoor, Indian Political System, New Delhi: S. Chand and Company, 1982.

HC103. Theories of Public Administration.

Unit – I   Introduction
      a) Meaning, Scope and Significance of Public Administration.
      b) Public and Private Administration. Role of Public Administration in developing
        Countries

Unit – II   Approaches to the study of Public Administration
      a) Traditional – Historical, Legal and Institutional.
      b) Modern – Behavioral, System and Decision Making.

Unit – III Theories of Public Administration
      a) Behavioral Theory
      b) Decision – Making Theory
      c) Development Theory
      d) Management Theory.

Unit – IV
      a) Public Personnel Administration
            i) Types of Personnel System
            ii) Position Classification
            iii) Recruitment
            iv) Promotion.
      b) i) Financial Administration – Meaning and Importance
        ii) Performance budgeting – Meaning, Nature and Limitations.

Unit – V Accountability and Control.
      a) Legislative, Executive and Judicial Control
      b) Role of Civil Society, Peoples Participation and Right to Information Act : 2005.

BOOKS FOR REFERENCE:
1. Dhaneja Alka (Ed) Contemporary Debates in Public Administration, New Delhi. Prentice – Hall. 2003.
2. Spice Micheal W. Public Administration: A Post of Modern Perspective, Alabama University of Alabama Press – 2001.
3. Arora Ramesh and others (Ed) ethic and Accountability in Government and Business, Jaipur Aalkha – 2003.
4. Hosiyar Singh and Others Administration Theory, Allahabad: Kitab Mahal – 1999
5. Maheshwari S. R. An Introduction to the theory of Public Administration New Delhi. Sterilizing Publications – 1998
6. Fadia and Fadia Public Administration Agra: Sahitya Bhavan – 2000.
7. Rukmi Basu, Public Administration: Concepts and Theories New Delhi. Sterling Publications – 2000.

HC.104. Theory and Practice of International Relations

Unit – I   a) Meaning, Nature and Importance of International Relations.
                       b) Development of INRs as an academic Discipline.
                       c) Meaning and Function s of International Relations Theory.

Unit – II   a) Traditional Approaches to the Study of International Relations.
                       b) Scientific Approaches to the Study of International Relations.
                       c) Hans Morgenthau's Theory of Realism.

Unit – III   a) Theory of Neo – Realism.
                       b) Meaning and Nature of Systems Theory.
                       c) Mortan Kaplan's Systems Theory.

Unit – IV   a) Game Theory.
                       b) Bargaining Theory.
                       c) Decision Making Theory

Unit – V   a) Meaning and Nature of Diplomacy.
                       b) Kinds of Diplomacy.
                       c) Changing rule of diplomacy.

BOOKS FOR REFERENCE:

1) Palmer and Perkins: International Relations.
2) S.S.Hoffiman: Contemporary Theory in International Relations.
3) Hans J. Morgenthau: Politics among Nations.
4) Hartman: Relations among Nations.
5) Woulf Columbis: Introduction to International Relations.
6) Mehendrakumar: Theoretical Aspects of International Relations.
7) J.C.Jophari: International Relations.
8) A.Vandana: Theory of International Politics.
9) Ramesh Dubey and B. M. Jain: Theory and Practice.
10) Prakash Chander: International Relations.
11) Vinay Kumar Malhotra and Alexander A: Sergounin: Theories and Approches to International Relations.

H.C.105. Public Policy

Unit – I   a) Meaning, Nature and Importance of Public Policy
      b) Types of Public Policy

Unit – II   a) Meaning, Nature and Utility of Policy Science.
      b) Models of Policy – Institutionalism, Group Theory, Rationalism,
      Instrumentalism, System Theory and Games Theory.

Unit – III   a) Official Policy Makers - Non Official Agencies
      b) Policy making in India: constitutional frame work, Planning Commission and NDC
      (National development council)

Unit – IV   a) Policy Implementation – Meaning, elements in Implementation – Techniques
      –conditions for successful Implementation.
      b) Approaches to Policy Implementation – top – down- middle – bottom up
       model – policy – action model – managerial approaches – interaction - etc

Unit – V   Case studies of Public Policies
      a) Reservation – Health.
      b) Environmental – Educational

BOOKS FOR REFERENCE:
1. Chen. Huey – Tsyb: Theory Driven Evolutions.
2. Palumno, Dennis J. (Ed) The Politics of Program Evolution.
3. Yanow, Drora: Trickling the Implementation Problem – Epistemological Issues in Implemention.
4. Drysek, John and Bobrow, Davis: Policy Analysis by Design.
5. Paris David: The Logic of Policy Inquiry.
6. Acher, W: Forecasting: An Appraisal for Policy Makers and Planners.
7. Lasswell H.D: The Policy Orientation of Political Science.
8. Joyes, C.O: An Introduction to Public Policy.

S.C. 106 a. Indian National Movement.

Unit – I   a) Historical Background to the growth of Indian Nationalism.
                         b) Uprisings against British Rule.
                         c) Birth and growth of Indian National Congress.
                         d) Moderate Extremist Unity 1916

Unit – II   a) Home Rule Movement.
                         b) Working of Diarchy and Indian response
                         c) Non – Cooperation Movement 1920-22
                         d) Civil Disobedience Movement (1930-34)

Unit – III   a) Working of Parliamentary Autonomy
                         b) Socialist Communist trends in National Movement.
                         c) Revolutionary Movements in India and Abroad.

Unit – IV   a).Quit India Movement 1942
                         b) Cripps Mission Plan
                         c) Cabinet Mission Plan and Constituent Assembly of India.

;
Unit –V   a) Mount Batten Plan and Partition of India.
                         b) India wins Freedom

BOOKS FOR REFERENCE:

1) Gupta D.C.., I.N.M.& Court ,Silken, 1973

2) Das H.HI., subhas chandra Bose & his I.N.M.(N.D.: Steering, 1983)

3) Thompson Edmond, INM (Delhi: Askashdeep, 1989)

4) Tarachanda History of the freedom Movement in India (2 Vols,New Delhi,
      Publication Division, Govt of India ,1967)

5) P.S.Raghuvarshi, Indian National Movement, Agra Mahayana, 1959.

6) A.R.Desai, Social Background of Indian Nationalism, Bomby, Popular Prakashan,

7) G.S.Halappa, History of freedom movement in Karnataka Bangalore, Govt of , Mysore, 1964

8) S.H.Patil, Congress party & princely states , Bombay Oeient Long Mans, 1966.

9) M.K.Gandhi, Hinduswaraj of Indian Home Rule, Ahmadabad, Navajeevan publishing
    House, 1948

10)Patil,v.s.Neteji subhash Chandra Bose, His Contribution to Indian Nationalism

SC 106 (b) ENVIRONMENTAL ADMINISTRATION

    Unit I. Basics of Environment
        a. Meaning, Component, Eco-System
        b. Environmental Problems, Environmental Pollutions.

    Unit II. Environmental Management in India:
        a. Environmental Laws and Planning
        b. National Environmental Policy.
    Unit III. Structure and Functions on Policy making:
        a. Ministry of Environment and Forest
        b. Central and State Pollution control Board.
    Unit IV. United Nations and the Protection of Environment:
        a. The role of UNO
        b. Environmental Programmes

    Unit V. Environmental Protection:
        a. The role of NGO's and Citizens
        b. Environmental Protection Act.

Reference Book:
1. Hoshiar Signh (ed): Environment Policy and Administration, Jaipur, Printwell Publishers, 1992.
2. Shyam Divan & Annin Rosenerang: Environment Law and Policy in India, Oxford University Press, New Delhi, 2001.
3. Shekhar Singh (ed): Environment Policy in India, New Delhi, IIPA 1984.
4. India, NCEP: Draft Report of the State of the Environment, Delhi, December 1981.

S.C. 106 c. Constitutional Development of India.

Unit – I
- a) Foundation and Expansion of British East India Company.
- b) Regulating Act of 1773 and Charter Act of 1781 and 1793
- c) Government of India Acts of 1833 and 1853.

.

Unit – II
- a) Revolt of 1857 and assumption of power by the British Crown under the Government of India Act, 1858.
- b) Indian Council Act of 1861 and 1892.
- c) Birth and Growth of Indian National Congress.
- d) Morley – Minot Reforms, and the Indian Council Act.

Unit – III
- a) Government of India Acts 1912 and 1915
- b) The Impact of First World War on India.
- c) The Montagu – Chelmsford Report, 1918 and The Government of India Act 1919.
- d) Diarchy and Its working.

Unit – IV
- a) Report of the Joint Parliamentary Committee and the Government of India Act, 1935.
- b) The Provincial Autonomy in Operation
- c) Impact of Second World War on India.

Unit – V
- a) Cabinet Mission Proposals, Interim Government and Establishment of Constituent Assembly of India.
- b) Mount Batten plan, Partition of India and Indian Independence Act, 1947.
- C) Integration of the Princely States into Indian Union.

BOOKS FOR REFERENCE:
1) Char Desika S. V. (Ed) Readings in Constitutional History of India (Delhi: Oxfo University Press, 1983)
2) Mishra S. G. Constitutional Development and National Movement in India (Patna, 1978)
3) Banarjee A.C. Constitutional History of India Vol. 3 (Delhi:1978)
4) A. B. Keeth Constitutional History of India
5) R. Coupland The Indian Problem
6) C.H. Alexandrowich Constitutional Development of India
7) D.D. Basu Constitutional Documents Vol. I (Culkatta: S .C.Sarkar,1969)
8) R. C. Agarwal – Constitutional Development and National Movement in India (New Delhi: S Chan, 2009)

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HC 101	Ancient and Medieval Western Political Thought	4
HC 102	Indian Political System	4
HC 103	Theories of Public Administration.	4
HC 104	Theory and Practice of International Relations	4
HC 105	Public Policy	4
SC 106 (a)	Indian National Movement.	
SC 106 (b)	Environmental Administration	4
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	Total Credits	24

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Course No.	Course Title	Credits
HC 201	Modern Western Political Thought	4
HC 202	Political Process in India	4
HC 203	Major Issues in International Relations	4
HC 204	Administrative Thinkers	4
SC 205 (a)	Caste Politics in India	
SC 205 (b)	Karnataka Government and Politics	4
SC 205 (c)	Socio-Political Movements in India	
206	Human Rights (OEC)	4
	Total Credits	24

III Semester

Course No.	Course Title	Credits
HC 301	Ancient and Medieval Indian Political Thought.	4
HC 302	Research Methodology in Political Science	4
HC 303	Contemporary Political Theories	4
HC 304	Foreign Policy of India	4
SC 305 (a)	Local Government in India.	
SC 305 (b)	Dalit Movements in India	4
SC 305 (c)	Development Administration	
306	Indian Political philosophers	4
	Total Credits	24

IV Semester

Course No.	Course Title	Credits
HC 401	Modern Indian Political Thought	4
HC 402	Indian Administration	4
HC 403	International Organizations	4
HC 404	Comparative Government and Politics	4
HC 405	Project Work	4
SC 406 (a)	Gender Politics	
SC 406 (b)	Disarmament and Nuclear Non-Proliferation	4
SC 406 (c)	Public Management	
	Total Credits	24

H.C 201 Modern Western Political Thought

Unit – I a) Nature of Modern Western Political Thought.
b) Machiavelli – The Prince, Morality, and Religion.

Unit – II a) Hobbes: Social Contract, Absolute Sovereignty.
b) Lock: Social Contract, Natural Rights.
c) Rousseau: Social Contract, General will.

Unit – III a) Edmund Burke: Conservatism, French and American Revolution
b) Montesquieu: Theory of Separation of Powers.

Unit – IV a) Germy Bentham: Utilitarianism.
b) J.S.Mill: Liberty Representative Government.

Unit – V a) Karl Marx: Historical Materialism, Class war, Theory of Surplus Value.
b) Hegel: Historical Dialectics, State.

BOOKS FOR REFERENCE
1) G.H. Sabine -A History of Political Theory.
2) R.G.Gohel -History of Political Theory.
3) V.S. Nersasyant -Political Thought of Ancient Greek.
4) D.R. Bhandiri/R. R. Schti- Studies in Plato & Aristotle.
5) Dunning -Western Political Theory.
6) D.R. Bhandor -History of European Political Philosophy.
7) J.P. Sudha -History of Modern Political Thought.
8) Mukarjee & Ramaswamy – A History of Political Thought.
9) B. R. Nelson -Western Political Thought.
10) J.P.Mayer -Political Thought: European Treadtions.

H.C 202 Political Process in India

Unit – I   a) Nature of Party System in India.
                     a)   Major – National and Regional Parties

Unit –II   a) Political Participation and mobilization
                     b) Social structure and political process

Unit – III   a) Nature and Type of Pressure Groups.
                     b) Techniques and working of Pressure groups.

Unit – IV   a) Coalition Politics – Causes for the Emergence and conditions necessary for
                       successful functioning.
                     b) Working of the coalitions at the centre since 1989.

Unit – V   a) Politics of Defection.
                     b) Anti Defection Act.

BOOKS FOR REFERENCE:

1. Bipin Chabndra: India after Independence.
2. Bipin Chabndra: Essays on Contemporary India.
3. Granville Austin: Working of Democratic Constitution.
4. Rajni Kothari: Politics in India.
5. Myron Weiner: Party Politics in India.
6. V. Sirsikar and L. Fernades: Indian Politics Parties.
7. Prakash Chander(Ed): Coalition Politics in India.
8. Menu Roy: Electoral Politics in India.
9. Jeevan Kumar and U.C. Jain: Electoral System in India.

H.C 203 Major Issues in International Relations

Unit – I   a) Emergence of Bipolar World
                 b) Cold war: Causes and Effects.
                 c) Post – Cold war development

Unit – II   a) Struggle against Colonialism
                 b) Neo - Colonialism
                 c) Racism (Apartheid)

Unit – III   a) Nuclear weapons and their impact.
                 b) Arm race, Disarmament and Arms Control
                 c) NPT,CTBT & NEW START.

Unit – IV   a) Environmental Issues
                 b) Global Warming
                 c) Human Security

Unit – V   a) Nature and Causes of Terrorism
                 b) Meaning and Impact of Globalisation
                 c) North - South Dialogue and South – South Co-operation.

BOOKS FOR REFERENCE:

1) Anand V.k.(Ed) : Human Rights.
2) David Forsythw: Human Rights and World Politics.
3) Basu D.D.:Constitution of India.
4) Johari J.c. Human Rigths and New World Order.
5) Vincent R.J.Human Rights and International Relations.
6) Lauterpachat: International Law and Human Rights.
7) Nickel J.w: Cultural Diversity and Human Rights.
8) Kashyap S.C:Paliament and Human Rights.
9) Said A.A.: Human Rights and World Order.
10) Bajwa G.S: Human Rights in India.
11) Debi Chaterjee (Ed): Human Rights

HC 204 Administrative Thinkers

Unit: I Classical and Neo Classical Thinkers:
   a. Woodrow Wilson – Ideas on Public Administration
   b. F.W. Taylor - The Scientific Management Movement

Unit: II Classical and Neo Classical Thinkers:
   a. Henri Fayol - Principles of Organization
   b. Luther Gulick and Lyndall Urwick – Principles on Administration

Unit – III Bureaucratic Theory:
   a. Max Weber – Bureaucratic Organization
   b. Karl Marx – Ideas on Bureaucracy

Unit – IV Administrative Behavior
   a. Elton Mayo – Hawthorne Experiments, Human Relation Approach
   b. Herbert Simon - Decision making as heart of Administration

Unit – V Public Policy
   a. Mc Gregor -Theory 'X' and Theory 'Y'
   b. Abraham Maslow -Hierarchy Theory

Reference Books :
   1.   Avasthi & Avasthi, Administrative Theory, Agra, 1996.
   2.   Basu, Rumki, Public Administration: Concepts and Theories, New Delhi, 1996.
   3.   Polinaidu.S., Public Administration, Galgotia Publication pvt. Ltd, New Delhi.
   4.   Vishnoo Bhagwan, Vidya Bhushan, Public Administration, S.Chand & Company Ltd, New Delhi.
   5.   F.W. Taylor : Scientific Management.
   6.   Herbert Simon: Administrative Behaviour.
   7.   Simon: The new science of Management Decision.
   8.   March and Simon: Organization

S.C 205 (a) Caste Politics in India

Unit – I   Caste Politics in India
  a) Reservation and Hindu Society b) Reservation and Role of Dharma
  c) Reservation and Hindu Scriptures

Unit – II   Reservation
  a) Historical Context of Reservation
  b) Reservation its Pros and Cons

Unit – III   Reservation and Social Justice
  a) Secular outlook and Social Justice in India
  b) Movements for Social justice: Before and after Independe

Unit – IV   Movements for Reservation
  a) Movements for reservation with in Reservation unity and Integrity of Dalits.
  b) Reservation and Its Implementation: Judicial Decisions and Backlog Posts Appointments.

Unit – V   Reservation and its Theories
  a) Theories of Reservation
  b) Reservation within Reservation: Its Pros and Cons
  c) Problems and Prospects of Reservation and Nation - Building

BOOKS FOR REFERENCE:

1. B.R. Ambedkar Castes in India: Their Mechanism, Genesis and Development, Bombay: Govt. of Maharashtra, 1989.

2. B.R. Ambedkar, Annihilation of Caste, Bombay: Govt. of Maharashtra, 1989.

3. B.R. Ambedkar. The Untouchables: who were they and why they become untouchables? Bombay: Govt. of Maharashtra, 1990.

4. M.K. Gandhi, The removal of untouchability, Ahmadabad: Nava Hind Publishing House, 1954.

5. Dr. Nau Nihal Singh, Jagjivan Ram: Symbol of Social Change, Delhi: Sandeep Publication,1977.

6. S.B.Bakshi, Jagjivan Ram: The Harijan Leader, New Delhi: Anmol Publication, 1992

7. GhanshyamShah (Editor), Dalit Identity and Politics, New Delhi: Sage Publication, 2001

8. Rajendra Sigh, Social Movement, Old and New A Post Modernist Critique, Delhi: Sage Publication,2001.

S.C 205 b. Karnataka Government and Politics

Unit – I   a) Political History of Karnataka
             b) Unification Movement
Unit – II   a) SRC Report.
             b) Role of Congress and Non – Congress Parties in the Development of Karnataka State.
Unit – III   a) Legislature, Executive and Judiciary.
             b) Role and Position of the Governor and Chief Minister.
Unit – IV   Social Movements in Karnataka
             a) Dalit and Backward.
             b) Peasants Movement
Unit – V   Major Issues.
             a) Water Disputes
             b) Border Disputes.

BOOKS FOR REFERENCE:

1) Harish Ramaswamy, S.S. Patagoundi, S. H. Patil , Karnataka Government and Politics Concept Publising Company , New Delhi.2007.
2) Arun. P.Bali , (Ed) ,Refashining the New Economic order, Karnataka in transition ,jaipur: Rawat Publishers, 2001.
3) Karnataka Patrika, Academy (In Kannada), Karnataka Paramapare, Bangalore: Karnataka Press Acadamy, 2001.
4) Raghavendra Rao. K,, Imaging Unimaginable Communities, Hampi, Kannada University, 2000.
5) JeevanKumar and Susheela Subramanya, Vision Karnataka 2025, Stragies and Action Plans for Sustainable Development, Bangalore, Southern Economics, 2000.
6) H.M, Rajashekara, (Kannada), India Government and Politics, Mysore: Kiran Prakashn, 1999.
7) H.S. Gopal Rao,(Kannada), The History of Karnataka Unification, Bangalore, Navakarnataka Publications,1996.
8) Shivanada Gubbanavar, Navalagund, Naragund , Raita Horata, (In Kannada), Dharwad, Akshya Prakashan, 1995.
9) R.R. Diwakar,(Kannada), The Story of Karnataka Unification, Bangalore, Lokashikshana Trust, 1992.
10) Shivananda Gubbannavar, Karnataka Rajyadalita Krama; (In Kannada) Bangalore, IBH Prakashan, 1985.
11) James Manor, Political Change in an Indian State, Manohar Book Service, New Delhi 1977.
12) Iqbal Narain, State Politics in India. New Delhi, Meenakshi Prakashan, 1976.

S.C 205 c. Socio-Political Movements in India.

Unit – I   a) Meaning, Nature & Characteristics of Array samaj, Brahmo samaj
      b) Theories of Social Movements- Marxist & New Social Movements.

Unit – II   Anti –Caste Movements:
      a) Dravidian Movement
      b) Dalit Movement: Satyasodhak and Social Struggle of Dr. B.R. Ambedkar.

Unit – III   Tribal Movements:
      a) Jharkhand
      b) Gond Revolt

Unit – IV   Peasant Movement:
      a) Naxalite & PWG Movement in AP.
      b) Farmers Movement in Karnataka

Unit – V   Women and Ecological Movement in India:
      a) Women's movement in during Independence and Contemporary Movements
      for Political Empowerment.
      b) Chipko and Narmada Movements.

BOOKS FOR REFERENCES:

1) Sha,Ghansyam, Social Movements in India.
2) Rao M.S.A, Social Movements and Social Transformation.
3) Rao M.S.A, Social Movements in India after Independence.
4) Desai A. R, Peasant Struggle in India.
5) Desai A. R, Agraian Struggle in India after Independence.
6) Hardgrave R.L, Dravidian Movement.
7) ChoudarySukbir, Peasant and Workers Movements inIndia.
8) Dasgupta,Biplab,The Naxalite Movement.

206 Human Rights (OEC)

Unit – I   a) Meaning, Nature and Importance of Human Rights.
                b) Origin and Development of Human Rights.

Unit – II   Classification of Rights
                a) Natural, Civil and Political Rights
                b) Economic, Social and Cultural Rights.

Unit – III   Declaration of Human Rights
                a) Universal Declaration of Human Rights
                b) Regional Conventions on Human Rights.

Unit – IV   Violations of Human Rights
                a) Levels of Human Rights Violation.
                b) Violations of Human Rights by Police, Military, Para – Military and others.

Unit – V   a) Human Rights and Media
                b) Human Rights Education

BOOKS FOR REFERENCE:
1. Kamalaxi G.Tadasad, Human Rights (Kannada Version), Prasaranga, KUD. 2016
2. Ramesh.M.N., Human Rights and Enviornmental Studies, Thakur Publishers, Bangaluru, ISBN:978-93-82249-58-0.
3. Anand V.K. (Ed): Human Rights.
4. David Forsythe: Human Rights and World Politics.
5. Basu D.D.: Constitution of India.
6. Johari J.C. Human Rights and New World Order.
7. Vincent R.J: Human Rights and International Relations.

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DEPARTMENT POLITICAL SCIENCE

COURSE STRUCTURE AND REVISED SYLLABUS
For PG Studies in Political Science
(III Semester)

Under Choice Based Credit System
2016-17 Onwards

Course structure-PG in Political Science, 2016-17 onwards

I Semester

Course No.	Course Title	Credits
HC 101	Ancient and Medieval Western Political Thought	4
HC 102	Indian Political System	4
HC 103	Theories of Public Administration.	4
HC 104	Theory and Practice of International Relations	4
HC 105	Public Policy	4
SC 106 (a)	Indian National Movement.	
SC 106 (b)	Environmental Administration	4
SC 106 (c)	Constitutional Development of India.	
	Total Credits	24

II Semester

Course No.	Course Title	Credits
HC 201	Modern Western Political Thought	4
HC 202	Political Process in India	4
HC 203	Major Issues in International Relations	4
HC 204	Administrative Thinkers	4
SC 205 (a)	Caste Politics in India	
SC 205 (b)	Karnataka Government and Politics	4
SC 205 (c)	Socio-Political Movements in India	
206	Human Rights (OEC)	4
	Total Credits	24

III Semester

Course No.	Course Title	Credits
HC 301	Ancient and Medieval Indian Political Thought.	4
HC 302	Research Methodology in Political Science	4
HC 303	Contemporary Political Theories	4
HC 304	Foreign Policy of India	4
SC 305 (a)	Local Government in India.	
SC 305 (b)	Dalit Movements in India	4
SC 305 (c)	Development Administration	
306	Indian Political philosophers	4
	Total Credits	24

IV Semester

Course No.	Course Title	Credits
HC 401	Modern Indian Political Thought	4
HC 402	Indian Administration	4
HC 403	International Organizations	4
HC 404	Comparative Government and Politics	4
HC 405	Project Work	4
SC 406 (a)	Gender Politics	
SC 406 (b)	Disarmament and Nuclear Non-Proliferation	4
SC 406 (c)	Public Management	
	Total Credits	24

M.A –III Semester

H.C 301 Ancient and Medieval Indian Political Thought.

Unit – I   Introduction
      a) Source, Origin Nature of ancient Indian Polity.
      b) Political Thought of Mahabharata and Ramayana

Unit – II   Vedas and Upanishads.
      a) Manu's Socio – Political Ideas: Social Order, King and Ministers.
      b) Kautilya Arthastra - Saptang Theory of the state, Medieval Theory, Espionage.

Unit – III   a) Rajaram Mohan Roy-Social reforms and Political viwes
      b) Dayananda sarswati-Spritual thought.

Unit – IV   a) V.D. Savarker- Natioan and Nationalism
      b) Swami Vivekanand- Indian
      Nationalism.

Unit – V   a) M. G. Ranade-Political thoughts.
      b) Mahatma Jyotiba Phule-Social Justice.

BOOS FOR REFERENCES:
1) V.P. Varma   : Indian Political Thought.
2) V.R.Mehata   : Indian Political Thought.
3) Vishnu Bhagvan   : Indian Political Thought.
4) Apadorai   : Indian Political Thought.
5) J.P.Sudha   : Social and Political thinking through the years.
6) D.K.Mohanty   : India Political Tradition.
7) A.S.Altekar   : State and Govt . In Ancient India.
8) R.S.Sharma   : Aspects of Political Ideas and Institutions
      In Ancient India
9) R.P.Kangle   :The Kautilya`s Arthashatra.
10) B.A.Saletore   : Ancient Indian political Thought and Instiatutions.
11) U.N.Goshal   : A History of Hindu Political Theries.
12) Beni Prasad.   : State in Ancient India.
      : Theory of Govt . In Ancient India.
13) K.P.Jaiswal   :Hindu Polity.

H.C 302. Research Methodology in Political Science

Unit – I   Research Methods.
                a) Meaning and Need for Research
                b) Types of Research: Fundamental and Applied
                c) Political Science Research: Its History and Utility
                d) Traditional and Scientific methods of Research in Political Science.

Unit – II   Research Design
                a) Meaning and Types of Research Design
                b) Formulation of Research Problem
                c) Literature Review: Sources and Use of Information Technology.
                d) Hypothesis: Formulation, Characteristics and Types.

Unit – III   Techniques of Data Collection
                a) Types of Data and Choice of Data collection method
                b) Survey Method
                c) Document Analysis
                d) Observation
                e) Information Technology as a tool for Data Collection

Unit – IV   Data Analysis and Interpretation
                a) Processing of Data
                b) Univariate Data Analysis
                c) Bivariate Data Analysis
                d) Multivariate Data Analysis
                e) Computer Application in Data Analysis.

Unit – V   Research Reporting
                a) Principles and Guidelines of Research Report
                b) Structure and Content of Research Report
                c) Term Papers / Dissertations / Thesis
                d) Research journals/ articles
                e) Successful Reporting outcomes

BOOKS FOR REFERENCE:

1) Jhnson J.B, and Josln R.A. Political Science Research Methods. New Delhi Prentice-Hall of India, 1989
2) Terrence J.E. Conducting Political Research. New York: Harper and row, 1971.
3) Greenstein F.I, and Polsby N.W.eds. Strategies of Inquiry. Vol.7: Handbook of Political Science. 8 Vols. California: Addison- Wesley 1975
4) Jaypalan n. research Methods in Political Science. New delhi: Atlanta,2000
5) Wirt Fredric. Introductory Problems in Political Research new Jersey: Prentice-Hall, 1970.
6) Mc Burney D.H. Research Methods. Pacific Grove: brooks//Cole, 1998.

H.C 303 Contemporary Political Theories

Unit – I
      a) Structuralism
      b) Post structuralism
      c) Deconstructionism.

Unit – II
      a) Dependency theories
      b) Post-Modernism
      c) Market Socialism

Unit – III
      a) Multiculturalism
      b) Identity Politics
      c) Feminism

Unit – IV
      a) State – Civil – Society Relations.
      b) Role of Non – Governmental Organisations
      c) New Social Movements

Unit – V
      a) Clash of Civilizations debate
      b) 'End of Ideology' debate
      c) Globalization and Political Theory

BOOKS FOR REFERENCE:

1) Sarah, joseph ,political theory and power,new delhi , foundation books,2006
2) Andre, beteile , ideology and social science, new delhi penguin books,2006
3) Brss, Paul R. and achin vanaik (eds.) competing nationalism in south asia, new delhi , orient Longmans,2002
4) Steaven seidman and Jeffery C. Alexander, the new social theory reader new York, 2001
5) Raju bhargav, secularism: a critic. New delhi oxford university press. 1998
6)] norman p. barry. An introduction to modern political theory. London Mc MIllan, 1998
7) Stephen Eric Bronner, Twentieth century political Theory A Reader. Routledge New York and London 1997
8) Parth Chaterjee, Nationalism and its fragments, New delhi, oxford university Press, 1997
9) Edward W. Said, Orientation, Penguin Books, New Delhi, 1995
10) J.L.Chohen and a arato, civil society and political theory, Cambridge, M.I.T. pres,1992
11) Aveneris and D.E.Shali A., Communitiralism and Individualism, New Delhi, Oxford University Press, 1992
12) David Held (Ed.), Political Theory Today, Cambridge, Polity press, 1991.

H.C 304 Foreign Policy of India

Unit – I   a) Roots of India's Foreign Policy.
                     b) Role of National Congress.
                     c) Basic Determinants of India's Foreign Policy.

Unit – II   a) Objectives of India's Foreign Policy (National Security and Economic Development)
                     b) Principles of India's Foreign Policy
                     c) Continuity and Change in the basic Principles of India's Foreign Policy.

Unit – III   a) Formulation of India's Foreign Policy.
                     b) Formal Instrument - Parliament, Cabinet and MEA.
                     c) Informal Instrument – Political Parties, Public open and Personality Factor.

Unit – IV   India's Relations with other Countries
                     a) India and the USA
                     b) India and Russia
                     c) India and China

Unit – V   a) India and the United Nations
                     b) India and SAARC
                     c) India and New World Order.

BOOKS FOR REFERENCE:

1) Jawaharlal Nehru: India's Foreign Policy.
2) J. Bandopadhyaya : The Making of India's Foreign Policy.
3) V.P. Dutta: Indian Foreign Policy.
4) Appadorai: Domestic Roots of India's Foreign Policy.
5) Bimal Prasad: Indian Foreign Policy.
6) Misra K.P. Indian Foreign Policy: A book Readings, Janata's Foreign Policy.
7) L.J. Kavic: India's Quest for Security.
8) L.K. Jain: Parliament and Foreign Policy.
9) P.S. Jayaramu: Indian's National Security and Foreign Policy.
10) K.P. Karunakaran: India in World Affairs (8. Vol.s)
11) Annual Reports of Ministry of External Affairs, Government of India.
12) International Journal of Politics.

SC- 305 a. Local Government in India.

Unit – I   Meaning, Nature and Scope of Local Governments.

Unit – II   Evolution of Panchayatraj institutions in India:
      a) Constituent Assembly and village Panchayats
      b) Balawant Roy Mehta Committtee Report.
      c) Ashok Mehta Committee Report.
      d) G.V.K. Rao Committee Report.

Unit – III   Constitutional Amendments and Panchayatraj Institutions:
      a) Basis of constitutional amendment.
      b) 73rd Constitutional Amendement.
      c) Karnataka Panchayatraj Act of 1983
      d) Karnataka Panchayatraj Act of 1993

Unit – IV   Democratic Decentralization in Karnataka:
      a) Zillah Panchayat and Taluk Panchayat : Structure, Functions and Finances.
      b) Grampanchayat and Gramasabha: Structure, Functions and Finances.

Unit – V   Role of Panchayat raj Institutions in Development (With reference to Karnataka)
      a) Panchayat raj in rural development
      b) Social Change: Empowerment of the weaker sections

BOOKS FOR REFERENCE:
1) Verma B.M, Social justice and Panchayat Raj
2) Mutarib-M.A and others, Theory of Local Government,
3) Dr.Arjun darshankar, *Panchayat Raj aani Nagari*
4) V B Patil, Panchayat Raj,
5)   A N Kulkarni, Bharatiya Sthanik Swashasan,
6) Shantaram Bhosale, Bharatiya Sthanik Shasan,
7) Kikherji. S, Essays on Rural Development.
8) Balaramulu.CH, Administration of Anty Poverty Programmes.
9) 73 rd Constitutional Amendement Act, Govt of India,1993.
10) Karnataka Panchayatraj Acts, 1985, 1995.

S.C 305 b. Dalit Movements in India

Unit – I   Indian Society and way of life
- a) Historical background Indians way of life.
- b) Socio –Economic conditions of Dalits
- c) Concept of Dalit Criteria for identification

Unit – II   Dalit and Hindu Religion
- a) Hindu religion: Theory and Practice.
- b) Atrocities on Dalits

Unit – III   Dalit Movements
- a) Problems and Prospects of Dalit Movements in India.
- b) Non Brahmin Movements in India
- c) Reservation and its appropriateness (Relevance)

Unit – IV   Dalit Movements and Social Justice.
- a) Concept of Movements and Social Justice.
- b) Politicization of Dalits and Dalit Movement in India.

Unit – V   Dalit socio political movement.
   a) Social Reform Movements
   b) Dalit Socio – Political Awakening in India and Karnataka: All India Depressed Class League Bhahishkrut Hitakarani Sabha and Republic Party of India, BSP and DSS.

BOOKS FOR REFERENCE:

1) B.R.Ambedkar; *Castes in India: Their Mechanisn, Geneis and development*, Bombay: Govt.of Maharashtra, 1989
2) B.R.Ambedkar, *Annihilation of Caste*, Vol, Bombay: Govt. of Maharashtra, 1989
3) B.R.Ambedkar, *The Untouchable: who were they and why they became untouchables?* Vol. VII, Bombay: Govt. of Maharashtra,1990
4) M.K.Gandhi, ,*The removal of untouchability,* Ahemdabad: Nava Hindi Publishing House, 1954
5) Dr.Nau Nihal Singh, Jagjivan ram: Symbol of social Change, Delhi Sandeep Publication, 1977
6) S.B.Bakshi,Jagajivam Ram: The harigion Leader, New Delhi: Anmol Publication,1992
7) Ghanshyam Shah (editor), Dalit Identity and Politics, New Delhi: Sage Publication, 2001
8) Rajendra Singh, Social Movement, old and New A Post Modernist critique, Delhi: Sage Publication, 2001

S.C 305. c Development Administration

Unit – I   a) Meaning and Importance of Development Administration.
           b) Ecology of Development administration

Unit – II   a) The Role of administration in development and developed countries.
           b) The Role of Public and Private Enterprises.

Unit – III   a) Bureaucracy and development: Political, Economic and Social
           b) Issues in development administration.

Unit – IV   a) The role of Leadership.
           b) Decision making in Development\ administration

Unit – V   a) Infrastructure development and Human Resource development
           b) Financial resources development and information communication technology

BOOKS FOR REFERENCE:

1) George F.gant, development Administration, Concepts Goals Methods, Madison, Wisconosm university Press, 1979
2) Sharma S.k (Ed) Dynamics of Development Administration, Vol I and II Delhi, Concept, 1978
3) Irving Swerdlow (Ed) Development Administration, concept Nd Problems, Syracersr, University Press, 1963
4) Edward weidner (Ed) development Administration in Asca Durhan n.C. Duke University Press 1970
5) Fred W.riggs (Ed) Fronteirs of Development Administration Durham, duke University Press, 1970
6) Dubhashi P.R. Essays in Development administration, New Delhi, Archives pub.1987
7) Umapathy M. Development Administration today, Mysore, Manu Publishers.1994
8) V.A.Paip[anadikar and S.K.Krishnasagan bureaucracy and Development administration, New Delhi Center for Policy Research,1978
9) Mohit Bhattacharya bureaucracy and Development Administration, New delhi, Uppal, 1979
10) Sapru R.K. Development Administration, New delhi, deepu Deep, 1986
11) Hope K.R. the Dynamics of Development and Development Administration, Westport, Green wood, 1984

OEC: 306   INDIAN POLITICAL PHILOSOPHERS

Unit I: Kautilya
  a) Saptang Theory
  b) Espinage Thoery

Unit II: Basaveshwar
  a) Casteless society
  b) Anubhava Mantapa

Unit III: Raja Ram Mohan Roy
  a) Western – Liberal Ideas.
  b) Social Reforms

Unit IV: Jyotiba Phule
  a) Social Justice
  b) Women Rights

Unit V: B.R. Ambedkar
  a) Socio-Economic Ideas
  b) Political Ideas

Reference:
  1. Anil Kumar Sign, Social and Political Thought, Centrum press, New Delhi.
  2. Bhatia, K.L., Dr.B.R.Ambedkar: Social Justice and the Indian Constitution, Deep and Deep, New Delhi.
  3. P.G.Das, History of Political Thought, New Central Bool Agency (P) Ltd, Kolkata.
  4. Ravi Ranian, Indian Political Thought, Anmol Publication, New Delhi.

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For PG Studies in Political Science
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2016-17 Onwards

Course structure-PG in Political Science, 2016-17 onwards

I Semester

Course No.	Course Title	Credits
HC 101	Ancient and Medieval Western Political Thought	4
HC 102	Indian Political System	4
HC 103	Theories of Public Administration.	4
HC 104	Theory and Practice of International Relations	4
HC 105	Public Policy	4
SC 106 (a)	Indian National Movement.	
SC 106 (b)	Environmental Administration	4
SC 106 (c)	Constitutional Development of India.	
	Total Credits	24

II Semester

Course No.	Course Title	Credits
HC 201	Modern Western Political Thought	4
HC 202	Political Process in India	4
HC 203	Major Issues in International Relations	4
HC 204	Administrative Thinkers	4
SC 205 (a)	Caste Politics in India	
SC 205 (b)	Karnataka Government and Politics	4
SC 205 (c)	Socio-Political Movements in India	
206	Human Rights (OEC)	4
	Total Credits	24

III Semester

Course No.	Course Title	Credits
HC 301	Ancient and Medieval Indian Political Thought.	4
HC 302	Research Methodology in Political Science	4
HC 303	Contemporary Political Theories	4
HC 304	Foreign Policy of India	4
SC 305 (a)	Local Government in India.	
SC 305 (b)	Dalit Movements in India	4
SC 305 (c)	Development Administration	
306	Indian Political philosophers	4
	Total Credits	24

IV Semester

Course No.	Course Title	Credits
HC 401	Modern Indian Political Thought	4
HC 402	Indian Administration	4
HC 403	International Organizations	4
HC 404	Comparative Government and Politics	4
HC 405	Project Work	4
SC 406 (a)	Gender Politics	
SC 406 (b)	Disarmament and Nuclear Non-Proliferation	4
SC 406 (c)	Public Management	
	Total Credits	24

H.C 401 Modern Indian Political Thought

Unit – I   a) Bal Gangadhar Tilak: Revolutionary Nationalism
                         b) Subhas Chandra Bose: Revolutionary Nationalism

Unit – II   a) Gopal Krishna Gokhale: Constitutionalism
                         b) Mahatma Gandi: Theory of State and Satyagraha

Unit – III   a) Jayapraksh Narayan: Total Revolution
                         b) Shri Arbindo – Hindu Nationalism

Unit – IV   a) Jawahar Lal Nehru: Democratic Socialism
                         b) Dr. Ambedkar: State Socialism and Liberal Democracy.

Unit – V   a) Ram Manohar Lohia: Socialism
                         b) M.N.Roy: Redical Humanism

BOOKS FOR REFERENCE:

1) Dr. C.D. Shivkeri, Dr.B.R.Ambedkar's Political Philosophy: Anmol Publications; New Delhi, 2004.
2) V.P.Varma`` : Indian Political Thought.
3) Chakravarhy and Pandey : modern Indian political Thought
4) Vishnu Bhagvan : Indian Political thought
5) Appadorai : Indian Political thinking through the years
6) Adi H. Dotor : political Thinkers of Modern India
7) D.K.mohanty : Indian Political Tradition

H.C 402. Indian Administration

Unit – I   a) Evolution of Indian Administration.
                    b) Meaning and Features of Indian Administration.

Unit – II   Constitutional setting of Indian Administration.
                    a) Central Secretariat and State Secretariat – Organization and Functions.
                    b) District Administration – the Role of Deputy Commissioner.

Unit – III   Administrative Responsibility.
                    a) Legislative and Popular
                    b) Executive and Judicial Control.

Unit – IV   Good Governance and E- Governance.
                    a) Meaning and Challenges before Good Governance.
                    b) Meaning and Features of E – Governance, Information Technology and Administration.

Unit – V   Major Issues in Indian Administration
                    a) Corruption – causes and Remedies and Generalist v/s Specialist Controversy.
                    b) Administrative Reforms.

BOOKS FOR REFERENCE:

1) B.B.Mishra, The Administrative History of India 1934-1947 London Oxford University press 1970.

2) S.R.Maheswari, Indian Administration ,New Delhi : Longman 1944

3) Biduat Chakraborthy and others, Administrative Change and Innovation Oxfoord University press 2005.

4) Niraj Jayal and sudha pai , Democratic Govt in India :Delhi sage 2001.

5) Alka Dhamega (Eds) Contemporary debates in public Administration, New Delhi, Prentice Hall , 2003.

6) Chakra borthy S.K., Corporate Governance for India: same printers, productivity Vol 40, No.4.2000.

7) P.S.Bhatangar Indian Administration: Issues an d options , Jaipur : Mangal Deep, 2003.

H.C 403. International Organizations

Unit – I   a) Origin and Development of International Organizations.
                          b) The Concert of Europe.
                          c) The Hague System

Unit – II   a) Machinery of League of Nations.
                          b) Achievements of League of Nations.
                          c) Failures of League of Nations.

Unit – III   a) Charter of the United Nations
                          b) Principal organs of the United Nations.
                          c) Specialized Agencies of the United Nations – WHO, ILO, and UNESCO.

Unit – IV   a) UN and Disarmaments
                          b) UN and Collective Security.
                          c) UN and Peace Keeping Operations.

Unit – V   a) Changing role of the United Nations
                          b) Need for reforms in the United Nations.
                          c) India's role in the United Nations.

BOOKS FOR REFERENCE:

1) Inis. L Claude (jr): The Problems and Progress of International organizations. (Swords into Plowshares)
2) H. Nicholas: The UN as a Politiucal Institution.
3) Bilgrami : International Organization
4) Mehrich: International Organization.
5) Gerrad J.M.: A Short history of International Organoization.
6) Shambhavi Vedantam: The United Nations: Putting Words to Work.
7) Shreesh Juyal (Ed.): The United Nations: Putting Words to Work.
8) Somarsen : United Nations and the Global challenges.
9) Sukhbir Singh: Structure and Functions of UNO.
10) DR.Indumati (Ed.): The United Nations (1945-1995)

H.C 404. Comparative Government and Politics

Unit – I   a) Nature, Scope of Comparative Government
                 b) Approaches to the study of Comparative Government.

Unit – II   Executive
                 a) Nature functions Executive:
                 b) Types of Executive – Parliamentary, Presidential and Collegiate Executives in U.K and U.S.A

Unit – III   Legislature:
                 a) Organization of Legislatives in U.K and U.S.A
                 b) Functions of Legislatives in U.K and U.S.A

Unit – IV   Judiciary:
                 a) Nature, Functions of Judicial Review in U.K and U.S.A
                 b) Methods of Securing Independence of Judiciary in U.K and U.S.A

Unit – V   a) Political Parties: Nature, Types and Working of Political Parties.
                 b) Pressure Groups:, Nature, Types and Techniques of Pressure Groups

BOOKS FOR REFERENCE

1) Mark: Modern Comparative politics.
2) Price J.H.: Comparative Politics.
3) Blendel: Introductioon to Comparative Govt.
4) Bocker: Comparative judicial Politics.
5) Roth and Wilson: Comparative Stydy of Politics.
6) Doel: Comparative Politics.
7) S.R.Maheshwari: Comparative Govt. and Politics.
8) Michael Curtis: Comparative Govt. and Politics.
9) Hague and Harnop: Comparative Govt. and Politics.
10) Gammock, Pool and Tardoff: Third World Politics: A Comparative introduction.
11) Harry Galbourne: Politics and the state in the Third World

H.C 405. Project Work

Certificate of the student and Supervisor guide
Acknowledgement
Contents
Lists of Abbreviation/Charts/Diagrams/Figures/Graphs/ Maps/Photos/Table etc.
Unit: I
a) Nature, Scope and Importance of the Study (Intellectual, Utilitarian, or moral Justification)
b) Aim,Objectives, & Hypotheses of the
study. c) Limitation of the Study

Unit: II
a) Review of Literature
b) Methodology: Definitions, Conceptulization, Operatinalization, Secondary and Primary
   data, data Sources, Tool construction and Collection, data management.
c) Modes of data Analysis

Unit: III
a) Quantitative / Qualitative/Interpretive data analysis
b) Analytical Summary: Hypothesis Marketing/ hypotheses testing

Unit: IV
a) Summary of Findings
b) Conclusion
c) Suggestion for Follow-up-Actions,

Unit: V
a) Suggestion for Further Research
b) Webliography
c) Bibliography

BOOKS FOR REFERENCE

1) A.Raman and Jayashree, N.A.Handbook of Research Process Macmillan, 2006
2) Publication Manual of the American Psycological Assoiation, 2001
3) The American Sociological Assocation Style Guide, 1997
4) MLA Handbook for writers of research Papers, 2003.

S.C 406. a. Gender Politics

Unit – I   Understanding Gender
           a) What is Gender? Theories of Gender difference, early Feminist
           Perspectives, Gender and Class.
           b) Cultural and the Formation of Gender, Sociology of Gender,
           Women Movements in India, Global Woman Movement.

Unit – II   Global Perspective of Gender
           a) Gender Segregation – Empowerment process in India
           b) Gender & Popular Culture - Cultural and Ideology around the world.

Unit – III   Gender Politics
           a) Equal Rights and Equal wages, Demographic issues,
           b) Women, Gender and Political Participation.

Unit – IV   Gender and Social and Equal wages,
           a) Demographic issues, Gender and Political Participation
           b) Gender Economics and Power.

Unit – V   Gender Rights
           a) Women Rights & Gender Discrimination
           b) Gender difference in Political Leadership,

BOOKS FOR REFERENCE:

1. Devaki Jain, Women, Development and the UN: A Sixty – Year Quest for Equality and Justice, 2001. Bloomington: Indian University Press.
2. Audrey Kobayashi, Companion to Gender Studies, 2000. Wiley Blackwell, London.
3. Kaplan, Carlen, Introduction to Women's Studies Gender in a Transitional world, 2005, Vellore Books, Tamil Nadu.
4. Nicholas D. Kistof and Sheryl WuDunn, Half the sky: Turning Oppression into opportunity for women worldwide, 2009. Vintage, London.
5. Bhasin, K (Ed) "Women and Media Analysis", Alternatives and Action: Kali for women, New Delhi, 1984.
6. Butlet Matilda "Women and Mass Media" Source book for Research and Action, New Science. Press, 1980.
7. Hall Maragaret, "Women and Empowerment Strategies for Increasing Autonomy" Washigton, D.C. Publishing Corporation, 1992
8. Indira Prakash Singha "Women and Social Change" Radiant Publisher, New Delhi, 1989.
9. Neerra Desai and Patel Vibhuti, "Indian Women Change and Challenge and the Media", International Decade -1975-85, Popular Prakashan, Bombay, 1985.

SC 406 (b) Disarmament and Nuclear Non-Proliferation

Unit: I Disarmament:

   a) Nature, Objectives and Definitions of Arms Control.
   b) Types of Disarmament.

Unit: IIDisarmament Agreements:

   a) Multilateral agreement
   b) Bilateral Agreement

Unit: III   Nuclear Non-Proliferation Treaty –I:

   a) Meaning and Nature of NPT
   b) Biological Weapons convention ,SALT-I, SALT-II

Unit: IV   Nuclear Non-Proliferation Treaty –II:

   a) Treaty on Open skies: Bush and Yeltsin agreement on Arms reduction
   b) Unilateral reduction and Tacit Understanding

Unit: V Future of Arms control:

   a) NPT - Difficulties and Obstacles
   b) Need and Reasons for Disarmament.

Reference:

   1. Hans.J.Morgenthau, Politics Among Nations: The Struggle for power and Peace, Calcutta, 1969.
   2. Charles W.Kegley, Jr. & Eugene R. Wittkopf, World Politics – Trends and Transformation, New York, 1981.
   3. David V. Edwards, Arms Control in International Politics, New York.
   4. S.J.R.Bilgrami, The Arms Race and Disarmament, New Delhi.
   5. Norman D Palmer & Howard C Perkins,
   6. Disarmament, Fact Sheet, United Nations.
   7. M.Zuberi, "Nuclear Threat: A Non-aligned Perspective", New Delhi.

S.C 406.c. Public Management

Unit – I   Introduction
                  a) Nature, Scope and Significance of Management in Administration
                  b) Development as Science and
                  Profession. c) Tasks and Functions of
                  Management.

Unit – II   New Public
                  Management a)
                  Genesis and Growth
                  b) Principles and Characteristics: Egalitarianism, Hierarchy v/s
                  Horizontal
                      Administration.

Unit – III   Administrative Behavior.
                  a) Communication and Control
                  b) Morale and Motivation

Unit – IV   Modern Management Techniques
                  a) Management Information System (MIS)
                  b) Management by Objectives (MBO)

Unit – V   Governance
                  a) Concept Components and Governance
                  b) Leadership
                  c) The Effective organization.

BOOKS FOR REFERENCE:
1. M.P.Sharama and B.L.Saldana, Public Administration in theory and practice, Allahabad, Kitab Mahal, 2006.
2. V.Bhaskar Rao and Arvind Sharma (Eds) Public Administration Quest for Identity, New Delhi, Vikas, 1996.
3. R.K.Sapra, Administrative Theories and Management thought, New Delhi, Prentice Hall and India, 2006
4. W. Gormley Jr and S. Bhalla, Bureaerany and Democrcy Accountability and Performance Washington D.C., C.Q.Press, 2004.
1. Keneth Cloke and Johnb Goldsmith, The End of Management and the Rise of Organisational Democrcy, Jossey – Basswiley, 2002
6. Herold Koontz and Cyril O Donnel, Principl.

RANI CHANNAMMA UNIVERSITY, BELAGAVI.

Department of Post Graduate Studies and Research in Commerce

Syllabus of Master of Commerce

(With effect from Academic Year 2016-17)

I & II Semester

M.Com

Course Structure

SEMESTER	PAPER CODE	COURSE	IA MARKS	SEM END MARKS	TOTAL	HRS/ WEEK	CREDITS
I	1.1	Strategic Management	20	80	100	04	04
	1.2	Marketing Management	20	80	100	04	04
	1.3	Financial Management	20	80	100	04	04
	1.4	Economics for Managerial Decisions	20	80	100	04	04
	1.5	Organisational Behaviour	20	80	100	04	04
	1.6	Quantitative Techniques	20	80	100	04	04
			120	**480**	**600**	**24**	**24**
II	2.1	Corporate Restructuring	20	80	100	04	04
	2.2	Business Ethics & Corporate Governance	20	80	100	04	04
	2.3	Human Resource Development	20	80	100	04	04
	2.4	Managerial Accounting	20	80	100	04	04
	2.5	Business Environment	20	80	100	04	04
	2.6	OEC-Personality Development	20	80	100	04	04
			120	**480**	**600**	**24**	**24**

I SEMESTER

Course 1.1: Strategic Management

Objective: To help the students to develop an understanding of the basic inputs in making and implementing corporate strategic decisions and also to familiarize them with the issues and practices involved.

Unit I: Introduction: Concept of strategy, Levels at which strategy operates, Approaches to strategic decision making; Strategic intent, Concept of strategic fit, Leverage and stretch; Vision, mission and purpose, Objectives and goals, Strategic Business Unit (SBU); Functional level strategies; Corporate governance and principles of ethics in strategic management.

Unit II: Environmental Analysis and Diagnosis: Concept of environment and its components; Environment scanning and appraisal; Organizational appraisal; Strategic advantage analysis and diagnosis; Analysis of Michael Porter's five force model, SWOT analysis, ETOP analysis, Value chain analysis, Core and distinctive competencies, Resources and capabilities.

Unit III: Strategy Formulation and Choice: Modernization, diversification & integration strategies, Merger, takeover, joint venture and strategy alliance; Growth, stability, turnaround, divestment, liquidation and reengineering strategies; Generic competitive strategies, Cost leadership, differentiation, bench marking, service blue printing, Process of strategic choice; Factors affecting strategic choice.

Unit IV: Functional Strategies: Marketing, personnel, financial, production/operations and R&D plans and polices, Strategy Implementation: Relationship between formulation and implementation, Issues in strategy implementation; Strategy activation; Organizational structure, commitment and corporate culture, Strategic management process of Indian companies.

Unit V: Strategic Evaluation and Control: Overview of strategic evaluation; Strategic control; Techniques of strategic evaluation and control. Evaluation of Strategic Alternatives - Product portfolio models, BCG matrix, GE Matrix, Gap analysis; Strategic control system.

Suggested Readings:

01. Bartlett, C.A., Ghoshal, S. and P. Beamish, Transnational Management: Text, Cases, and Readings in Cross-Border Management, McGraw Hill.
02. Bhattachary, S.K. and N.Venkataramin: Managing Business Enterprise: Strategies, Structures and Systems, Vikas Publishing House, New Delhi.1st edition 1983
03. Hill and Jones, Strategic Management, All India, Publishers, Chennai.
04. Porter, Michael E., The Competitive Advantage of Nations, Macmillan, London, 1990.
05. Sharma, R.A Strategic Management in Indian Companies, Deep and Publications, New Delhi.
06. Srivastava, R.M. Management Policy and Strategic Management, Himalaya Publishing.
07. Subba Rao, V., Strategic Management, Himalaya Publishing.

Course 1.2: Marketing Management

Objectives: To Understand the Changing Dimensions of Marketing Management and Equipping Students to the Needs of Consumer Society.

Unit I: Introduction: Nature and Scope of Modern Marketing Management; Marketing Management Process- a Strategic Perspective; Marketing and Economic Development; Marketing Environment-Analysing Macro and Micro Environment, Impact of Macro and Micro Environment on Marketing Decision.

Unit II: Product and Pricing Decisions: Major Product Decisions; Packaging and Labelling; Product Support Services; Branding Decisions; Product life cycle – Concept and Appropriate Strategies Adopted at Different Stages. Pricing- Objectives, Pricing Decisions, Pricing Policies and Strategies. Ethical Issues in Product and Pricing Decisions.

Unit III-Distribution and Promotion Decisions: Distribution Logistics – Concept, Importance and Major Logistics Decisions; Channel Integration and Systems. Role of Promotion in Marketing, Integrated Marketing Communication, Promotion Mix; Ethical issues in Distribution and Promotions Decisions.

Unit-IV: Marketing Information System and Marketing Research: Concept of MKIS, Components of a Marketing Information System, Internal Records System, Marketing Intelligence System, Marketing Research System, Marketing Decision Support System, Marketing Research Process, Marketing Research Vs MKIS, Marketing Research in India.

Unit-V: Trends in Marketing: Online Marketing- Objectives, Online Marketing Channels, Merits and Demerits; Social Media Marketing; Green Marketing; Relationship Marketing; Rural Marketing; and Multi Brand Retailing.

Suggested Readings:

1. Kotler Philip and Kevin Keller Marketing Management, 13th ed., Pearson Prentice Hall 2008.
2. Kotler, Philip, and Gary Armstrong, Principles of Marketing, 12th ed., Pearson Prentice-Hall 2008.
3. Etzel , Michael J., Bruce Walker and William J. Stanton, Fundamentals of Marketing, 11th ed.,, McGraw Hill, 2008.
4. McCarthy, E. Jerome, Joseph P. Cannon and William D. Perrault, Jr., BasicMarketing: A Managerial Approach, 9th ed., McGraw Hills, 2008.
5. William J. Stanton, Charles Futrell, Fundamentals of Marketing, Prentice Hall.
6. Mamoria and Joshi, Principles and Practice of Marketing in India, Himalaya Publications.
7. Ralph Westfall, Stanley .F. Starch, Marketing Research (Text and Cases), Tata McGraw Hill.

Course 1.3: Financial Management

Objectives: The objective of the course is to acquaint the students with the basic analytical techniques and methods of financial management of business firms.

Unit – I: Financial Management- An overview-Nature, Significance and scope of corporate financial management, Objectives and agency theory, Financial Management and its relationship with other disciplines, Business polices and their impact on financial management, Recent trends and contemporary issues.

Unit – II: Capital structure- Concept of financial and capital structures; Classification, Theories of capital structure- NI, NOI, MM and traditional approaches, MM approach and corporate and personal income taxes, Influence of leverages on capital structure and cost of capital-concept, importance, types and measurement.

Unit – III: Capital Budgeting - Concept, Significance, Nature and classification of capital budgeting decisions, cash flow computation- Incremental approach; Evaluation criteria- Pay Back Period, ARR, NPV, IRR and PI methods; capital rationing, Capital budgeting under risk and uncertainty.

Unit – IV: Dividend Decisions- Concepts and classification, legal provisions relating to dividend in India; Dividend and market valuation, Walter's Model, Gordon's Model and MM approach, Factors affecting dividend decision; Dividend policies in practice.

Unit – V: Working Capital Management- Concepts, importance, classification and factors determining working capital, Computation through operating cycle approach; Walker's Four Part Theory of Working capital management; Investment and financial policies.

Suggested Readings

01.   James C. Van Horne, Financial Management and Policy, PHI, New Delhi.
02.   Babhtosh Banerjee, Financial Policy & Management Accounting, World Press Pvt. Ltd., Calcutta.
03.   I.M.Pandey, Financial Management, Vikas , New Delhi.
04.   Khan and Jain, Financial Management, TMH, New Delhi.
05.   Prasanna Chandra, Financial Management, TM, New Delhi.
06.   Solomon E. Theory of Financial Management, Columbia University Press, New York.
07.   Rao R.K.S. Financial Management Macmillan, New York.

Course 1.4: Economics for Managerial Decisions

Objective: The objective of the course is to acquaint students with the concepts of micro -economic theory and their use in business decision making.

Unit-I : Introduction: Nature and Scope of Managerial Economics, Managerial Economist's Role and Responsibilities, Fundamental Economic Concepts-Incremental Principle, Opportunity Cost Principles, Discounting and Equip-Marginal Principle, Profit Maximization Theory (only Theory)

Unit-II : Demand Analysis and Forecasting : Elasticity of Demand - Determinants and Distinctions, Degrees and Measurements of Price, Income, Cross Advertising and Expectation Elasticities and Applications in Business Decisions, Demand Estimation- Functional Forms, Demand Forecasting, Need and Steps in Demand Forecasting and Demand Forecasting Techniques for Established as well as New Products (Including Problems).

Unit-III : Production Theory : Production Function; Laws of Variable Proportions; Producer's Equilibrium - Traditional Analysis, Isoquant, Isocost and Ridge Lines and Modern Analysis of Producer's Equilibrium-Expansion Path and Returns to Scale as per Isoquants; Economies and Diseconomies of Scale – Internal and External (Including Problems).

Unit-IV : Cost Theory : Implications of Costs – Real, Alternative and Money Costs; Cost Distinctions and Functions; Cost Behaviour in Short-Run and Economic Capacity; Derivation of Long Run Costs; Modern Analysis of Costs - Average Fixed and Average Variable Costs and Reserve Capacity; Real and Pecuniary Economies; Relevance of Costs in Business Decisions (Including Problems).

Unit-V: Market Structure and Business Cycle: Perfect Competition, Monopolistic Competition, Oligopoly And Monopoly. Importance of Pricing, Cost plus Pricing, Cyclical Pricing, Transfer Pricing, Rebates and Coupons, Price Discrimination. Business Cycle– Concept, Definition, Features, Types, Phases & Theories of Business Cycle (Theory only).

Reference Books
01.   Baumol, William J: Economic theory and Operations Analysis, Prentice Hall, London.
02.   Baya, Michael R: Managerial Economics and Business Strategy, McGraw Hill Inc. New York.
03.   Chopra, O.P: Managerial Economics, Tata McGraw Hill, Delhi.
04.   Eaton, B.Curtis and Diane Faton; Micro Economics, Prentice Hall, New Jersey.
05.   Petersen, H.Carig and W. Cris Lewis: Managerial Economics, Prentice Hall, Delhi.
06.   Salvatore, Dominick: Managerial Economics in a Global Economy, McGraw Hill, New York.
07.   Varian, H.R. International Microeconomics; A Modern Approach, East West Press, New Delhi.
08.   Varsheny RL and Maheshwari KL: Managerial Economics; Sultan Chand and Sons, New Delhi,
09.   Adhikary M. Business Economics, Excel Books, New Delhi.
10.   G.S. Gupta Managerial Economics – Tata McGraw Hill Publishing Company, New Delhi.

Course 1.5: Organizational Behaviour

Objective: The objective of the course is to enable students to understand predict and develop the behavior of employees in business organizations.

Unit I- Conceptual Foundations of Organizational Behaviour: Meaning and Definition, Nature, Fundamental concepts and Scope of Orgnisational Behaviour, Challenges and Opportunities of Organizational Behaviour; Disciplines contributing to the field of OB, Organisational Behaviour models.

Unit II - Foundations of Individual Behaviour – Causes of Human Behaviour, Personality, Perception, Learning, Attitude, Emotions.

Unit IV- Motivation- Meaning and Definition, Need for Motivation, Motivational Process, Motivational tools, Motivational selectivity, Theories of motivation.

Unit IV- Foundations of Group Behaviour: Group - Determinants, Process, Task, Types, Cohesiveness and Group Dynamics. Team Building, Organisational conflict and negotiations, Stress management, Decision making, Effective communication, Leadership.

Unit V – Organisational Change and Development: – Organisational structure, Organisational culture, Organizational change and development, Orgaisational effectiveness, Work life management.

Suggested Readings:

01.	Robbins, Stephen P. and Timothy A. Judge, Organizational Behaviour, Prentice -Hall, New Delhi.
02.	Luthans, Fred, Organizational Behaviour, McGraw-Hill, New York.
03.	Sekaran, Uma, Organisational Behaviour: Text and Cases, Tata McGraw-Hill Publishing Co. Ltd.
04.	Aswathappa, K., Organisation Behaviour, Himalaya Publishing House, New Delhi.
05.	Singh, K., Organizational Behaviour: Text and Cases, Pearson Publications.

Course 1.6: Quantitative Techniques

Objective: The objective of the course is to acquaint the students with the use of quantitative models in decision making.

Unit-1 : **Introduction** : An introduction to quantitative techniques, Classification of quantitative techniques, Role and uses of quantitative techniques in business and industry, Their functions, Their scope and limitations of quantitative techniques.

Unit-2: **Linear Programming:** Basic Concepts, Mathematical formulation and applications, Solution of linear programming using graphical method: Use of artificial variables: Duality in linear programming- Formulation and solution: Integer linear programming – Solution.

Unit-3: **Transportation and Assignment**: Solving the problem, Testing optimality MODI method. Cases of unbalanced problems, Degeneracy, Maximization objective, Multiple solutions and Prohibited routes. **Assignment:** Solving the problem. Cases of unbalanced problems, Multiple optimum solutions, Maximisation objective and travelling salesmen problem.

Unit-4: **Project Scheduling:** Concepts of PERT & CPM techniques and their applications, Network analysis – Scheduling activities, Determining critical path, Calculation of floats: time-cost trade-off: Resource allocation and resource levelling.

Unit-5: **Decision Theory:** Introduction, Decision making under uncertainty, Decision making under risk, Marginal analysis method and decision tree technique.

Suggested Readings:

1 Levin, R.I., D.S. Rubin and J.P. Stingson, "Quantitative Approaches to Management ", 1986, McGraw - Hill.
2 Vohra N.D., "Quantitative Techniques in Management", 3rd Edition, The McGraw Hill companies, 2006.
3 Bierman H. Jr, C.P. Bonini and W.H. Hausman, "Quantitative Analysis for Business Decisions", 7th Edition, Homewood, Ill., Irwin 1983
4 Sharma J.K.: Operations Research – Theory and Applications, Macmillan India Ltd., New Delhi.
5 Aggarwal, J.D. and Sagarika Ghosh: Quantitative Techniques for Financial Analysis, Indian Institute of Finance, New Delhi.
6 Anand Sharma: Quantative Techniques, Himalaya Publications.
7 S. Kalavathy: Operations Research, Vikas Publication House.
8 Dr. S. K. Khandelwal- Quantative Techniques; International Book House Pvt. Ltd.
9 N. D. Vohra Quantative Techniques in Management, Mc Graw Hill Education Publications.
10 P. C. Tulsian & Vishal Pandey, Quantative Techniques; Theory and Problems, Pearsons Publications.

Course 2.1: Corporate Restructuring

Objective: The objective of the course is to teach the basic issues and techniques of corporate restructure.

Unit – I: Introduction : Meaning Reasons and significance of corporate restructuring Forms of restructuring & expansion, sell-off of corporate and changes in ownership structure, Sources of value creation in corporate restructuring, Corporate restructuring in India-private and public sector enterprises, Effects of restructuring.

Unit – II: Mergers and Acquisitions : Meaning, types and motives for corporate Mergers, mergers and strategic perspective, Building competitive advantages – BCG and Porter approaches, sources of value creation in mergers, Synergy and types. Theories of corporate mergers, Efficiency theories, Information and signaling, Agency problems and managerialism, Free cash flow, Market power, Taxes and redistribution, Cost and benefits of mergers, Methods of financing of mergers

Unit – III: Valuation, Exchange rate and merger failures - Methods of valuation of target firms, share exchange rate-minimum and maximum, EPS V/s MPS methods, Discounted cash flow analysis, Merger gains and distribution, Reasons for merger failures, Implementation and management guides for mergers and acquisitions, Methods of analysis of post-merger performance, Legal procedure for mergers in India, Merger trends in India.

Unit – IV: Corporate Control - Meaning, Objectives and types of takeovers, Open offer V/s tender offer, SEBI'S takeover code, Takeover defenses - Need, Types and effect of takeover defenses, Takeovers in India and defenses employed, Financing of takeovers.

Unit – V: Industrial Sickness- Meaning, causes, symptoms of industrial sickness, magnitude of sickness, Univariate and multivariate methods of sickness prediction. Magnitude and reasons for industrial sickness among SSI and non-SSI units in India, Tiwari Committee recommendations, BIFR establishment, Objectives, Procedure and working measures for control of industrial sickness.

Suggested Readings
01. J.F.Weston, K.S.Chung & S.E.Hoag, Mergers Restructuring and corporate control, Prentice Hall of India, New Delhi, 2006.
02. Patrick Ganghan Mergers, Acquisitions and corporate restructuring John Wiley, 2006
03. Sudarshan, Creating value through mergers and acquisition, PHI, New Delhi 2006
04. Pandey, I.M. Financial Management, Vikas Publications, New Delhi, 2005
05. Khan and Jain Financial Management TMH, New Delhi, 2006
06. Prasanna Chandra Financial Management TMH, New Delhi, 2006
07. Stephen Ross, Wsterfield Jaffee Corporate Finance, 7th Edition TMH, New Delhi, 2006

Course 2.2: Business Ethics and Corporate Governance

Objective: To teach and familiarize the students with the knowledge of ethics, emerging trends in good governance practices and corporate social responsibilities in the Indian context.

Unit- I: Business Ethics: The concept of ethics; Nature and goal of business Ethics; Managerial values and attitudes; Culture and ethics; Ethics v/s law; Ethical congruence; Managerial philosophy; Types of ethics; Code of ethics; Ethical performance in business.

Unit- II: Ethical theories and CSR: Theory of teleological, Deontological, System development; Universalism versus ethical relativism, Kantianism versus Utilitarianism; Virtue ethics; Socialism and individual ethics. Definition, need and objectives of CSR; CSR through triple bottom line; CSR and business ethics; CSR and corporate governance; Environmental aspect of CSR; CSR models; drivers of CSR; Global reporting initiatives; CSR and Company's Act-2013

Unit- III: Introduction to Corporate Governance: Evolution of corporate governance, Need, Theories of corporate governance, Mechanisms of corporate governance; Models of CG; Issues of governance, Regulatory frame work of CG in India; Corporate failure and scams, The concept of whistle blowing; Corporate governance initiatives in India; Ethical standards in CG practices; e-governance; CG in PSU's and banks.

Unit- IV: Managing ethical dilemmas in Business: Meaning, Nature and Significance of ethical dilemmas; Ethical dilemmas v/s ethical issues; Ethics in Marketing; Ethics in Finance and accounting practices; HRM practices and ethical implications; Ethical issues relating to information technology; Ethics in the global business.

Unit- V: Corporate Board and Committees: Definition, need, objectives, types and functions of board; Determinants of board effectiveness, Role and responsibilities of board chairman and CEOs. Board committees: Need, Objectives and types of Board committees; Committees- Cadbury, OECD principle of governance, Governance committees in India- Birla, Naresh Chandra, Narayana Murthy, Irani committees recommendations; Cluase-49; Role of SEBI in governance; Governance rating in India.

Suggested Readings:

01.   A.C. Fernando Corporate Governance: Principles, Policies and Practices, Pearson.
02.   A.C. Fernando, Business Ethics: An Indian Perspective. Pearson Education
03.   A.G. Robert, Monks and Neil Minow, Corporate Governance, Wiley.
04.   Blowfield, Michael, and Alan Murray, Corporate Responsibility, Oxford University Press.
05.   Chakraborty S.K. Ethics in management, Oxford University Press, New Delhi
06.   P. Chottopadhyay, Corporate Mis-governance, IAA Research Foundation
07.   R.C.Shekhar Ethical Choices in business, response Book, New Delhi
08.   R.V.Badi & N.V.Badi Business ethics, Vrinda Publications, New Delhi
09.   Rituparana Raj A study in business ethics, Himalaya, Bombay
10.   Sharma, J.P., Corporate Governance, Business Ethics & CSR, Ane Books Pvt Ltd, New Delhi.
11.   William H. Shaw Business ethics, Thomson, Bangalore.

Course 2.3: Human Resource Development

Objective: The objective of the course is to make student aware of the concepts, techniques and practices of human resource development. This course intends to make students understand the applicability of these principles and techniques in an organization.

Unit I-Introduction to Human Resource Development: Concept and Evolution; Relationship between Human Resource Management and Human Resource Development; HRD Mechanisms, Processes and Outcomes; HRD Matrix; HRD Interventions; Roles and Competencies of HRD Professionals.

Unit II-HRD Process: Assessing HRD needs; Designing and Developing Effective HRD Programs; Implementing HRD Programs; Evaluating HRD Programs.

Unit III-Learning and HRD: Maximizing Learning; Individual Differences in Learning Process; Learning Strategies and Styles; Principles of Learning; Learning and Motivation; HRD Culture and Climate.

Unit IV-HRD Activities and Applications: HRD for Workers; HRD Mechanisms for Workers; Role of Trade Unions; Employee Training and Development- Process, Methods, and Types; Coaching, Counselling and Performance Management; Career Management and Development; Organization Development.

Unit V-HRD in Organisations, Trends and Practices: Select cases for HRD Practices in Government Organisations, Defence, Police, Private Sectors and Public Sectors units; HRD Audit; Balanced Scorecard; People Capability Maturity Model; Integrating HRD with Technology; Employer Branding and Other Recent Trends; Future of HRD.

Suggested Readings:

1. Werner J. M., DeSimone, R.L., Human resource development, South Western.
2. Nadler, L., Corporate human resources development, Van Nostrand Reinhold.
3. Blanchard, P.N., Thacker, J.W., Anand Ram, V., Effective training, systems, strategies, and practices, Pearson Education.
4. Raymond, N. and Kodwani, A.D., Employee training and development, McGrawHill Education India.
5. Mankin, D., Human resource development, Oxford University Press India.
6. Haldar, U. K., Human resource development, Oxford University Press India.
7. Rao, T.V., Future of HRD, Macmillan Publishers India.
8. Rao, T.V., HRD score card 2500: Based on HRD audit, Response Books, SAGE Publications.
9. Rao, T.V., Hurconomics for talent management: Making the HRD missionary business-driven, Pearson Education.
10. Kaplan, R.S., and Norton, D.P. 1992, The Balanced Scorecard: Measures that drive performance, Harvard Business Review.

Course 2.4: Managerial Accounting

Objective: To familiarize and acquaint the students with application of advanced managerial accounting techniques.

Unit –1: Introduction – Concept, nature, scope and evolution of management accounting, Financial accounting v/s Managerial accounting, Utility and limitations; Tools and techniques of managerial accounting.

Unit-II: Marginal Costing and Break Even Analysis : Concept, nature and scope of marginal costing, Marginal costing v/s Absorption costing; Marginal costing equation, contribution margin ratio and application of marginal costing in decision making. Cost volume profit relationship, break even analysis, preparation of break even charts and profit graphs.

Unit –III : Analysis and Interpretation of Financial Statements : Nature, objectives, latest trends in presenting financial data, types and tools of financial analysis; Accounting ratios – classification, advantages and limitations.

Unit – IV: Funds Flow and Cash Flow Statements: Concepts of funds and objectives of preparing statement of changes in financial position; Funds flow v/s income statement; Procedure involved in funds flow statement, advantages and limitations of funds flow statement; Cash flow statement – classification of cash flow, preparation and usefulness, accounting standard and cash flow preparation in India.

Unit –V: Uniform and Inter-Firm Costing Methods : Meaning, features, significance, steps involved and techniques of uniform costing and inter-firm comparison.

Suggested Readings :

1. Charler Brandon, Managerial Accounting, TMH, New Delhi.
2. Ray H.Garrison, Managerial Accounting, TMH, New Delhi.
3. Sharma and Gupta, Management Accounting, Kalyani, New Delhi.
4. Jawaharlal, Managerial Accounting, Himalaya, Bombay.
5. Ravi M.Kishore, Advanced Management Accounting, Taxman, Publications, New Delhi.
6. Robert N.Anthony and James Reece, Accounting Principles, AITBS, New Delhi.
7. Horngren, et al., Introduction to Management Accounting, PHI, New Delhi.
8. Maheswari S.N., Management Accounting and Financial Control, Sultan Chand and Sons, New Delhi.
9. Babhatosh Banerjee, Financial Policy and Management Accounting, World Press, Calcutta.
10. Manmohan and Goyal, Management Accounting, Sahitya Bhavan, Agra.

Course 2.5: Business Environment

Objective:

The objective of the course is to acquaint the students with the concepts of environment in which a business organisation operates.

Unit I: **Theoretical Framework of Business Environment:** Concept, significance and nature of business environment; Elements of environment- internal and external; Changing dimensions of business environment. Techniques of environmental scanning and monitoring.

Unit II: Economic environment: nature, structure of the economy, economic policies, economic conditions, political and government environment -economic roles of government, government and legal environment, economic roles of government in India, the constitutional environment.

Unit III : Natural and Technological environment: Innovation, technological leadership and followership, technology and competitive advantage, sources of technological dynamics, technology adaptation, impact of technology, impact of technology on globalization, transfer of technology : Demographic environment: population size, falling birth rate and changing age structure, migration and ethnic aspects.

Unit IV: Societal Environment: Business and society: objectives and importance of business: professionalization: business and culture, religion: language. Consumer right; Consumerism and consumer protection act.

Unit V: International Business Environment ; Latest EXIM Policy (Latest): An overview of International Economic Institutions and their working – WTO, IMF, World Bank.

Suggested Readings:

1. Adhikiary, M: Economic environment of Business, sultan Chand & sons, New Delhi.
2. Ahluwalia. I.J. Industrial Growth in India, Oxford University Press, Delhi.
3.   Alagh, Yoginder K: Indian Development Planning and Policy, Vikas Pub,New Delhi.
4. Chakravarty, S: Development Planning, Oxford University Press, Delhi.
5.   Ghosh, Biswanath: Economic environment of Business, Vikas Pub, New Delhi.
6. Govt. of Inida: economic survey.
7. Raj agrawal and Parag Diwan, Business environment; Excel Books, New Delhi
8. Sengupta, N.K. Government and Business in India, Vikas Publication New Delhi
9. Francis Cherunilam, Business Environmeny Text & Cases Himalaya Publications.
10. Ashwatappa K, Essentials of Business Environment, Himalaya Publishing House.

Course 2.6: OEC-Personality Development

Objective: To give inputs regarding personality development.

Unit –I: Self Analysis: SWOT Analysis, who am I Attitudes, Importance of Self Confidence, Self Esteem: Creativity.

Unit- II: Attitude: Factors Influencing Attitude, Challenges and Lessons from Attitude, Etiquettes.

Unit- III: Time Management: Value of Time, Priority Work, Time Wasters, Techniques of Time Management.

Unit- IV: Stress Management: Causes of Stress and its Impact, Techniques of Stress Management, Circle of Control, Stress Busters.

Unit –V: Conflict Resolution and Decision Making: Importance and Necessity of Decision Making, Process and Practical Way of Decision Making, Weighing Positives and Negatives, Conflicts in Human Relations, Approaches to Conflict Resolution.

Suggested readings:

1. Blake, Robert & Mouton, Jane S: Executive Achivement: Make it at the Top, McGraw Hill, New York.
2. Stephen Robins: Organisations behaviour, PHI Publications, New Delhi.
3. L.A.Pervin (Ed): Handbook of Personality Theory and Research Guilford Press, New York.
4. Swami Chinmayanand: The Art of Man making, Chinmaya Publications, Trust Madars.
5. Fred Luthans : Organizational Behaviour, Mc Graw, Hill, New Delhi.
6. Stephen Covey : Seven Habits of Effective Managers
7. Dandapuri S: General Psychology, Neelkamal Publications Pvt. Ltd. New Delhi.

RANI CHANNAMMA UNIVERSITY, BELAGAVI.

Department of Post Graduate Studies and Research in Commerce

Syllabus of Master of Commerce

(With effect from Academic Year 2017-18)

III Semester

M.Com Course Structure

Sem	Paper Code	Course	IA Marks	Sem End Marks	Total	Hrs/ Week	Credits
	3.1	Business Research Methods	20	80	100	04	04
	3.2	International Financial Management	20	80	100	04	04
	Group- A : Accounting and Finance						
	3.3 A	Financial Markets and Institutions	20	80	100	04	04
	3.4 A	Corporate Accounting	20	80	100	04	04
	3.5 A	Accounting for Specialised Institutions	20	80	100	04	04
	Group- B: Cost Accounting						
	3.3 B	Production and Operation Management	20	80	100	04	04
	3.4 B	Cost Management	20	80	100	04	04
III	3.5 B	Cost Accounting Standards	20	80	100	04	04
	Group – C: Banking						
	3.3 C	Bank Marketing	20	80	100	04	04
	3.4 C	Banking in India	20	80	100	04	04
	3.5 C	Management Accounting for Bankers	20	80	100	04	04
	Open Elective Course						
	3.6	To be chosen from the other Department	20	80	100	04	04
		Open Elective Course meant for other Departments - Personal Financial Planning	20	80	100	04	04
		Total Marks/Credits	**120**	**480**	**600**	**24**	**24**
	4.1	E-Commerce	20	80	100	04	04
	4.2	International Business	20	80	100	04	04
	4.3	Project Report	50	50	100	04	04
	Group A: Accounting and Finance						
	4.4 A	Security Analysis and Portfolio Management	20	80	100	04	04
	4.5 A	Innovations in Accounting	20	80	100	04	04
	4.6 A	Mutual Funds	20	80	100	04	04
IV	**Group- B: Cost Accounting**						
	4.4 B	Techniques of Costing	20	80	100	04	04
	4.5 B	Strategic Cost Management	20	80	100	04	04
	4.6 B	Recent Developments in Cost Accounting	20	80	100	04	04
	Group – C: Banking						
	4.4 C	Foreign Exchange and Risk Management	20	80	100	04	04
	4.5 C	Financial Management in Commercial Banks	20	80	100	04	04
	4.6 C	Fund Management in Commercial Banks	20	80	100	04	04
		Total Marks/Credits	**150**	**450**	**600**	**24**	**24**

III SEMESTER
Course: 3.1- Business Research Methods

Objective: To develop research orientation among the students and to apply statistical techniques for interpreting and drawing conclusion for business problems.

Unit-I: Introduction - Research – Meaning and Definition, Characteristics, Nature and Scope. Types of Research -Research Methodology - Formulation of Research Problem - Major Steps in Research – Hypothesis - Research Design – Review of Literature, Planning of Research, Uses of Social Science Research. - Ethical Issues in Business Research.

Unit-II: Data Collection and Sampling - Data Collection: Sources of Data; Primary and Secondary Data. Procedure for Data Collection, Tool for Data Collection – Questionnaire, Interview, Schedule. Sampling: Meaning, Definition, Need and Types. Sampling Errors, Merits and Demerits of Sampling. Measurement and Scaling Techniques.

Unit-III: Data Processing and Analysis - Processing of Data: Editing, Coding and Tabulation - Problems - Use of Computer in Research. Analysis of Data: Statistical Analysis; Diagrammatic and Graphic Representation. Interpretation of Results.

UNIT-IV: Statistical Applications - Hypothesis Testing; Power of a Test, Large Sample Tests for Proportions, Means and Standard Deviations. Small Sample Tests –T and F Tests. Design of Experiments and Analysis of Variance. Non-Parametric Tests - Chi-Square Test.

UNIT-V : Research Reports - Meaning and Types of Reports - Stages in Preparation of Report - Characteristics of a Good Report - Structure and Components – Documentation: Footnotes and Bibliography - Checklist for the Report, Introduction to SPSS Package.

Suggested Readings:
1. Green Paul, Full Donald, Research for Marketing Decisions, Holt Rinehart and Winston, New York.
2. Rigby Paul H., Conceptual Foundation of Business Research, Wiley and Sons, New Delhi.
3. O.R.Krishnaswamy and M.Ranganatham : Methodology of Research in Social Sciences.
4. J.K.Sharma, Business Statistics, Pearson Education Publications.
5. Michel V.P. Research Methodology in Management, Himalaya, Bombay.
6. Emory C. William, Business Research Methods, Macmillan Publishing Co., New York.
7. Kothari.C.R. Research Methodology - Methods & Technology, New Age International Publisher, New Delhi.
8. Gupta, S.P. Statistical Methods, Sultan Chand and Sons, 1999, New Delhi.
9. Gupta, C.B., An introduction to Statistics Methods, Vikas Publishing House, New Delhi.

Course: 3.2 – International Financial Management

Objective: To expose the students to study the various aspects of foreign exchange market and different aspects of international financial management

Unit – I: Introduction to International Financial Management- Meaning, objectives, global financial manager, role of global financial manager, functions of international financial management, scope of international financial management and relationship between domestic and financial management.

Unit II- Foreign Exchange Market- meaning and objectives, features of foreign exchange market, foreign exchange rates , quotations and types quotations , dealers in foreign exchange market, foreign exchange transactions, sale and purchase transactions – spot and forward transactions, hedging, speculation and arbitrage operations, forecasting foreign exchange rate and equilibrium in foreign exchange market.

Unit-III- Foreign exchange risk management: meaning and objective**s,** Foreign exchange risk and exposure, types of foreign exchange risks, transaction, and economic exposure, internal and external techniques of foreign exchange risk management.

Unit –IV: Financing for foreign operations: sources of finance, Euro markets, special financial vehicles, interest rate and currency swaps, debt, equity swaps, internal leasing, designing global financing strategy.

Unit- V: International financial management for MNCs- Cost of capital and capital structure of MNCs, International capital budgeting, international working capital management.

Suggested Readings:
1. Alan C. Shapiro, "Multinational Financial Management" Allyn and Pacon Ioc, Boston, 1986.
2. Adrin. Buckley, "Multinational Finance", Hcrit, New Delhi.
3. Raymond Vemon-Manager in the International Economy, Louis T Wells Jr. Prentice Hall, 1987.
4. David H. Blake- The Politics of Global Economic Robert S. Walters Relations, Prentice Hall, 1987.
5. Madura, Jeff, "International Financial Management, West Publishing Company.
6. Apte P.G. International Financial Management, Tata McGraw Hill, New I Delhi,
7. Ian H. Giddy, Global Financial Markets AITBS 2000
8. Kirt C. Butler, Multinatiinal Finance Thomson South Western.
9. Reid W. Click and Coval, 'International Financial Management' Prentice Hall India.
10. Reid. M. Rodriguez, "International Financial Management" E Eugene Carter Prentice Hall, New Delhi 1985.

GROUP A: ACCOUNTING AND FINANCE
Course: 3.3 A - Financial Markets and Institutions

Objective: This course aims at providing students with an understanding of structure and working of financial institutions and markets in India.

Unit-I: Financial Markets - Nature, functions, financial system and economic development; Financial assets – meaning, properties, types and role of financial assets; financial markets - meaning, role and types of financial intermediaries, an overview of Indian financial system; analysis of supply and demand for funds; regulation of financial markets.

Unit -II: Money and Capital Market - Organization, instruments, functioning and regulations of money markets; role of RBI; capital market and its structure, recent developments in capital market.

Unit- III: Theory and Structure of Interest rates - The theories of interest rates-current and future, nominal interest rates; base interest rate; yield curve and the term structure; determinants of interest rate.

Unit -IV: Banks and Financial Institutions - Commercial banks and industrial finances; working capital finance by commercial banks; term lending; industrial finance by financial institutions; performance of Indian banking; regulatory aspects of banking.

Unit - V: Investment Institutions-Meaning, Importance and Growth; UTI and private sector mutual funds; insurance funds-growth and development of life and non-life insurance companies in India; regulation of insurance; pension funds-organization and working of pension funds; working of new Pension Scheme, NSDL, CRA; regulatory framework.

Suggested Readings
1. Bhole, M.K, Financial Markets and Institutions, THM, New Delhi.
2. Dalton, John, How the Stock Market Works, Prentice Hall, New Delhi 3rd edition 2007
3. Khan, M.Y, Indian Financial Markets and Institutions, THM, New Delhi.
4. Madura Jeff, Financial Markets and Institutions, West Publishing Company, New York.
5. Marchiraju, H. R. Working of Stock Exchanges in India, Wiley Eastern Lts; New Delhi.
6. Meir Kohn, Financial Institutions and Markets, Oxford University Press, New Delhi,
7. Ragunathan V, Stock Exchange and Investments, Tata McGraw Hill New Delhi. Reprint 2007
8. RBI Reports on Currency and Finance and RBI Bulletins.
9. Rose and Marquis, Money and Capital Markets: Financial Institutions and Instruments in a Global Market Place.
10. Web site of BSE, NSE, SEBI, RBI, IRDA, NSDL

Course: 3.4 A - Corporate Accounting

Objectives: To teach accounting practices relating to various issues of corporate accounting.

UNIT-I: Company final accounts: Provisions of Companies Act 2013 relating to maintenance of accounts, divisible profits, managerial remuneration, transfer of profits to reserves, vertical forms of financial statements

UNIT-II: Valuation of goodwill and shares: Concept and need for valuation of goodwill, methods of valuation, share valuation – need and methods of valuation.

UNIT-III: Accounting treatment for amalgamation - absorption and reconstruction of companies, internal reconstruction and external reconstruction.

UNIT IV: Liquidation accounts: Winding up vs. liquidation, types of liquidation, statement of affairs, deficiency accounts, liquidators final statement of accounts.

Unit V: Holding Companies: Definition – Provisions of Indian Accounting Standard 21, Preparation of Consolidated balance sheet – Minority interest – Pre-acquisition or capital profits - Cost control or Goodwill – Inter-company balances - Unrealized inter-company profits - Revaluation of assets and liabilities - Bonus shares - Treatment of dividend – Multiple holding, Chain Holding and Cross Holding - Consolidation of profit and loss account.

Suggested Readings.
1. Jain and Narang, Advanced Accountancy, Vol.II, Kalyani, New Delhi.
2. Gupta and Radhaswami, Advanced Accountancy, Vol.II, Sultan Chand. New Delhi.
3. Dr. Ashok Sehgal and Dr.Deepak Sehgal, Corporate Accounting, Taxmann's publications.
4. Bhushan Kumar Goyal, Corporate Accounting, 4th edition, Taxmann's publications
5. Shukls and Grewal, advanced Accounts, Vol.II,s. Chand and Co., New Delhi.
6. Dr. P.C.Tulsian and Dr. Bharat Tulsian, Corporate Accounting, S.Chand Publications.
7. P.V.Ratnum, Advanced Accountancy, Konark, New Delhi.
8. Rishikesh Chakraborty, Advanced Accounts, Oxford, New Delhi.
9. S.K.Patil, Advanced Accounts, World Press, Calcutta.

Course: 3.5 A - Accounting for Specialized Institutions

Objective - To make the students to understand the different aspects of Specialized Accounting practices

Unit I- Accounting of Insurance Companies: Legal provisions as per Insurance Act, 1930, LIC Act 1956 and GIC Act 1972 revenue account and final account of life and non life insurance companies, IRDA Act 1938 and provision relating to final accounts.

Unit II- Double Account System: Meaning of double account system, difference between single and double account system, advantage and disadvantages of double account system, preparation of final accounts of electricity companies.

Unit III- Accounting of banking companies: Legal provisions as per Banking Regulation Act, Narasimhan Committee recommendations and NPA treatment, classification of banking companies' assets, capital adequacy ratio and preparation of financial statements.

Unit IV-Accounting for Hotels – meaning, objectives and significance of hotel accounting: Visitor's ledger: methods of accounting and preparation of final accounts of hotel undertakings.

Unit V-Accounting for Hospitals –Meaning, Need and significance of hospital accounting; forms of balance sheet, income statement- capital and revenue expenditure, and adjustments.

Suggested Readings :
1 S.N.Maheshwari, Advanced Accounting, Vol.II , Vikas Delhi.
2 Shukla and Grewal, Advance Accounting, Vol.II, S. Chand and Sons, New Delhi.
3 R.L.Gupta and Radhaswamy Advanced Accounting, Vol.II ,Sultan Chand and Sons, New Delhi.
4 Hrishikesh Chakraborty, Advanced Accounting, Vol.II , Oxford Publishing House, New Delhi.
5 Jain and Narang, Advanced Accounting, Vol.II ,Kalyani, New Delhi.
6 C.T.Horngren   Introduction to Financial Accounting, PHI, New Delhi.
7 Mark, E., Harkins, International Financial Reporting and Analysis, TMH, New Delhi.
8 Thomas, P. Edmonds, Fundamentals OF Financial Accounting Concepts, TMH, New Delhi.
9 Robert Libby, Financial Accounting, TMH, New Delhi.

GROUP B – COST ACCOUNTING

Course : 3.3 B - Production and Operations Management

OBJECTIVE:

To impart knowledge regarding production and management techniques, process, tools, and acquaint the students with the knowledge of marketing functions, techniques and strategies.

UNIT-I: Production & operations Management: Introduction, meaning and definition, objectives, nature and context of operations management, relationship between strategic management and operations management, operations strategy and competitiveness

UNIT-II: Plant locational planning: Stages in the selection of planning, selection of site, determinants of plant location, plant location theories, qualitative and quantitative models for plant location, locational break-even analysis

UNIT-III: Product design and process selection : Product design and process selection for manufacturing operations and service operations, waiting line management, quality management, statistical quality control methods

UNIT-IV: Design of facilities and jobs: Strategic capacity planning linear programming, just in time production systems, facility location, facility layout, job design and work measurement, learning curves, wage incentives, production control techniques, measurement of productivity

UNIT-V: Supply chain management: Forecasting aggregate planning, inventory systems for dependent and independent demand, material revising the system, business process re engineering, syndronous manufacturing and theory of constraints

Suggested Readings :
1. Dalela and Mansoor Ali, Industrial Engineering Management Systems, Standard Publishers, Distributors Delhi.
2. Chary, Production and Operations Management, TMH, New Delhi.
3. Richard B. Chase, Production and Operations Management, TMH, New Delhi.
4. Mahadevan. The New Manufacturing Architecture, TMH, New Delhi. Nair.
5. Production and Operations Management, TMH, New Delhi.
6. Adam and others, Productions and Operations Management, PHI, New Delhi.
7. Aswathappa and S.Bhatt, Production and Operations Management, Himalaya Bombay.
8. Chunawalla and Patel, Production and Operations Management, Himalaya, Bombay.
9. Kanji and Mike, 100 Methods for Total Quality Management, Response Books, New Delhi.

Course: 3.4 B - Cost management

Objectives: To make the students understand about the basic of cost management and the role of cost management in different decisional areas.

Unit - I Introduction: Concept, features, objectives and importance of cost management; factors affecting cost management, financial accounting v/s cost management; cost accounting v/s cost management traditional and contemporary techniques –bench marking, JIT, TQM, FMT, outsourcing, theory of constraints etc. Cost management practices in corporate India.

Unit - II Accounting systems for recording of cost: Non-integral and integral systems of recording of costs; costing profit and loss account, reconciliation of cost and financial profits.

Unit - III Cost Management Issues in Elements of Cost: Material cost management design, purchase; storage issues and inventory management; techniques of inventory control; labour cost management time keeping and booking, idle time and overtime, labour turnover; compensation and incentive schemes, labour efficiency evaluation; overhead cost management, significance; departmentisation, recovery materials, under and over absorption capacity costs.

Unit - IV: Product Costing System: Job costing- cost flow and cost tracking in job order system, job costing in service industries, process costing- characteristics of process costing system; flow of costs in process costing, equivalent units- FIFO and average methods.

Unit- V - Joint and by –product Costing: meaning and distinction between joint products and by-products methods of allocating joint costs; point of separation and future processing decisions; accounting for by products; effects of joint – products on cost central and decision making.

Suggested Readings:
1. Edward Blocher, K.H.Chen, Gary Cokins and Thomas W. Lin Cost management –Strategic Emphasis, TMH New Delhi
2. Ronald Hilton, Michael. W. Maher & Frant H. Selto Cost management strategies for business decisions TMH, New Delhi
3. Jain and Narang - Advanced cost accounting, Kalyani Publisher, New Delhi
4. Babatosh ByanerjeE - Cost Management accounting, TMH, New Delhi.
5. Khan & Jain - Management and cost accounting Thomson Publications, Noida 2007.
6. Collin Drury - Management and cost accounting and Thomson Publications ,New Delhi.
7. Ravi M. Kishore - Advanced cost accounting and cost systems, Taxmann Publications, New Delhi.
8. Maheshwari S. N - Advanced cost accounting Sultan Chand New Delhi.

Course: 3.5 B - Cost Accounting Standards

Objectives: To gain comprehensive understanding of all aspects relating to Cost Accounting Standards. Reference

Unit I-Introduction: Introduction to Cost Accounting Standards, Background of Cost Accounting Board, Purpose of CAS, Advantages of CAS, Fundamental Difference between CAS and FAR Regulations.

Unit II- Cost Accounting Standards I: CAS -1 (Revised 2015) Classification of Cost; CAS 2 (Revised 2015) Capacity Determination; CAS-3 (Revised 2015) Production and Operation Overheads; CAS – 4 Cost of Production for Captive Consumption; CAS-5 Average Cost of Transportation.

Unit III- Cost Accounting Standards II:- CAS -6 Material Cost; CAS – 7 Employee Cost; CAS-8 Cost of Utilities; CAS-9 Packing Material Cost; CAS-10 Direct Expenses; CAS-11 Administrative Overheads.

Unit IV- Cost Accounting Standards III: CAS-12 Repair and Maintenance Cost; CAS-13 Cost of Service Cost Centre; CAS-14 Pollution Control Cost; CAS-15 Selling and Distribution Overheads; CAS-16 Depreciation and Amortisation; CAS-17 Interest and Financing Charges; CAS-18 Research and Development Costs; CAS 19 Joint Cost.

Unit V- Cost Accounting Standards IV- CAS-20 Royalty and Technical Know-How fee; CAS 21 Quality Control; CAS 22 Manufacturing Cost, CAS 23 Overburden Removal Cost; CAS 24 Treatment of Revenue in Cost Statements.

Suggested Readings:
1. Sanjeev Singhal and R. Sankariah, A Practical Guide to Cost Accounting Standards, Rules and Audit Publisher CCH (A Walter Kluwer Business)
2. Srinivasan Anand G. Cost Audit Practical Manual Taxman
3. Website : www.icwai.org

GROUP C: BANKING
Course: 3.3 C- Bank Marketing

Objective: To teach marketing practices followed by bank to market their services.

Unit I: Introduction: Bank marketing, the concept, justifications for marketing the banking services, the users of banking services, the behavioral profile of users.

Unit II: Marketing research in banking: Its scope, marketing information system for banks, and significance of MIS.

Unit III: Marketing mix for the banking services: The produce mix, the promotion mix, the price mix, the place mix, the people, the physical attractions, bank marketing in India.

Unit IV: Analyzing the business environment: Implications for bank marketing, understanding the customer, market segmentation, basis of segmentation, relationship marketing.

Unit V: Bank marketing strategy: Profitability and marketing, training in bank marketing, the future of bank marketing.

Suggested Readings:
1. Ravi Shankar, Services Marketing, Manas Publications, Delhi.
2. Rathmell, Marketing, in the Service Sector, Winthrop Publishers, Cambridge.
3. Avadhani V.A., Marketing of Financial Services, Himalaya Bombay.
4. Sha S.M., Services Marketing, Himalaya, Bombay.
5. Seth Rajeev K., Marketing of Banking Services, Macmillan India, Delhi.
6. Helen Woodruffe, Services Marketing, Maxmillan India, Delhi.
7. Eric Berkowitz., Marketing, TMH, New Delhi.
8. Ian Chaston, New Marketing Strategies, Responst Books, New Delhi.
9. Patankar Sanjay, Services Management, Himalaya, Bombay.
10. G.A. Churchill and J.P. Peter, Marketing Creating Value for Customers, TMH, New Delhi.

Journals:
1. SBI, Monthly Review
2. The Banker
3. Prajnana
4. Journal of IIB.

Course: 3.4 C - Banking in India

Objective: To teach the meaning and functions of commercial banks, non-banking financial institutions, RRB's, development banks and central bank.

Unit I: Commercial banking: Characteristics of commercial banking, classification of commercial banking, universal banking, norms for capital adequacy, problem of non-performing assets, cures, asset liabilities management

Unit II: Non-banking finance companies, definition, regulation, types of deposits, assets of NBFCs, investment norms for NBFCs, SEBI and RBI guidelines.

Unit III: Rural Credit: Co-operative credit, RRBs, structural changes, reforms in co-operative credit, NABARD, its functions, objectives and working.

Unit IV: Development banking: Nature of development banking, development financial institutions – IDBI, ICICI, EXIM Bank, SIDBI, merchant banking, origin, activities, regulation and services rendered by the merchant banks in India.

Unit V: Central banking: Functions, RBI, functions, regulatory role, monetary policy, objectives and instruments.

Suggested Readings:
1. Machiraju H.R., Indian Financial System, Vikas, New Delhi.
2. Vasant Desai, The Indian Financial System, Himalaya, Bombay.
3. Khan N.Y., Indian Financial System, Vikas, New De3lhi.
4. Bhole L.B., Financial Institutions and Markets, TMH, New Delhi.
5. Verma J.C., Merchant Banking, TMH, New Delhi.
6. Khan N.Y., Financial Services, TMH, New Delhi.
7. Shekhar and Shekhar, Banking Theory and Practice, Vikas, New Delhi.
8. Mithani and Gordeon, Banking Theory and Practice, Himalaya, Bombay.
9. Baye and Jensen, Money, Banking and Financial Masrkets, AITBS, New Delhi.

Course 3.5 C - Management Accounting for Bankers

Objective: To teach management accounting practices followed by banks.

Unit I: Introduction to management accounting: Definition, nature and scope, necessity of management accounting, as application tool in the hands of bank manager, techniques and tools of management accounting, advantages and disadvantages

Unit II: Marginal costing and break-even analysis: Concept, features, importance of marginal costing, marginal costing equation, contribution ratio and margin of safety. Applications of marginal costing in decision making, CVP analysis and break-even analysis, charts, profits graphs. Application of marginal costing and break-even analysis of credit evaluation of borrowers

Unit III: Analysis and interpretation of financial statements: Concept, objectives and importance of financial analysis, uses of financial analysis, tools and techniques, common size, comparative statements and accounting ratios, objectives, classification, advantages and disadvantages of ratio analysis, use of ratio analysis in evaluation of credit worthiness of borrowers.

Unit IV: Funds flow and cash flow statements: Concept of funds, objectives of preparing flow statements, procedure in preparing funds flow statements, funds flow vs. income statement uses and limitations, cash flow statement, procedure, uses and limitations, bank credit management and funds flow and cash flow analysis.

Unit V: Working capital and term financing: Computation of working capital as Tandon Committee recommendations, term financing by banks, appraisal techniques, NPV, IRR, PI methods

Suggested Readings:
1. B.Ramachandra Rao, Balance Sheet and Credit Appraisal for, S.Chand and Sons, New Delhi.
2. Singh and Singh, Financial Analysis for Credit Management in Banks, Himalaya, Bombay.
3. Rammoorthy, Working Capital Management in Banks, S.Chand and Sons, New Delhi.
4. Jeevanandam, Management Accounting forBankers, S.Chand and Sons, New Delhi.
5. Maheshwari S.N., Management Accounting for Bankers, S.Chand and Sons, New Delhi.
6. Pandey I.M., Management Accounting, Vikas, New Delhi.
7. Omprakash, Ratio Analysis for Management, Himalaya, Bombay.
8. John Mayher, Financial Statement Analysis, PHI, New Delhi.
9. Merrett and Sykes. The Finance and Analysis of Capital Project, Longman Group, New Delhi.
10. Chatterjee A.K., Management Techniques of Bank Lending, Himalaya, Bombay.

3.6 Open Elective Course: To the students of other Departments.

Course: 3.6 – Personal Financial Planning

Objective: To prepare the students to Manage their Personal Finance effectively and efficiently.

Unit I: Introduction to Financial Planning - Process of financial planning, Time value of money, Determinants of savings, Sources of personal finance and cost of capital, Techniques of Personal financial Management.

Unit II: Risk Analysis and Insurance Planning - Risk management and insurance decision in personal financial planning, Life Insurance, Motor Insurance, and Medical Insurance, Health Insurance.

Unit III: Retirement Planning and Employees Benefits - Retirement need analysis, Development of retirement plan, Various retirement schemes - Employees Provident Fund (EPF), Public Provident Fund (PPF), Superannuation Fund, Gratuity, New pension Scheme.

Unit IV: Investment Planning – Meaning and definition, need and importance of investment, Investment Avenues – Bank Deposits, Life insurance, Government Bonds, Real estate, gold and silver, equity shares and mutual funds. Factors affecting selection of Investment Avenue, Risk and Return tradeoff, Portfolio construction and management.

Unit V: Tax Planning - Income, Agricultural income, Heads of Income, Deduction u/s 80C, Gross Total Income and Tax liability, Tax Deducted at source, Income tax Returns, Filing Online Returns.

Suggested Readings:
1. Singhania V.K: Students' Guide to Income Fax; Taxmann, Delhi.
2. Prasaci, Bhagwati: Income Tax Law & Practice: Wiley Publication, New Delhi,
3. Girish Ahuja and Ravi Gupta: Systematic approach to income tax: Sahitya Bhawan Publications, New Delhi.
4. Ranganathan and Madhumathi: Investment Analysis and Portfolio Management:Pearson, New Delhi.
5. George Rejda: Principles of Risk Management and Insurance: Pearson, New Delhi

RANI CHANNAMMA UNIVERSITY, BELAGAVI.

Department of Post Graduate Studies and Research in Commerce

Syllabus of Master of Commerce

(With effect from Academic Year 2017-18)

IV Semester

M.Com Course Structure

Sem	Paper Code	Course	IA Marks	Sem End Marks	Total	Hrs/ Week	Credits
	3.1	Business Research Methods	20	80	100	04	04
	3.2	International Financial Management	20	80	100	04	04
	Group- A : Accounting and Finance						
	3.3 A	Financial Markets and Institutions	20	80	100	04	04
	3.4 A	Corporate Accounting	20	80	100	04	04
	3.5 A	Accounting for Specialised Institutions	20	80	100	04	04
	Group- B: Cost Accounting						
	3.3 B	Production and Operation Management	20	80	100	04	04
	3.4 B	Cost Management	20	80	100	04	04
III	3.5 B	Cost Accounting Standards	20	80	100	04	04
	Group – C: Banking						
	3.3 C	Bank Marketing	20	80	100	04	04
	3.4 C	Banking in India	20	80	100	04	04
	3.5 C	Management Accounting for Bankers	20	80	100	04	04
	Open Elective Course						
	3.6	To be chosen from the other Department	20	80	100	04	04
		Open Elective Course meant for other Departments - Personal Financial Planning	20	80	100	04	04
		Total Marks/Credits	**120**	**480**	**600**	**24**	**24**
	4.1	E-Commerce	20	80	100	04	04
	4.2	International Business	20	80	100	04	04
	4.3	Project Report	50	50	100	04	04
	Group A: Accounting and Finance						
	4.4 A	Security Analysis and Portfolio Management	20	80	100	04	04
	4.5 A	Innovations in Accounting	20	80	100	04	04
	4.6 A	Mutual Funds	20	80	100	04	04
IV	**Group- B: Cost Accounting**						
	4.4 B	Techniques of Costing	20	80	100	04	04
	4.5 B	Strategic Cost Management	20	80	100	04	04
	4.6 B	Recent Developments in Cost Accounting	20	80	100	04	04
	Group – C: Banking						
	4.4 C	Foreign Exchange and Risk Management	20	80	100	04	04
	4.5 C	Financial Management in Commercial Banks	20	80	100	04	04
	4.6 C	Fund Management in Commercial Banks	20	80	100	04	04
		Total Marks/Credits	**150**	**450**	**600**	**24**	**24**

IV SEMESTER
Course 4.1 – E-Commerce

Objective: To equip students to assess e-commerce requirements of a business and develop e-business plans and to interact with various IT professionals who may be developing e-commerce applications.

Unit-I: Introduction to E-commerce: Meaning and Concept of E-Commerce, Business Model for E Commerce; Features of E-Commerce; Element of E-Commerce; Benefits and Limitations of E-Commerce; Types of E-Commerce System; B2B, B2C, C2C, C2B, B2G and G2C. Internet Concept and Technologies: History of Internet; Ways to connect to the Internet; Internet Accounts; Public and Private Network; Applications of Internet.

Unit-II: Electronic Payment systems: Features of an ideal electronic payment system; Types of an Electronic Payment System-Credit Cards, Debit Cards, Smart Cards, E-Money, E-Check and Electronic fund transfer(EFT), Need of security in E-Commerce; Essential security requirements for safe electronic payments; Security Schemes for an Electronic Payment Systems- Encryption, Digital Signature, Security Certificates.

Unit-III: Business to Consumer E-Commerce: Introduction to B2C E-Commerce; Products in B2C Model; Consumers shopping procedure on the Internet; Role of E-Brokers; Broke Based Service on line; On-line Travel and Tourism Service; on-line Stock Trading; on line Banking; On-line Financial Services; E-Auctions.

Unit-IV: Business-to-Business E-Commerce: Introduction to B2B E-Commerce; Marketing issue in B2B; Key Technologies for B2B E-Commerce; Electronic Data Interchange, Internet, Intranet, Extranet, Integration with Back-end Information System.

Unit-V: Accounting Software and E-Commerce: Need for Accounting Software and software types- Tally 10 SAP.

Suggested Readings:
1   Joseph P T, E-Commerce- A Managerial perspective, PHI, New Delhi.
2   Krishnamurthy Sandeep, E-Commerce Management, Vidya Vikasa publication.
3   Laudon, Kenneth C. and Carol Guercio Traver (2002) E-commerce: business, technology, society. (New Delhi : Pearson Educatin).
4   Awad, Elias M. (2007), Electronic Commerce: From Vision to Fulfillment (New Delhi : Pearson Education).
5   Kalakota, Ravi and Marcia Robinson (2001). Business 2.0: Roadmap for Success (new Delhi : Pearson Education).
6   Smith, P.R. and Dave Chaffey (2005), eMarketing eXcellence; The Heart of eBusiness (UK : Elsevier Ltd.)

Course 4.2 - International Business

Objective: To expose the students to the different dimensions of international business and its environment.

UNIT – I: International Business : Definition, nature, approaches, Problems of international business International Economic Environment, International trade policies and relations , tariffs, subsidies, import quota, voluntary export restraints, administrative policies.

Unit –II: Multinational Corporations: Definition, Distinction among I.C., M.N.C., G.C. etc. Factor contributing to growth of multinationals – criticism on multinationals

Unit III: International Trade Theories - Mercantilism, Absolute Advantage, Comparative Advantage, Heckscher-Ohlin Theory, Product Life-Cycle Theory, New Trade Theory, National Competitive Advantage, Global competitive Alignment matrix, mapping competitive shift.

UNIT- IV: Modes of International Business: Exporting, licensing, Franchising Contracts- contracts of manufacturing, management contracts Turnkey projects, mergers, acquisitions, Joint ventures Market entry strategies International marketing channels, Export policies – export import procedure

UNIT V: World Trade Organization and Trade Blocks: Economic Integrations – free trade area, custom unions, common markers, economic unions EEC, ASEAN, SAARC, SAFTA, Liberalization of agriculture trade.

Suggested Readings:
1. International Business by Francis Cherunilam, Oxford University press.
2. International Business: Text and Cases by P Subba Rao, Himalaya publishing House.
3. International Business by K Ashwathappa, Tata Mc Graw Hill Publication.
4. International Business by Justin Paul, PHI Publication.
5. International Business Environment and Management by V K Balla and S Shivarama, Anmol Publication Pvt., Ltd.

Course 4.3 - Project Report

GROUP A: ACCOUNTING AND FINANCE
Course: 4.4 A – Security Analysis and Portfolio Management

Objective: The objective of the course is to establish a conceptual frame work for the study of security analysis and portfolio management.

Unit I: Introduction: Investment - Nature and Scope of Investment - Objectives of Investment – Investment and Speculation – Process of Investment, Investment Planning and Investment Alternatives.

Unit II: Security Analysis: Fundamental Analysis - Economic Analysis, Industry Analysis and Company Analysis; Technical Analysis; Efficient Market Theory; Analysis of Risk and Return of Securities; Valuation of Equities and Bonds.

Unit -III: Capital Market Theory: Capital Market Theory – Assumptions - Capital Asset Pricing Model – Efficient Frontier With Riskless Lending and Borrowing – Capital Market Line – Security Market Line ; Arbitrage Pricing Theory - Limitations of APT Model.

Unit IV: Portfolio Analysis - Portfolio Construction - Analysis of Portfolio Risk and Return; Diversification of Risk, Combining Risks and Riskless Securities; Markowitz Diversification - Mean - Variance Analysis; Leveraged Portfolio, Sharpe Index Model.

Unit-V: Portfolio Evaluation and Revision : Meaning and Need for Portfolio Evaluation – Measuring Portfolio Return - Risk Adjusted Measures - Sharpe's Reward to Variability, Treynor's Volatility Ratio, Jensen's Differential Return; Portfolio Revision - Meaning and Need for Revision - Techniques of Portfolio Revision.

Suggested Readings:
1. Fischer Donald E. and Ronald J. Jordan, "Security Analysis and Portfolio Management", 6th Edition Prentice Hall of India, 2007.
2. Frank K. Reilly and Keith C. Brown, "Investment Analysis and Portfolio Management", 8th Edition, Thomson, 2007.
3. Sharpe William F, and Bailey Jeffery V, Alexander Gordon J, "Investments", 6th Edition, Prentice Hall of India, 1995.
4. V.K. Bhalla: Investment Management, S. Chand & Company, New Delhi.
5. Prasanna Chandra: Investment Analysis and Portfolio Management Tata McGraw Hill, New Delhi, 2008
6. Kevin S: Security Analysis and Portfolio Management, Prentice Hall.
7. Punithavathy Pundian: Security Analysis & Portfolio Management, Vikas Publications.
8. Avadhani V.A: Investment and Securities Market in India, Himalaya Publications.

Course: 4.5 A - Innovations in Accounting

Objectives: To enable the students equip with the current unresolved issues in Accounting

Unit I- Inflation Accounting: Limitations of historical cost accounting; meaning, objectives and methods of accounting of inflation- current purchasing power and current cost accounting methods; guidance note of ICAI on price level accounting.

Unit II- Human Resource Accounting: Need and significance of HRA, Meaning and issues involved; methods for valuation of human resources; HRA practices in India.

Unit III - Social and Environmental Accounting: Meaning, objectives and significance of social accounting; social cost and benefit analysis; social accounting practices of Indian companies; environmental accounting- meaning, objectives, significance and difficulties involved in environmental accounting; methods of accounting of environmental effects; shadow pricing; environmental management accounting.

Unit IV- Accounting for Intangibles: Meaning and significance of intangibles; difficulties involved in valuation by IFRS; Indian GAAPs – Meaning, objectives and importance of brand valuation and accounting; methods of brand valuation and accounting; brand equity methods, organizational capital-meaning and importance of organizational capital; measuring organizational capital; intellectual capital v/s organizational capital.

Unit – V Creative Accounting: Meaning and definitions of creative accounting motivations, techniques and effects of creative accounting, ethical issues involved in creative accounting; detecting and control of creative accounting; forensic accounting-meaning, objectives and role of forensic accounting in control of creative accounting.

Suggested Readings:
1   S.N. Maheshwari, advanced Accounting, Vol II, Vikas, New Delhi.
2   Jain and Narang , Accounting Theory , Kalyani, New Delhi.
3   Jawahar Lal and Lele, Accounting, Theory, Himalaya , Bombay.
4   R. Narasimhan, Financial Accounting: An integrated Approach. PHI, New Delhi.
5   Vithal and Sharma, Accounting for Management , Macmillan. Bangalore.
6   Estes Ralph, Corporate Social Accounting, John Willey, New York Ghosh P.K. Maheshwari G.C. AND Goyal R.N., studies in Accounting Theory Wiley Eastern Ltd., New Delhi.
7   Collin Drury - Management and cost accounting and Thomson Publications, New Delhi.
8   Ravi M. Kishore - Advanced cost accounting and cost systems, Taxmann Publications, New Delhi.
9   Maheshwari S. N - Advanced cost accounting Sultan Chand New Delhi.
10 Cooper R. Kalpan C.R.S - The design of cost management systems, Text Cases and readings prentice Hall 1991.

Course 4.6 A: Mutual funds

Objectives: To familiarise the students about Mutual Funds.

Unit I: Concept and Role of a Mutual Fund: Meaning, Definition, Structure of mutual funds industry in India. Management of Investor's Money, role of the AMC, role of a Registrar and Transfer Agents, procedure for investing in an NFO, investor's rights and obligations, Types of Funds, Key Developments over the Years, Legal Structure of Mutual Funds in India, Key Constituents of a Mutual Fund Investment, Restrictions for Schemes Investors' Rights & Obligations AMFI Code of Ethics, Code of Conduct for Intermediaries, Offer Document.

Unit II: Investor Services; KYC Requirements for Mutual Fund Investors, PAN Requirements for Micro-SIPs, Additional Documentation Requirements applicable for Institutional Investors, Demat Account, Transactions through the Stock Exchange Investment Plans and Services.

Unit III: Return, Risk and Performance of Funds: Drivers of Returns in a Scheme, Measures of Returns, Drivers of Risk in a Scheme, Quantitative Measures of Fund Manager Performance, Scheme Selections, Scheme Categories, Sources of Data to track Mutual Fund Performance.

Unit IV: Mutual Funds Products and Features - Open ended and close ended Funds, Equity Funds, and Index Funds. Diversified Large Cap Funds, Midcap Funds, Sectoral Funds, Debt Funds, Liquid Funds, Hedge Funds, Index Funds, Exchange Traded Funds (ETFs). Arbitrage Funds, Monthly Income Plans (MIP), Fixed Maturity Plans (FMP), Capital Protection Oriented Schemes.

Unit V: Taxation and Regulations: Mutual Fund Tax Provisions, Compounding Wealth, Gross Tax, Dividend Payout and Growth Options within Schemes, Double Indexation, Setting off and Carry Forward of Losses, Dividend Stripping, Capital Gains Taxation.

Suggested Readings:
1. Jacobb, B. (1994) "All about Mutual Funds", Probus Publishing Company.
2. Jain, Amit (2000) "Mutual Funds- Trends and Features", Chartered Secretary, Vol. XXX (12) December, pp. 1528-30. 155
3. Jayadev, M. (1998) "Investment Policy and Performance of Mutual Funds" Kanishka Publishers, Distributors, New Delhi.
4. Raymond Vemon-Manager in the International Economy, Louis T Wells Jr.Prentice Hall, 1987.
5. David H. Blake- The Politics of Global Economic Robert S. Walters Relations, Prentice Hall, 1987.

GROUP B – COST ACCOUNTING
Course: 4.4 B - Techniques of Costing

Objectives: To teach the various techniques of cost accounting

UNIT-I Marginal costing and cost – volume – profit Analysis : Basic Steps/Formulae; Effects of change in cost volume and price; key factors (with no sales mix), sales mix (with key factor), sales mix (with no key factor), sales mix (with multiple key factor); cost in difference point, break- even analysis, profit volume charts, merging the two plants/ companies

UNIT-II Budgetary Control-meaning and objectives budget, budgeting and budgetary control; pull requisites of budgeting process-budget period, budget committee and budget facts classification and preparation of functional and master budgets; cash budget; fixed and flexible budgeting process; performance, programme and zero-base budgeting methods; advantages application limitations of budgeting.

UNIT-III Standard Costing – meaning objectives and significance of standard costing, industries application; budgetary control v/s standard costing; prerequisites of standard costing-standard committee; types and fixation of standard costs; analyses of variance-material, labour overhead, sales and profit variances; reconciliation of profits; disposal and accounting treatment of variances; investigation of variances; reporting of variances

UNIT-IV Transfer Pricing- meaning, objectives and importance of transfer pricing; transfer pricing methods-external market price, negotiated transfer prices; standard v/s actual costs; choosing right transfer pricing method; tax issues in transfer pricing; transfer pricing in the service industry

UNIT-V Uniform costing and inter firm comparison: - Application of uniform costing system; objectives of uniform costing system; advantages and limitations; pre – requisites of uniform costing system; requirements of good uniform costing system; nature and scope of uniform cost plan; uniform cost manual. Inter firm comparison – purpose and problems of IFC, requirements of IFC scheme, ratios and IFC, advantages and limitations of IFC

Suggested Readings:
1. Vashist and Saxena, Advanced Cost and Management Accounting, Sultan Chand and sons.
2. Jain and Narang, Advanced Cost Accounting, Kalyani.
3. Arun Prasad Roy Chowdhury, etal; Cost and Management Accountancy, New Central Book Agency.
4. Horngren, Cost Accounting; A Managerial Emphasis, PHI.
5. Prasad. N.K, Principles and Practice of Cost Accounting, Book Syndicate.
6. ICWA Publications on application of costing principles in different industries.
7. Jawaharlal, Cost Accounting, TMH
8. Khan and Jain, Theory and Problem of Management and Cost Accounting, TMH.
9. Nigam and Sharma, Cost Analysis and Control Management Approach, HPH.
10. ICWA, Calcutta, Advanced Cost and Management Accountancy Methods, Techniques and Applications.

Course: 4.5 B - Strategic Cost Management

Objective: To teach the various techniques of costing which play and strategic role in cost management

UNIT-I Activity based costing: Inadequacies of traditional methods of overhead absorption, concept of ABC, Kaplan and Cooper's approach to ABC, cost drivers and cost pools, main activities and its cost drivers, allocation of overhead under ABC-characteristics, steps, implementation and benefits of ABC system.

UNIT-II Learning Curve Model: Concept and phases of learning curve, graphical representation, learning curve applications and factors affecting curve, experience curve.

UNIT-III Life cycle costing: Concept and characteristics, activities and phases in product life cycle short product and extension of product life cycle, Turning Point Indices in product life cycle.

UNIT-IV Just in time approach: Concept, philosophy of JIT, sources of waste, aims and objectives of JIT, features and methodology in implementation of JIT, planning for adoption and limitations of JIT costing.

UNIT V- Divisional Performance Analysis: Decentralized organizations and responsibility centers; cost centre, revenue centre, profit centre and investment centre; meaning and importance of responsibility accounting; measuring the performance of investment centre; ROI, residual income and EVA methods; measuring income and invested capital, issues involved in divisional performance evaluation; rewarding performance of managers

Suggested Readings:
1 Horngern, et al., Introduction to Management Accounting PHI, New Delhi.
2 Kaplan and Aatkinson, Advanced, Taxman Publications, New Delhi.
3 Ravi M.K. Krishore, Advanced Management Accounting, Taxman Publications, New Delhi.
4 Babhatosh Banarjee, Cost Accounting, World Press, Calcutta.
5 N.K. Prasad, Cost Accounting, Book Syndicate, Calcutta.
6 Horngren, Foster and Dater, Cost Accounting: A Managerial Emphasis, PHI,
7 New Delhi.
8 Edward Blocher, Cost Management: A Strategic Emphasis, TMH, New
9 Delhi.
10 Hilton, Cost Management TMH, New Delhi.
11 Govindraju, et al., Strategic Cost Management, Free Press, Calcutta.
12 Jain and Narang, Advanced Cost Accounting, Kalyani, New Delhi.

Course: 4.6 B - Recent Development in Cost Accounting

Objectives: To familiarise the students with recent development in cost accounting

UNIT I-Target Costing: Definition and meaning of target costing, steps in target costing methodology, target costing approach to product pricing methods of establishment of target costs.

UNIT II- Backflush Accounting: Definition and meaning, problems, advantages, variants of backflush accounting.

UNIT III- Throughtput Accounting: Meaning and definition, basic concepts, traditional product costing and throughput accounting (TA), distinction, bottlenecks and overhead attribution.

UNIT IV- Resource Consumption Accounting: Definition and meaning, methodology in implementations of RCA, advantages of RCA, difficulties in implementation of RCA

UNIT V- Lean System: Meaning of lean thinking, steps in lean thinking, lean production system, meaning of lean management accounting, advantages of lean management accounting.

Suggested Readings:
1. Ravi. M. Kishore, Cost Management, Taxman, Allied Services (p) Ltd.,
2. S.K.R. Paul, Management Accounting, New Central Book Agency Private Ltd., Calcutta.
3. Charles T. Horngren, George Foster, Srikant M. Data, Cost Accounting: A Managerial Emphasis,Prentice Hall of India, New Delhi.
4. Roger Cowe, Hand Book of Management Accounting, A Grower Handbook.
5. S. Mukherjee & A.P. Roychowdhury, Advanced Cost and Management Accountancy, New Central Book Agency, Calcutta.
6. Anthony R.N, Management Accounting Principles, Grawin Publishing.
7. Batty J, Mc Donald & Evans, Management Accountancy, London.
8. Bierman H &Drabin A.R, An Introduction Managerial Accounting, McMillan Company, New York.
9. Broad H.W & Carmichael K.S, A Guide to Management Accounting, HFL (Pub) Ltd., London.
10. Brown &Haward, Mac Donald , Evans, Principles of Management Accountancy, London.
11. De Pauls, Management Accounting in Practice, F.C. Europe Pub. Ltd., London.
12. Keith Ward, Strategic Management Accounting, Butterworth Heirmann Pub.
13. John K. Shank, Cases in Cost Management: A Strategic Emphasis, South-Western Publishing, Thomson Learning..

GROUP- C BANKING
Course: 4.4 C- Foreign Exchange and Risk Management

Objective: To familiarise the students about the various risks involved therein.

Unit I: The foreign exchange market: Organisation of the foreign exchange market, the spot market, forwards market, the relationship between forward rate and future spot rate. The determination of exchange rates: setting the equilibrium sport exchange rate, equilibrium approach to exchange rates, the fundamentals of central bank intervention.

Unit II: Measuring accounting exposure: Alternative currency translation methods, statements of financial accounting standards transaction exposure, accounting practice and economic reality.

Unit III: Measuring economic exposure: Managing transaction exposure, designing application hedging strategy.

Unit IV: Measuring economic exposure: Foreign exchange risk and economic exposure, economic consequences of exchange rate changes, identifying economic exposure, and operational measure of exchange risk.

Unit V: Management of economic exposure: An overview of operating exposure management, marketing management of exchange risk, production management of exchange risk, financial management of exchanges risk.

Suggested Readings:
1. Shapiro A.C., Multinational Financial Management, PHI, New Delhi.
2. Rodriguez R.M., and Carter E.E., International Financial Management, PHI, New Delhi.
3. Jan Giddy, Global Financial Markets, AITBS, New Delhi.
4. Bhole L.M., Financial Institutions and Markets, TMH, New Delhi.
5. C.Jeevanandam, Foreign Exchange, Sultan Chand and Sons, New Delhi.
6. Jain, International Financial Management, Macmillan, New Delhi.
7. Cheol Eu., International Financial Management, TMH, New Delhi.
8. Rahwade Application V., Foreign Exchange and International finance, Academy of Business Studies, New Delhli.
9. Apte P.G., International Financial Management, TMH, New Delhi.
10. Richard M.Levich, International Financial Markets, TMH, New Delhi

Course: 4.5 C - Financial Management in Commercial Banks

Objective: To familiarize the students about the policies and practices followed by bank in financial management, capital structure management, Asset & Liabilities management, mergers & acquisitions.

Unit I :Fundamentals of financial management in Banks: Meaning and objectives of financial management, role and functions of financial manager, value of the banking firm, value maximization principle market value vs. book value, implementing value maximization principle, hexagram of bank financial management, managing value and bank strategic planning.

Unit II: Bank Capital structure and financing: Management of Bank's equity capital position, bank lending policies and procedures, lending and their pricing, optimal bank capital and value of the banking firm.

Unit III: Asset-liability management in banks: Role and objectives of asset liability management, two faces of AIM: accounting and economic perspectives, determining and measuring interest rates and controlling application bank's interest gap, net interest margin and its decomposition, effects of rate, volume and mix on net interest margin and revenue, interest sensitivity and gap management, building blocks of asset-liability management, measuring and evaluating bank's performance.

Unit IV: Management of bank portfolio risk: Bank portfolio allocation and risk management, risk, return tradeoffs in banking and diversification, techniques of liquidity risk, investment portfolio risk, interest rate risk and credit risk, concept of duration and managing bank's duration gap, financial futures, options, swaps, risk arbitrage, asset portfolio diversification, off-balance sheet financing in banking and credit derivatives, liquidity and reserve management strategies.

Unit V: Bank mergers and acquisition: Merger activity in banking, takeovers and restructuring activities, bank divestitures, managing the acquisition process, hostile takeovers in banking, hypotheses for bank mergers, cost-benefit framework for analyzing bank mergers and acquisitions, valuation models.

Suggested Reading:
1. J.F.Sinkey, Commercial Bank Financial Management, Macmillan Publishing Co., New York.
2. I.M.Pandey, Financial Management, Vikas, New Delhi.
3. Van Horne, Financial Management and Policy, PHI, New Delhi.
4. Khan and Jain, Financial Management, TMH, New Delhi.
5. G.F.Hampton, Financial Decision making, PHI, New Delhi.
6. Pamela P. Peterson, Financial Management and Analysis, TMH, New Delhi.
7. Erich Helfert, Techniques of Financial Analysis, TMH, New Delhi.

Course: 4.6 C - Fund Management in Commercial Banks

Objectives: To give insights to the students about the concept of fund and its management practice with respect to Banking Organizations.

Unit-I: Nature and Scope of Fund Management – Allocation of funds –Misallocation of funds Based on Committee Norms – Management of capital Funds in Commercial Banks; Meaning and function of capital funds; Necessity of adequate capital funds; Standard to measure capital adequacy; Present position in India with respect to capital adequacy.

Unit-II: Liquidity Management - Commercial Funds and Asset Liability Management. Theories of liquidity Management; Priorities in the employment of bank funds; Problems in resource allocation in India. Management of capital Funds in Commercial Banks; Meaning and function of capital funds; Necessity of adequate capital funds; Standard to measure capital adequacy; Present position in India with respect to capital adequacy.

Unit-III: Management of Reserves: Nature and purpose of primary reserves; Legal reserves-nature and function; Working reserve-nature and function; cash management in commercial banks. Secondary Reserves: Nature and function of secondary reserves; factors influencing secondary reserves; Estimation and management of secondary reserves.

Unit-IV: Management of Bank Deposits: Relevance of marketing approach to deposit mobilization in banks; Concept of bank marketing; Formulating marketing strategies for commercial banks-opportunity analysis, target market, competitive positioning; Implementing marketing strategy.

Unit-V: Management of Bank Loans: Characteristics of commercial loans: Loan policy in a commercial bank, evaluating loan application - credit information, credit analysis, credit decision; Priority sector lending policies of commercial banks in India. **Management of Bank Investments:** Nature and principles of security investment of commercial banks; formulating investment policy; Volume and pattern of investment of commercial banks in India.- Structure and pattern of income and expenditure in commercial banks in India.

Suggested Readings:
1   Cates David, "Liquidity Lessons for the "90s" Bank Management April 1990
2   Matten Chris, Managing Bank Capital, New York, John Wiley & Sons 1996
3   Neelam C. Gulati 'Principle of Banking Management" Excel Books, New Delhi 2010
4   P. Subba Rao,"Principles and Practices of Bank Management, Himalaya Publishing House, Bombay 1988.
5   Jadhav, Narendra: Challenges to Indian Banking ed. Macmillan, New Delhi
6   Sinkey, Joseph F, Jr: Commercial Banks Financial Management, Prentices Hall Delhi.
7   S. Singh Yogesh Singh, Risk Management in Banks, Excel Books, 2008
8   Bharati V. Rathok, Indian Financial System, Pearson Edn, 2006.

RANI CHANNAMMA UNIVERSITY, BELAGAVI

Department of Mathematics

Syllabus

for

Master of Science in Mathematics

I to II Semester

(with effect from 2017 – 18)

Choice based credit system (CBCS)

Course structure

Sl. No.	Paper & Title	Credit	No of Hrs/week Theory/ Practical	Duration of exam in Hrs Theory/ Practical	IA Marks Theory/ Practical	Marks at the Exams	Total Marks
I Semester							
1.1	Algebra -I	4	4	3 Hrs	20	80	100
1.2	Topology	4	4	3 Hrs	20	80	100
1.3	Real Analysis	4	4	3 Hrs	20	80	100
1.4	Linear Algebra	4	4	3 Hrs	20	80	100
1.5	Ordinary Differential Equations	4	4	3 Hrs	20	80	100
1.6	Discrete Mathematical Structures	4	4	3 Hrs	20	80	100
II Semester							
2.1	Algebra – II	4	4	3 Hrs	20	80	100
2.2	Complex Analysis	4	4	3 Hrs	20	80	100
2.3	Partial Differential Equations	4	4	3 Hrs	20	80	100
2.4	Functions of Several Variables	4	4	3 Hrs	20	80	100
2.5	Classical Mechanics	4	4	3 Hrs	20	80	100
2.6	**Open Elective Course** I. Set Theory (Arts & Commerce stream) II. Integral Transforms (Science stream)	4	4	3 Hrs	20	80	100

III Semester							
3.1	Measure Theory & Lebesgue Integration	4	4	3 Hrs	20	80	100
3.2	Differential Geometry	4	4	3 Hrs	20	80	100
3.3	Numerical Analysis	4	4	3 Hrs	20	80	100
3.4	Elective- I I. Mathematical Finance II. Fluid Mechanics III. Commutative Algebra IV. Coding Theory	4	4	3 Hrs	20	80	100
3.5	Elective- II I. Algebraic Topology II. Number Theory and Cryptology III. Fourier Analysis IV. Fuzzy Sets and Fuzzy Systems	4	4	3 Hrs	20	80	100
3.6	Open Elective Course I. Statistics (Arts & Commerce stream) II. Computational Methods (Science stream)	4	4	3 Hrs	20	80	100
IV Semester							
4.1	Functional Analysis	4	4	3 Hrs	20	80	100
4.2	Mathematical Methods	4	4	3 Hrs	20	80	100
4.3	Probability Theory	4	4	3 Hrs	20	80	100

4.4	Elective-I
	   I. Riemannian Geometry
	  II. Advance Graph Theory
	III. Mathematical modeling
	  IV. Galois Theory
		4	4	3 Hrs	20	80	100

4.5	Elective-II
	   I. Advanced Numerical Methods
	  II. Banach Algebra
	III. Operations Research
	  IV. Computation Complexity
		4	4	3 Hrs	20	80	100

4.6	Project	4	The candidate shall submit a dissertation carrying 80 marks and appear for viva-voce carrying 20 marks				100
	Total	96					2400

SEMESTER – I

1.1. ALGEBRA – I

Unit 1:

Division algorithm, HCF, LCM, Euclid's Algorithm, Fundamental theorem of Arithmetic, Congruence, Chinese reminder theorem, Euler phi function, Group, Subgroup, Normal subgroup and Quotient group

Unit2:

Group homomorphism, Isomorphism theorems and the correspondence theorem, Center and Commutator subgroup of a group, cyclic group, Lagrange theorem.

Unit3:

Euler's and Fermat's theorems as consequences of Lagrange's theorem, Symmetric group Sn. Structure theorem for symmetric groups, Action of a group on a set, Examples, orbit and stabilizer of an element.

Unit 4:

Class equation for a finite group, Cauchy theorem for finite groups, Sylow theorems, Applications, Wilson's theorem.

Unit 5:

Subnormal series for a group, Solvable group, Solvability of Sn. Composition series for a group. Jordan-Holder theorem

REFERENCES

1. J.B.Fraleigh, Abstract Algebra, Narosa Publications
2. **Joseph A. Gallian, Contemporary Abstract Algebra, Narosa Publications**
3. N.S.Gopalakrishnan, University Algebra,
4. I.N.Herstein,Topics in Algebra, Wiley
5. Mukopadhyaya and M.K.Sen,Ghosh Shamik, Topics in Abstract Algebra, University Press
6. I.B.S.Passi and I.S.Luther, Algebra Vol-I, Narosa Publications.

1.2. TOPOLOGY

Unit 1:

Definition and examples, open and closed sets, Neighborhood, Limit points. closure, Interior, Boundary of a set. Bases and sub-bases, Continuity and homeomorphism.

Compact Spaces, Compact in the real Line, Compactness, Sequential compactness, locally compact spaces, Compactification, Alexandroff's one point compactification.

Unit 2:

Connected spaces, Definition and examples, components and path components local connectedness and path connectedness. The axioms of countability, First axiom space, Second countable space, separability and the Lindelof of property, Limit point compact spaces.

Unit3:

Separation axioms: T_0 space and T_1 spaces definitions and examples, The properties are hereditary and topologica, Normal Spaces, Characterization of T_0 T_1 spaces. T_2- space, Regularity and

T_3 – axioms. Metric spaces are T_2 and T_3.

Unit4:

The product Topology, The Metric Topology, the Quotient Topology, Product invariant properties for finite products, Projection Maps. Compact Hausdorff space, regular lindelof spaces, normal.

Unit5:

Urysohn's lemma. Tietze's Extension Theorem. complete normality and the T_5- axiom, Local finiteness, Tychnoff's Theorem, Para-compactness, Metrizability, Urysohn metrization theorem.

REFERENCES:

1. J.R.Munkers : Topology –A first course,PHI(2000)
2. M.A.Armstrong, Basic Topology
3. James Dugundji :Topology,PHI(2000)
4. J.L.Kelley : General Topology,Van Nostrand (1995).

1.3. REAL ANALYSIS

Unit:1

The field axioms, order axioms, Cauchy- Schwarz inequality, countable and uncountable sets, completeness property of R; The least upper bound property and greatest lower bound property. Archimedean Property.

Unit:2

Euclidean space R^n, open ball and open Sets in R^n. Limit point, Adherent Points, Closed Sets, Bolzano- Weierstrass Theorem, The Cautor intersection theorem, lindelof covering theorem, Heine- Borel covering theorem, compactness in R^n.

Unit:3

Metric space. Point Set Topology in Metric space, compact Subset of a metric space, Sequences, Subsequences, Convergent and Cauchy Sequences in a metric space, Complete metric space.

Unit:4

Limit, Continuity, Continuity of composite functions, continuity and inverse image of open and closed sets. Functions continuous on compact sets. Connectedness, Uniform continuity, Fixed point theorem for contractions.

Unit:5

Differentiation, Algebra of derivatives, chain rule, One Sided derivatives and infinite derivatives, Rolle's theorem, Mean- value Theorem for derivatives. Intermediate- value theorem, Taylor's formula with remainder. Functions of bonded variation, Total variation, Continuous functions of bounded variations, Rectifiable paths and arc length, Additive and continuity properties of arc length, Equivalence of path.

REFERENCES:
1. Apostol T.M- Introduction to Mathematical Analysis,
2. W.Rudin, Introduction to Mathematical Analysis, Wiley.
3. Terence Tao, Analysis- I and Analysis- II, TRIM series, HBA.
4. Richard,Goldberg, Real Analysis, Oxford and IBH.
5. S.R.Ghorpade and B.V.Limaye, A Course in Calculus and Real Analysis,UTM,Springer

1.4 LINEAR ALGEBRA

Unit1:

Definition and examples of vector spaces, subspaces , Sum and direct sum of subspaces. Linear span , Linear dependence, independence and their basic properties . Basis, Finite dimensional vector spaces. Existence theorem for bases , Invariance of number of elements of a basis set. Dimension, Existence of complementary subspace of a finite dimensional vector space, Dimension of sums of subspaces. Quotient space and its dimension.

Unit 2:

Linear transformations and their representation as matrices. The algebra of Linear Transformations. The rank nullity theorem . Change of basis. Dual space , Bidual space and natural isomorphism, Adjoint of linear transformation.

Unit 3:

Eigen values and eigenvectors of a linear transformation, Diagonalization. Annihilator of a subspace. Bilinear, Quadratic and Hermitian forms.

Unit 4:

Solutions of homogeneous systems of linear equations. Canonical forms, Similarity of linear transformations. Invariant subspaces, Reduction to triangular forms.

Unit 5:

Nilpotent transformations, Index of nilpotency. Invariants of a linear transformation, Primary decomposition theorem. Jordan blocks and Jordan forms. Inner product spaces;

REFERENCES:

1. Hoffeman and Kunze, Linear Algebra
2. N.Herstein,Topics in Algebra,Wiley Eastern Ltd,New York (1975)
3. S.Lang,Introduction to Linear Algebra 2nd Edition Springer-Verlag (1986)
4. Greub,Werner, Linear Algebra, Universities Press.

1.5 ORDINARY DIFFERENTIAL EQUATIONS

Unit 1:

Linear-differential equation of nth order differential equation, fundamental sets of solution, Wronskian – Abel's Identity, theorem on linear dependence of solutions, Adjoint, self-adjoint linear operator, Green's formula.

Unit 2:

Adjoint equations, the nth order non-homogenous linear equations. Variation of parameters-zeros of solutions, comparison and separation theorem, Fundamental existence and uniqueness theorem, dependence of solution on initial conditions, existence and uniqueness for higher order system of differential equations.

Unit 3:

Eigen value problems, Strum-Liouville's problem, Orthogonality of Eigen functions, Eigen functions, expansion in a series of orthogonal functions, Green's function method.

Unit 4:

Power series solution of linear differential equations- ordinary and singular points of differential equations, Classification into regular and irregular singular points, series solution for Bessel's and Legendre differential Equations.

Unit 5:

Series solution about an ordinary point and a regular singular point – Frobenius method-Hermite, Lagrange, Chebyshev and Gauss Hypergeometric equations and their general solutions. Generating function, Recurrence relations, Rodrigue's formula-Orthagonality properties. Behavior of solution at irregular singular points and the point at infinity.

REFERENCES

1. E.Coddington, Introduction to Ordinary Differential Equations.
2. G.F.Simmons, Introduction to Differential Equations, Tata McGraw.
3. Boyce and Diprima, Elementary Differential Equations and Boundary Value Problems, J.Wiley.

1.6 DISCRETE MATHEMATICAL STRUCTURES

Unit 1:

Boolean algebra and lattices, partially ordered sets lattices complete, distributive, complimented lattices, Boolean functions and expressions, Propositional calculus, logical connectives , truth values and tables, Boolean algebra to digital networks and switching circuits.

Unit 2:

Coding Theory: Coding of binary information and error detection, Group codes, decoding and error correction.

Unit 3:

Recurrence Relations and Recursive Algorithms - Introduction: Recurrence relations, linear recurrence relations with constant coefficients, Homogeneous solutions, particular solutions, total solutions, solution by a method of generating functions.

Unit4:

Graph theory - Basic Concepts: Different types of graphs, sub-graphs, walks and connectedness. Degree sequences, directed graphs, distances and self complimentary graphs. Blocks: Cut points, bridges and blocks, block graphs and cut –point graphs.
Trees and connectivity: Characterization of Trees, Spanning trees, centers and centroids, connectivity, edge connectivity.

Unit 5:

Traversibility and Planarity:Eulerian and Hamiltonian graphs, Planar graphs: Maximal planar, outeplanar graphs, Nonplanar graphs, graphs with crossing number 1 and 2 Characterization theorem.

REFERENCES:

1. C. L. Liu, Elements of Discrete Mathematics, McGraw Hill.
2. B. K. Kolman, R.C.Busby and S.Ross, Discrete mathematical structures, PHI
3. K. D. Joshi, Foundations of Discrete Mathematics, Wiley eastern.
4. N. L. Biggs, Discrete Mathematics, Oxford University Press.
5. Ralpha P. Grimaldi and B. V. Ramana, Discrete abd Combinatorial Mathematics, Pearson Education, 5th Edition

SEMESTER – II

2.1 ALGEBRA-II

Unit 1:

Rings, subrings, ideals, factor ring(all definitions and examples). Homomorphism of Rings, Isomorphism theorems. Integral domain, field and embedding of an integral domain in a field. Prime ideal, maximal ideal of a ring. Polynomial ring R(X) over a Ring in an indeterminate X.

Unit 2:

Principal Ideal Domain(PID). Euclidean domain. The ring of Gaussian integers as an Euclidean domain. Fermat's theorem. Unique factorization domain. Primitive polynomial. Gauss lemma.

Unit 3:

F(X) is a unique factorization domain for afield. Eisenstein's criterion of irreducibility for polynomials over a unique factorization domain.

Unit 4:

Field, subfield, Prime fields-definition and examples Characteristic of a field Characteristic of a finite field. Field extensions, Algebraic extension. Transitivity theorem. Simple Extensions

Unit 5:

Roots of Polynomials. Splitting field of a polynomial. Existence and uniqueness theorems. Existence of a field with prime power elements.

REFERENCES:

1. N.S.Gopalakrishna University Algebra, New Age International Publishers
2. Joseph A. Gallian, Contemporary Abstract Algebra, Narosa Publications
3. I.N.Herstein, Topics in Algebra 2nd Edition, John – wiley and sons,New York
4. Surjit Singhand Quazi Zameeruddin,Modern Algebra, Vikas Pulishers(1990)
5. S.K.Jain, P.B.BhattaCharya and S.R.Nagpaul, Basic Abstract Algebra, Cambridge University Press.
6. Mukhopadyaya and Sen, Modern Algebra, University Press

2.2 COMPLEX ANALYSIS

Unit-1:

Complex plane its algebra and topology, Holomorphic maps, Analytical function, power series as an analytical functions, inverse function, Zero's of Analytic function.

Unit-2:

Review of Complex integration, Basic properties of complex integral, Winding number, Cauchy-Gourasat theorem, Cauchy's theorem in a disk, triangle rectangle, Homotopy version of Cauchy's theorem, Morera's theorem, Cauchy integral formula. Laurent series.

Unit-3:

Maximum modulus Principle, Open mapping theorem , Hadamard three circle theorem and their consequences, Schwartz Lemma, Liouville's theorem

Unit-4:

Classification of singularities, Poles, Casorati- weierstrass theorem, Singularities at infinity, Residue at a finite point, Residue at the point at infinity.

Unit-5:

Residue $\int ()$ theorem, Rouche's theorem, Intergral of types $, \int ()$, Mittag leffler's $\int ( )$, theorem, Normal families, Montel's theorem,

theorem and Riemann mapping theorem.

REFERENCES:

1. L.Ahlfors, Complex Analysis, McGraw Hill.

2. J.B.Conway, Functions of One complex variable, Springer.

3. Greene,Robert.F,S.Krantz, Functions of One Complex variable, Universities Press.

4. S. Ponnusamy, Foundations of Complex Analysis

2.3. PARTIAL DIFFERENTIAL EQUATIONS

Unit 1:

First order Partial Differential Equations, the classification of solutions-Pfaffian differential equations-quasi linear equations, Lagrange's method-compatible systems,Charpit's method, Jacobi's method, integral surfaces passing through a given curve.

Unit 2:

Method of Characteristics for quasi-linear and non-linear equations, Monge's method , Monge cone, characteristic strip.

Unit 3:

Origin of second order partial differential equations, their classification, and wave equation-D'Alemberts solution, vibrations of a string of finite length, existence and uniqueness of solution-Riemann's Method.

Unit 4:

Laplace equation boundary value problems, Maximum and minimum principles,Uniqueness and continuity theorems, Dirichilet problem for a circle, Dirichilet problem for a circular annulus, Neumann problem for a circle, Theory of Green's function for Laplace equation.

Unit5:

Heat equation, Heat conduction problem for an infinite rod, Heat conduction in a finite rod existence and uniqueness of the solution Classification in higher dimensions, Kelvins inversion theorem, Equi-potential surfaces.

REFERENCES

1. I.J.Sneddon, Partial Differential equations, McGraw Hill.
2. F.John, Partial Differential Equations, Springer.
3. P.Prasad,R.Ravindran, Introduction to Partial Differential Equations, New AgeInternational
4. T.Amarnath, An Elementary Course on Partial differential Equations, Narosa Publishers.

2.4 FUNCTIONS OF SEVERAL VARIABLES

Unit 1:

Rieman-Stieltjes integral, Linear properties, Intergration by parts, Change of Variables step functions, Reduction of a Rieman-Stieltjes integral to a finite sum sufficient and Necessary conditions for existence of Riemann- Stieltjes's integrals, Mean value theorems, Second fundamental theorem of integral calculus, Second mean value theorem.

Unit 2:

Sequences and series of functions, Uniform convergence, uniform convergence and continuity, Uniform convergence and differentiation, Uniform convergence and integration. The stone- Weierstnass theorem.

Unit 3:

function of Several Variables, Directional derivative and continuity total derivative total derivative expressed in terms of partial derivatives.

Unit 4:

Matrix of a Linear Function, Jacobian matrix, Chain role, Matrix form of the chain rule, Mean value Theorems.

Unit 5:

Sufficient condition for differentiability and equality of mixed partial derivatives Tagloi's Theorem, Inverse function Theorem, Implicit function Theorem.

REFERENCES

1. Apostol T.M- Mathematical Analysis(Ch.6,7,10 and 11)

2. Apostol T.M,Calculus-2-Part 2(Non-Linear Analysis)

3. Vector Analysis (Schaum Series)

2.5 CLASSICAL MECHANICS

Unit 1:

Coordinate transformations, Cartesian tensors, Basic Properties, Transpose, Symmetric and Skew tensors, Isotropic tensors, Deviatoric Tensors, Gradient, Divergence and Curl in Tensor Calculus, Integral Theorems.

Unit 2:

Continuum Hypothesis, Configuration of a continuum, Mass and density, Description of motion, Material and spatial coordinates, Translation, Rotation, Deformation of a surface element, Deformation of a volume element, Isochoric deformation, Stretch and Rotation, Decomposition of a deformation, Deformation gradient, Strain tensors, Infinitesimal strain, Compatibility relations , Principal strains.

Unit 3:

Material and Local time derivatives Strain, rate tensor, Transport formulas, Stream lines, Path lines, Vorticity and Circulation, Stress components and Stress tensors, Normal and shear stresses, Principal stresses.

Unit 4:

Fundamental basic physical laws, Law of conservation of mass, Principles of linear and angular momentum, Equations of linear elasticity, Generalized Hooke's law in different forms, Physical meanings of elastic moduli, Navier's equation.

Unit 5:

Equations of fluid mechanics, Viscous and non-viscous fluids, Stress tensor for a non-viscous fluid, Euler's equations of motion, Equation of motion of an elastic fluid, Bernoulli's equations, Stress tensor for a viscous fluid, Navier-Stokes equation.

REFERENCE BOOKS

1. D.S. Chandrasekharaiah and L. Debnath: Continuum Mechanics, Academic Press, 1994.

2. A.J.M. Spencer: Continuum Mechanics, Longman, 1980.

3. Goldstein, Classical Mechanics, Addison – Wesley, 3rd Edition, 2001.

4. P. Chadwick : Continuum Mechanics, Allen and Unwin, 1976.

5. Y.C. Fung, A First course in Continuum Mechanics, Prentice Hall (2nd edition), 1977

6. A.S. Ramsey, Dynamics part II, the English Language Book Society and Cambridge University Press,(1972)

7. F. Gantmacher, Lectures in Analytical Mechanics, MIR Publisher, Mascow,1975.

8. Narayan Chandra Rana and Sharad Chandra Joag, Classical Mechanics, Tata McGraw Hill, 1991.

9. F. Chorlton, Text Book of Dynamics, (ELBS Edition), G. Van Nostrand and co.(1969.

2.6 Open Elective Course

I. SET THEORY (Arts & Commerce Stream)

Unit 1:

Logic, Proposition, Truth Values, Connectives, Truth table.

Unit 2:

Set, Subset, Cross-Product, Complement, Difference, intersection, union function, onto function, One-One function, Bijective functions, Relations, Equivalence Relations.

Unit 3:

Combinations, Properties, Binomial Theorem, Expansion using Binomial Theorem.

Unit 4:

Matrix, Determinant, Cramer's rule, Inverse, Cayley- Hamilton Theorem (Statement only) Eigen values. (Discussion & problems of 3X3 matrix only)

Unit 5:

Vectors' Representation of vectors, Properties , Scalar of Dot Product vectors, or Cross product, Scalar Triple Product, vector Triple product.

REFERENCES

1. Courant.R, Robbins ,What is Mathematics. Oxford University Press.

2. Kalyan Sinha, Rajeeva Karandikar, C.Musili and others, Understanding Mathematics,University Press.

2.6 Open Elective Course

II. Integral Transforms   (Science Stream)

Unit 1:

Integral Transforms, Fourier Integral Theorem, Fourier sine and cosine integrals Fourier complex integral.

Unit 2:

Fourier Transforms, Fourier sine and cosine transforms, Properties, convolution theorem, Parseval's Identity, Parseval's identity cosine transform, Parseval's identity sine transform Fourier transforms of Derivative of a function.

Unit 3:

Solution of Boundary value problems by using integral transform Fourier transforms of partial derivative of a function, Finite Fourier transforms.

Unit 4:

Z- Transforms, Properties, Z- Transform Theorem, Change of Scale, Shifting property.

Unit 5:

Inverse Z- Transform, Solution of Difference equations.

REFERENCES :

1. B.S Grewal, Higher Engineering Mathematics 43rd Edition, Khanna Publication.
2. Lokenath Debnath, Dambaru Bhatta, Integral Transforms and Their Applications, CRC Press.
3. Gerald B. Foland, Fourier Analysis and its applications, AMS.
4. E.M. Stein and R. Shakarchi, Fourier Analysis: An instruction, Princenton University Press, Princenton – 2003.

SEMESTER – III

3.1 MEASURE THEORY & LEBESGUE INTEGRATION

Unit 1:

Lebesgue outer measure, Lebesgue measurable sets and measurable functions.

Unit 2 :

Algebra of measurable functions . Egoroff's theorem. Lebesgue integral of bounded function over a set of finite measure.

Unit 3:

Bounded convergence theorem. Fatou's lemma. General Lebesgue integral. Lebesgue's monotone convergence theorem.

Unit 4:

Lebesgue General (Dominated) convergence theorem. Differential of an integral Lp space. Completeness of Lp-space.

Unit 5:

Product Measure, Fubini theorems, Radon-Nikodym theorem.

REFERENCES:

1. H.L.Royden: Real Analysis (Chapter 1,3,4,5 and 6).3rd Edition,MacMillan,NewYork(1963)
2. Inder Kumar Rana, Measure Theory and Integration, Narosa.
3. C.Goffman : Real Functions,Holt,Rinehart and Winston Inc.New York (1953)
4. P.K.Jain and V.P.Gupta : Lebesgue Measure and Integration, Wiley Eastern Ltd.(1986)
5. P.Halmos, Measure Theory, Narosa Publishers.

3.2 DIFFERENTIAL GEOMETRY

Unit 1:

Euclidean spaces, tangent vectors to them, vector fields, directional derivatives, curves in E_3. 1- forms, differential forms, mappings on Euclidean spaces, derivative map, dot product in E_3, frame fields.

Unit 2:

Cross product of tangent vectors, curves in E_3, arc length, reparametrisation, Frennet

formulas, Frenet frame field, curvature, torsion and bitorsion of a unit speed curve.

Unit 3:

Arbitrary speed curves, Frenet formulas for arbitrary speed curves, covariant derivatives, Frame field in E_3, connection forms of a frame field, Carton's structural equations.

Unit 4:

Calculus on a surface, co-ordinate patch, proper patch, surfaces in E_3, Monge patch, examples, differentiable functions and tangent and normal vector fields on a surface. Mapping of surfaces, topological properties of surfaces, Manifolds.

Unit 5:

Shape operators, Normal curvature, Gaussian curvature, computational techniques special curves in surfaces.

REFERENCES:

1. Barrett O.Neill,Elementary Differential Geometry,Academic Press,New York(1998)
2. Andrev Priestly , Differential Geometry, Springer
3. Nirmala Prakash,Differential Geometry an Integral approach ,Tata McGraw Hill,New Delhi (2001)
4. T.J.Willmore,An introduction to Differential Geometry, Oxford University Press(!999)
5. S.Kumaresan, Differential Geometry and Lie Groups, TRIM Series, HBA

3.3. NUMERICAL ANALYSIS

Unit -1

Criterion -Aitken's Δ   2- process -Sturm sequence method to identify the number of real roots – Newton   - Raphson's methods convergence criterion Ramanujan's

Method - Birge-Vieta method, and Bairstow   method

Unit-2

Linear and Nonlinear system of Equations: Gauss Eliminations with Pivotal Strategy. LU - decomposition methods – Crout's, Cholesky method, Partition method – Jacobi and Gauss Seidel Itervative Methods with convergence criterion consistency and ill conditioned system of equations.

Unit-3

Iterative methods for Nonlinear system of equations, Fixed point iteration method, Newton Raphson, Quasi Newton and Successive Over Relaxation methods for Nonlinear system of Equations. Tri-diagonal system of equations –Thomas Algorithm. Eigen values and eigenvector of symmetric matrix.

Unit -4

Interpolation: Lagrange, Hermite, Cubic-spline's (Natural, Not a Knot and Clamped) - with uniqueness and error term, for polynomial interpolation. Bivariate interpolation.
Orthogonal polynomials Grams Schmidth Orthogoralization procedure and least square, Chebyshev and Rational function approximation.

Unit-5

Numerical differentiation and Integration: Method based on interpolation, Gaussian quadrature, Gauss-Legendre, Gauss-Chebeshev formulas, Gauss Leguree, Gauss Hermite and Spline intergation– Integration over rectangular and general quadrilateral areas and multiple integration with variable limits.

TEXT BOOKS

1. M. K. Jain, S. R. K.Iyengar and R.K.Jain : Numerical methods for scientific and engineering computation, Wiley Eastern Ltd. 1993, Third Edition.
2. C.F.Gerald, and P.O. Wheatley : Applied Numerical Methods, Low- priced edition, Pearson Education Asia 2002, Sixth Edition.
3. D.V. Griffiths and I.M. Smith, Numerical Methods for Engineers, Blackwell Scientific Publications (19991).

REFERENCE BOOKS

1. S.C.Chapra, and P.C. Raymond : Numerical Methods for Engineers, Tata Mc Graw Hill, New Delhi, 2000
2. R.L.Burden, and J.Douglas Faires : Numerical Analysis, P.W.S. Kent publishing Company, Boston ,1989 Fourth edition.
3. S.S. Sastry : Introductory methods of Numerical analysis, Prentice- Hall of India, New Delhi, 1998.
4. Paruiz Moin: Fundamentals of Engineering Numerical analysis, Cambridge University Press (2006)
5. K. K. Mishra, A Handbook on Numerical technique Lab, MATLAB based

3.4. ELECTIVE

I -MATHEMATICAL FINANCE

Unit 1:

Mathematics of Financial Markets. Stocks and their Derivatives, Pricing Futures Contracts, Bond Markets, Computing Rate of Return, Interest Rates and Forward Interest Rates. Yield Curves.

Unit 2:

Methods of Hedging a Stock or Portfolio, Hedging with Puts, Hedging with Collars, Correlation based hedges. Volatility computations, Delta hedging.

Unit 3:

Interest Rates and Forward Rates, Zero coupon Bonds, Forward Rates and Zero Coupon Bonds. Computations based on Y(t), P(t),Swaps and related arbitrage. Pricing and hedging a Swap. Arithmetic and Geometric Interest rates. Interest Rate Models in discrete and continuum setting., Bond price dynamics.

Unit 4:

Binomial Trees, Expected Value Pricing, Arbitrage, Pricing probability Binomial Model for Pricing Options, N-Period Binomial model for Hedging.

Unit 5:

A continuous time stock Model, Ito Calculus and Stochastic Models, The discrete Model, Black Scholes formula, Put Call Parity, Trees and continuous Models. Sensitivity issues.

REFERENCES

1. Oksendal, Stochastic Differential Equations.Springer
2. Williams R.J, Introduction to Mathematics of Finance, Universities Press
3. V.Goodman, J.Stampfli, Mathematics of Finance, Thomson Brooks/Cole,2001.
4. S.Ross, Mathematical Finance, CUP.
5. J.C.Hull, Options, Futures and Other Derivatives, Pearson Publication
6. S.Shreve, Stochastic Calculus and applications, Springer.

3.4. ELECTIVE

II - FLUID MECHANICS

Unit 1

Kinematics of fluids in motion; Velocity of a fluid at a point, Stream lines. Path lines and Streak lines. Velocity potential. Vorticity vector, local and particle rate of change, equation of Continuity. Motion of inviscid fluids ; Euler's Equations of motion. Bernoulli's equation. Equation of motion by flux method.

Unit2

Motion of inviscid fluids:- Steady motion under conservative body forces, Potential theorems, - Kelvin's theorem – Impulsive motion - Dimensional analysis – Non-dimensional numbers.

Unit3

Two dimensional flows of inviscid fluids:- Meaning of two-dimensional flow - Stream function – Complex potential - Line sources and sinks - Line doublets and vortices - Images - Milne-Thomson circle theorem and applications - Blasius theorem and applications.

Unit 4

Motion of Viscous fluids:- Stress tensor – Navier-Stokes equation - Energy equation - Simple exact solutions of Navier-Stokes equation: (i) Plane Poiseuille and Hagen-Poiseuille flows (ii) Generalized plane Couette flow (iii) Steady flow between two rotating concentric circular cylinders (iv) Stokes's first and second problems (vi) Slow and steady flow past a rigid sphere and cylinder. Diffusion of vorticity - Energy dissipation due to viscosity.

Unit 5

Boundary layer concept –Derivation of Prandtl boundary layer equations – Boundary layer along flat plate, Blasius solution , Boundary layer on a surface with pressure gradient, Momentum Integral theorem.

REFERENCES:

1. F. Chorlton : Text book of Fluid Dynamics, Van Nostrand, 1967

1. 2. Z. U. A.Warsi : Fluid Dynamics, CRC Press (2nd edition), 1999.

3. J. L. Bansal, Viscous Fluid Dynamics.

4. S. W. Yuan : Foundations of Fluid Mechanics, Prentice Hall, 1976.

5. G. K Bachelor -.An Introduction to Fluid dynamics.

3.4. ELECTIVE

III-COMMUTATIVE ALGEBRA

Unit 1

Rings, Subrings, ideals, quotient rings, Definitions and examples. Ring homomorphism, isomorphism theorems Correspondence theorem . Zero-divisors, nilpotent elements and units in a ring. Prime ideal ,Maximal ideal. Nilradical abd Jacobson radical of a ring. Operations on ideals. Extensions and contractions of ideals. Polynomial rings. Poweer series ring.

Unit 2

Modules, submodules, quotient modules, Definition and examples. Homomorphisms of modules. Isomorphism theorems Correspondence theorem. Operations on submodules. Direct product and direct sum of modules. Finitely generated modules. Nakayama lemma.

Unit 3

Rings and modules of fractions. Local properties . Extended and contracted ideals in rings and fractions.

Unit 4

Noetherian module, Artinian module. Composition series of a module. Modules of finite length . Jordan –Holder theorem.

Unit 5

Noetherian ring Artinian ring. Hilbert basis theorem. Hilbert Nullstellensatz. Algebraic geometry Connections.

REFERENCES :

1. M.F.Atiyah and I.G.Macdonald , Introduction to Commutative Algebra, Addison-Wesley Publishing Company, 1969 .

2. C.Musili, Introduction to Rings and Moduls , Narosa Publishing House , Second Revised Edition, 1994.

3. N.S.Gopalkrishnan, Commutative Algebra , Oxonioan Press Private Limited, New Delhi (1984)

4. O.Zariski and P.Samuel , Commutative Algebra, Vol I Van NostrandCompan

3.4. ELECTIVE

IV - CODING THEORY

Unit 1

Preliminaries of Communication Channels and coding requirements, Block Codes, Linear Codes and Hamming Codes.

Unit 2

Hadamard Codes and generalizations. Constructing Codes from other codes,Reed Muller Codes.

Unit 3

Bounds on Codes Gilbert Varshamov bounds, Upper bounds, Linear programming bound. Generator Matrix and check polynomials in case of cyclic codes. BCH Codes and Reed - Solomon Codes, Quadratic Residue codes.

Unit 4

Codes over Z4, Quaternary codes, Binary Codes derived Codes over Z4, Goppa codes, Minimum distance and generalized BCH Codes.

Unit 5

Algebraic geometry Codes. Codes arising from Algebraic curves. Statement of Riemann Roch Theorem, applications.

REFERENCES:

1. J.H. Van Lint, Introduction to Coding Theory, GTM Springer Verlag.
2. W.C. Huffman, Vera Press, Fundamentals of Error Correcting Codes, CUP.

3.5. - ELECTIVE

I. ALGEBRAIC TOPOLOGY

Unit-1

Review of point set topological concepts, Quotient Topological Spaces, Paths and homotopy, homotopy equivalence, contractibility, deformation retracts.

Unit-2

Basic constructions: cones, mapping cones, mapping cylinders, suspension.

Unit-3

Cell complexes, subcomplexes, CW pairs.   Fundamental groups. Covering spaces, lifting properties, deck transformations. Universal coverings. Examples (including the fundamental group of the circle) and applications (including Fundamental Theorem of Algebra).

Unit-4

Brouwer Fixed Point Theorem and Borsuk-Ulam Theorem. Van Kampen's Theorem.

Unit-5

Simplicial complexes,   barycentric subdivision, stars and links, simplicial approximation. Simplicial Homology. Singular Homology. Mayer-Vietoris Sequences. Long exact sequence of pairs and triples. Homotopy invariance and excision.

REFERENCES:

1. Anant R. Shastry, Basic Algebraic Topology, CRC press, 2013.
2. Hatcher, Algebraic Topology, Cambridge Univ. Press, Cambridge, 2002
3. Edwin H. Spenier, Algebraic Topology, Springer, 1994.
4. James R. Munkres, Elements of Algebraic Topology, Westview Press, 1996.
5. W. Massey, A Basic Course in Algebraic Topology, Springer-Verlag, Berlin, 1991.
6. J.R. Munkres, Elements of Algebraic Topology, Addison Wesley, 1984.
7. J.J. Rotman, An Introduction to Algebraic Topology, Springer (India), 2004.
8. H. Seifert and W. Threlfall, A Textbook of Topology, translated by M. A. Goldman, Academic Press, 1980.
9. J.W. Vick, Homology Theory, Springer- Verlag, 1994.
10. James Dugundji, TOPOLOGY, PHI, 2000.
11. B.V.Limaye and Lahiri, Introduction to Algebraic Topology, Narosa Publication.
12. M.J. Greenberg and J. R. Harper, Algebraic Topology, Benjamin, 1981.
13. W. Fulton, Algebraic topology: A First Course, Springer-Verlag, 1995.

3.5- ELECTIVE

II - NUMBER THEORY AND CRYPTOGRAPHY

Unit 1

Divisibility and Euclidean algorithm, Congruences and their applications to factoring.

Unit 2

Finite Fields, Legendre symbol, quadratic reciprocity, Jacobi symbol.

Unit 3

Cryptosystems, Digraph Transformations and enciphering matrices, RSA cryptosystem.

Unit 4

Primality and factoring, Pseudoprimes, Carmichael numbers, Primality tests, Strong Pseudoprimes, Montecarlo method, Fermat factorization, Factor base, implication for RSA, continued fraction method.

Unit 5

Elliptic curves, Basic facts, elliptic curves over R,Q,C and finite fields, Hasse Theorem, Weil Conjectures (without proof), elliptic curve cryptosystem.

REFERENCES:
1. N.Koblitz, A course in Number theory and Cryptology, GTM Springer 1987.
2. Rosen.M, Ireland K, A Classical introduction to Number Theory, Spinger.
3. David.Bressoud, Facorization and Primality testing, UTM,Springer1989

3.5. ELECTIVE

III - FOURIER ANALYSIS

Unit 1

Basic Properties of Fourier Series: Uniqueness of Fourier Series, Convolutions, Cesaro and Abel Sum ability, Fejer's theorem, Poisson Kernel and Dirichlet problem in the unit disc. Mean square Convergence, Example of Continuous functions with divergent Fourier series.

Unit 2

Distributions and Fourier Transforms: Calculus of Distributions, Schwartz class of rapidly decreasing functions, Fourier transforms of rapidly decreasing functions, Riemann Lebesgue lemma, Fourier Inversion Theorem, Fourier transforms of Gaussians.

Unit 3

Tempered Distributions: Fourier transforms of tempered distributions, Convolutions, Applications to PDEs (Laplace, Heat and Wave Equations), Schrodinger-Equation and Uncertainty principle.

Unit 4

Paley-Wiener Theorems, Poisson Summation Formula,

Unit 5

Radial Fourier transforms and Bessel's functions. Hermite functions. Wavelets and X-ray tomography. Applications to Number Theory.

REFERENCES:

1. R. Strichartz, A Guide to Distributions and Fourier Transforms, CRC Press.
2. E.M. Stein and R. Shakarchi, Fourier Analysis: An Introduction, Princeton University Press, Princeton 2003.
3. Richards and H. Youn, Theory of Distributions and Non-technical Approach, Cambridge University Press, Cambridge, 1990.

3.5. ELECTIVE

IV- FUZZY SETS AND FUZZY SYSTEMS

Unit 1

Introduction, Crisp sets, Fuzzy sets, Significance and Characteristics. Fuzzy sets versus Crisp sets: Properties of alpha cuts, representations of fuzzy sets, extension principle for fuzzy sets.

Unit 2

Types of operations, fuzzy complements, fuzzy intersection, T' – norms fuzzy union, T'-conorms, combination of operations, aggregation of operations,

Unit 3

fuzzy relations, Crisp versus fuzzy sets, Projections and cylindrical extensions, fuzzy equivalence relations, compatibility relations, ordering relations, morphisms. Supremum, infimum fuzzy relations.

Unit 4

Fuzzy measure. Evidence theory, Possibility theory versus Probability theory.

Unit 5

Fuzzy logic, Classical logic, Multivalued logic fuzzy positions, fuzzy quantifiers. linguistic hedges, Inference from conditional fuzzy propositions and qualified propositions. Inference from quantified propositions.

References:

1. George.J.Klir and Bo Yuan, Fuzzy Logic; Theory and Applications,

2. T.J.Ross, Fuzzy Logic with Engineering Applications, Tata McGraw Hill (1997).

3.A. Kaufmann, Introduction to the theory of fuzzy subsets Vol. I, Academic Press (New York) 1975.

4. H.J. Zimmermann, Fuzzy Set Theory and its Applications, Allied Publishers (1991).

3.6. Open Elective Course

I: STATISTICS (Arts and Commerce Stream)

Unit1:

Frequency Distribution, Measure of Central Tendency A.M.G.M., H.M Median, Mode Standard deviation.

Unit:2

Moments, Moments generation function, Skewness, Correlation

Unit:3

Karls Pearson's Co- efficient of Corrdation, Rank correlation co efficient Regression, line of regression, Equations to the lines of regression Error of prediction.

Unit4:

Probability, Definitions, Addition Law of Probability, Multiplication of law of Probability Baye's theorem.

Unit5:

Binomial Distribution, Mean of binomial distribution, Poisson distribution mean of Poisson distribution Normal distribution, mean of normal distribution.

REFERENCES:

1. Das.M.J, Statistical Methods, Das and Co Publishers Kolkata.
2. Miller,J.E.Freud, Mathaematical Statistics with applications,Pearson, New Delhi.
3. Gupta and Gupta, Business Statistics, Sultann Chad Publishers.
    Chandan.J, Statistics for Business Economics, Vikas Publishers.

3.6. Open Elective Course

II : COMPUTATIONAL METHODS (Science Stream)

Unit-1 :

Solution of algebraic and transcendental equations ; Fixed point iterative method, Bisection method, Regula –Falsi method, Secant method and Newton-Raphson method

Unit-2 :

Linear algebraic system of Equations: Direct method; Gauss Eliminations and Gauss-Jordan methods. Iterative methods ; Jacobi iteration method and Gauss Seidel iteration Method.

Unit 3:

Interpolation: Newton forward and backward interpolation, Lagranges interpolation. Least square approximation (linear, quadratic and cubic).

Unit 4:

Numerical Integration: Trapezoidal Rule, Simpsons 1/3 and 3/8th rule. Numerical solution of derivatives ; Taylor' series method, Euler method and Euler modified method and Runge-kutta 2 and 4th order methods.

Unit 5:

Permutations and Combinations: Introduction, Rules of Sum and Product, Permutations, Combinations, Generation of Permutations and Combinations.

REFERENCES :

1. S.S. Sastry : Introductory methods of Numerical analysis, Prentice- Hall of India, New Delhi (1998).
2. M.K. Jain, S.R.K. Iyengar and R.K. Jain : Numerical methods for scientific and Engineering computation, Wiley Eastern (1993)
3. B.K Kolman, R.C Busby and S. Ross, Discrete Mathematical Structure, PHI.
4. K.D Joshi, Foundations of Discrete Mathematics, Wiley Estern.

SEMESTER – IV

4.1 FUNCTIONAL ANALYSIS

Unit-1

Functional Analysis Norm on a linear space over F (either R or C), Banach space, Examples. Norm on Quotient space, Continuous Linear Transformation of normed linear space. The Banach space B(N,N') for Banach spaces , N, N'.

Unit-2

Dual space of normed linear space , Equivalence of norms, Dual space of C[a,b], Isometric isomorphism.

Unit-3

Hahn-Banach theorem and its applications, Seperable normed linear space

Unit-4

Canonical embedding of N into N**. Reflexive spaces, Open mapping theorem , Closed graph theorem, Principle of Uniform boundedness(Banach-Steinhauss Theorem), Projection on Banach spaces. Hilbert spaces, Definition and examples, Orthogonal complements, Orthonormal basis, Gram-Schimdt process of orthonormalisation, Besel's inequality, Riesz Fisher Theorem.

Unit-5

Adjoint of an operator, Self adjoint, normal, unitary and projection operators.

REFERENCES:

1. G.F.Simmons: Introduction to T opology and Modern Analysis, McGraw Hill Book company Inc (1962)
2. C.Goffman and G.Pedrick: First Course in Functional Analysis, Prentice Hall of India Pvt
3. Ltd N.Delhi(1974)
4. B.V.Limaye: Functional Analysis 2nd Edition, New Age International (P) Ltd
5. Publication 1997.
6. D.Somasundaram, Functional Analysis, S.Vishwanathan Printers and Publishers Pvt, Limited (1994)
7. Ponnuswamy, Foundations of Functional analysis, Narosa.
8. K.Chandrashekara Rao,Functional Analysis, Narosa

4.2 MATHEMATICAL METHODS

Unit -1

Integral Transforms:. Applications of Laplace transforms, Laplace transforms to solve ODEs and PDEs - typical examples. Integral Equations: General definition of Integral transforms, Kernels, etc. Definition, Volterra and Fredholm integral equations. Solution by separable kernel, Neumann's series,

Unit -2

Resolvant kernel and transform methods, Convergence for Fredholm and Volterra types. Reduction of IVPs, BVPs and eigen value problems to integral equations. Hilbert Schmidt theorem, Raleigh Ritz and Galerkin methods. Asymptotic Methods: Asymptotic expansion of functions, power series as asymptotic series, Asymptotic forms for large and small variables. Uniqueness properties and Operations.

Unit -3

Asymptotic expansions of integrals; Method of integration by parts (include examples where the method fails), Laplaces method and Watson's lemma, method of stationary phase and steepest descent.

Unit -4

Regular and singular perturbation methods: Parameter and co-ordinate perturbations. Regular perturbation solution of first and second order differential equations involving constant and variable coefficients. Include Duffings equation, Vanderpol oscillator, small Reynolds number flow.

Unit -5

Singular perturbation problems, Matched asymptotic expansions, simple examples. Linear equation with variable coefficients and nonlinear BVP's. Problems involving Boundary layers. Poincare – Lindstedt method for periodic solution. WKB method.

REFERENCE BOOKS

1. I.N. Sneddon – The use of Integral Transforms, Tata Mc Graw Hill, Publishing Company Ltd, New Delhi, 1974
2. R.P. Kanwal: Linear integral equations theory and techniques, Academic Press, New York, 1971
3. C.M. Bender and S.A. Orszag – Advanced mathematical methods for scientists and engineers, Mc Graw Hill, New York, 1978
4. H.T. Davis – Introduction to nonlinear differential and integral equations, Dover Publications, 1962.

4.3 PROBABILITY THEORY

Unit 1

Random Experiments, Sample spaces, Sets, Events, Algebras, Elements of combinatorial analysis, Classical definition and calculation of Probability, Independence of events

Unit 2

Random variables, Distribution functions, Moments, Probability and moment generating functions, Independence of random variables, Theoretical distributions: Binomial, Poisson and Normal distribution and their properties.

Unit 3

Correlation and Regression: Definition meaning scatter diagram method, Karl Pearson's method, Probable error, Standard error and Rank correlation. Regression: Definition: meaning two lines of regression, regression coefficients, standard error and relation between correlation and regression.

Unit 4

Introduction to various discrete and continuous random variables, Limiting distributions of some random variables Distributions of functions of random variables, Bi-variate distributions, Conditional and marginal distributions, Conditional expectation and variance, Co-variance and correlation co-efficient.

Unit 5

Elementary understanding of data: Frequency curves, Empirical measures of location, spread, empirical moments, Analysis of Bi-variate data, fitting of distributions.

REFERENCES:

1. Siva Athreya, V.S. Sunder, Measure and Probability, CRC Press
2. William Feller, Introduction to Probability and its applications, Vol - I, 3rd Edition
3. F.M.Dekking, C. Kraaikamp and others, A Modern introduction to Probability and Statistics, Springer Publication.
4. Athanasios Papoulies, Unnikrishna Pillai, Probability, random Variables and Stochastic Processes, Tata McGraw Hill.
5. K.B.Athreya, B.K.Lahiri, Measure Theory and Probability Theory, Hindustan BookAgency, TRIM Series.

4.4 ELECTIVE

I - RIEMANNIAN GEOMETRY

Unit1:

Local Geometry of Surfaces, First and Second fundamental form, Gaussian, Mean and normal curvatures, Geodesic Curvature Gauss Theorema Egregium.

Unit2:

Global Geometry of Surface, Geodesic coordinate patches, Gauss-Bonnet formula and Euler Characteristic. Index of a vector field. Surfaces of const curvature.

Unit3:

Concept of a tensor. Covariant differentiation. Symmetric Properties of curvature tensor.

Unit4:

Notion of affine connections, Parallel Transport Christofell Symbols of Ist and IInd kind.

Unit5:

Riemannian metric, affine connections associated with Riemannian metric, geodesics and normal coordinates.

REFERENCES:

1. W.Boothby, Differentiable Manifolds and Riemannian |Geometry,

2. Riemannian Geometry, M.Docarmo.

3. Laugwitz D. Differential and Riemannian Geometry, Acad Press, 1965.

4. Millman, RS, Parker G.D, Elements of Differential Geometry, PHI, 1977.

5. S. Helgason, Differential Geometry, Lie Groups and Symmetric Spaces, AMS Publishers.

4.4 ELECTIVE

II- GRAPH THEORY

Unit-1

Coverings, Vertex covering, Edge covering, Independence number, Matching and Matching polynomials, Factorization of graphs: Factorization-1 factorization, 2-factorization, and decomposition of Graphs.

Unit-2

Distance in Graphs: The centre of a graph, distant vertices. Colorings, Chromatic numbers and chromatic polynomials,

Unit-3

Spectra of Graphs: Adjacency matrix, incidence matrix, Characteristic polynomial, Eigen values, Energy of graphs: Energy of all standard class of graphs, Bonds of r energy of a graph.

Unit-4

Groups and Graphs, Automorphism group of Graph. Operations on Permutation graphs, The Group of composite graphs, Domination: Dominating sets, Domination numbers, Domatic number and its bonds, independent domination of a number of a Graph, Other domination parameters.

Unit-5

Topological indices of graphs: Degree based Topological indices: Randic index, Zagreb indices, reformulated Zagreb index and related bounds. Distance Based Topological Indices: Wiener index, Hyper- Wiener index and Harary index, related bounds.

REFERENCES:

1. G.Charatrand and Ping Zhang: Introduction to graph theory.
2. R.B.Bapat, Graphs and matrices.
3. I. Gutaman and Xi Li, Graph Energy.
4. I. Gutman and O.Polansky, Mathematical Concepts in organic Chemistry.
5. J.A.Bondy ans V.S.R.Murthy, Graph Theory with applications McMillan, London.
6. F. Buckley and F.Harary: Distance in Graphs, Addison Wesley, 1990.
7. Diestel: Graph Theory, Springer Verlag, Berlin
8. R.Gould: Graph Theory, Benjamin Cummins Publication Company Inc, Calif 1998.
9. F. Harary Graph theory, Addision Wesley, Reading Mass 1969.
10. O. Ore: theory of Graphs, Amer. Math, Soc. College Publications- 38 Providence 1962.
11. D. Cvetkovic, M.Doob and H.Sachs, Spectra in Graphs, Academic Press, 1980.

4.4 ELECTIVE

III - MATHEMATICAL MODELING

Unit 1

Some basic topics in Nonlinear Waves: Shock waves and hydraulic jumps. Description and various physical set ups where they occur: traffic flow, shallow water.

Unit 2

Fundamental concepts in continuous applied mathematics. Continuum limit. Conservation laws, quasi-equillibrium. Kinematic waves. _ Traffic flow (TF). Continuum hypothesis. Conservation and derivation of the mathematical model.

Unit 3

Integral and differential forms. Other examples of systems where conservation is used to derive the model equations (in nonlinear elasticity, fluids, etc.), Linearization of equations of TF and solution. Meaning and interpretation. Solution of the fully nonlinear TF problem.

Unit 4

Method of characteristics, graphical interpretation of the solution, wave breaking. Weak discontinuities, shock waves and rarefaction fans. Envelope of characteristics. Irreversibility in the model.

Unit 5

Quasilinear First Order PDE's, Shock structure, diffusivity. Burger's equation. The Cole-Hopf transformation. The heat equation: derivation, solution, and application to the Burger's equation. Inviscid limit and Laplace's method.

REFERENCES:

1. R. Haberman, Mathematical Models, Mechanical Vibrations, Population Dynamics and Traffic flow, SIAM.
2. C. C. Lin and L. Segal, Mathematics Applied to Deterministic Problems in the Natural Sciences, SIAM.
3. F. Y. M. Wan, Mathematical Models and their Analysis, Harper and Row.
4. J. D. Logan, An Introduction to Nonlinear Partial Differential Equations, J. Wiley.
5. R. D. Richtmyer and K. W. Morton Difference Methods for Initial-Value Problems, Inter science, Wiley, Krieger.
6. C. Fowler, Mathematical Models in the Applied Sciences, Cambridge U. Press.
7. J. J. Stoker, Nonlinear Vibrations in Mechanical and Electrical Systems , J. Wiley.
8. G. B. Whitham, Linear and Nonlinear Waves, J. Wiley.
9. R. Haberman, Applied Partial Differential Equations With Fourier Series and Boundary Value Problems, Prentice Hall.

4.4 ELECTIVE

IV - GALOIS THEORY

Unit 1

Field extensions, Characteristic of a Field, Finite fields, splitting field of a polynomial.

Unit 2

Algebraic extensions, Algebraic closure, algebraically closed field, Separable Extension, Simple extension, Primitive element theorem.

Unit 3

Inseparable extension, Purely inseparable extension, Perfect field, Imperfect field, Normal Extension Group of automorphisms of Field extensions.

Unit 4

Linear independence of characters, Artin's Theorem, Norm and Trace, Cyclic extension, Hilbert Theorem 90, Artic Schreier Theorem

Unit 5

Solvable extension, Solvability by Radicals, Insolvability of the Quintic, Theorem of Abel – Ruffini. Galois groups of quadratic, cubic and quartic polynomials over the rational field

REFERENCES:

1. J.J.Rotman, Galois Theory, Univeritext, Springer 1990.
2. D.J.H.Garling, A Course in Galois Theory CUP,1986
3. Ian Stewart, Galois Theory, Chapman and Hall, London, NewYork.
4. I.N.Herstein, Topics in Algebra Blaisidel, NY.
5. Sulrjeet Singh and Quazi Zameerudin, Modern Algebra. Vikas Publications.

4.5. ELECTIVE

I – ADVANCED NUMERICAL

ANALYSIS. Unit-1

Numerical solution of ordinary differential equations: Initial value problems - Picard's and Taylor series methods – Euler's Method- Higher order Taylor methods- Modified Euler's method- Runge Kutta methods of second and fourth order.

Unit-2

Multistep method- The Adams - Moulton method- stability- (Convergence and Truncation error for the above methods). Boundary- Value problems – Second order finite difference method, cubic spline method and shooting method.

Unit-3

Finite difference methods for Parabolic equations in one-dimension – methods of Schmidt, Laarsonen, Crank-Nicolson and Dufort. Frankel. Stability and convergence analysis for Schmidt and Crank-Nicolson methods and iterative methods.

Unit-4

A.D.I. method for two - dimensional parabolic equation. Finite difference methods for hyperbolic equations in one-dimension explicit and implicit finite difference schemes. Stability and convergence analysis for hyperbolic equations.

Unit-5

Numerical solution of Partial differential equations: Difference methods for Elliptic partial differential equations – Difference schemes for Laplace and Poisson's equations. Iterative methods of solution by Jacobi and Gauss-Seidel methods – solution techniques for rectangular and quadrilateral regions.

TEXT BOOKS

1. M.K. Jain: Numerical solution of differential equations, Wiley Eastern (1979), Second Edition.
2. C.F. Gerald and P.O. Wheatley : Applied Numerical Methods, Low- priced edition, Pearson Education Asia (2002), Sixth Edition.
3. D.V. Griffiths and I.M. Smith, Numerical Methods for Engineers, Blackwell Scientific Publications (1991).

REFERENCE BOOKS

1. S.C. Chapra, and P.C. Raymond : Numerical Methods for Engineers, Tata Mc Graw Hill, New Delhi (2000)
2. R.L. Burden, and J. Douglas Faires : Numerical Analysis, P.W.S. Kent Publishing Company, Boston (1989), Fourth edition.
3. S.S. Sastry : Introductory methods of Numerical analysis, Prentice- Hall of India, New Delhi (1998).
4. M.K. Jain, S.R.K. Iyengar and R.K. Jain : Numerical methods for scientific and Engineering computation, Wiley Eastern (1993)
5. G.D.Smith: Numerical Solutions of partial differential equations 2nd edition London, Oxford University Press (1978)
6. Paruiz Moin: Fundamentals of Engineering Numerical analysis, Cambridge University Press (2006)

4.5 ELECTIVE

II –BANACH ALGEBRA

Unit 1

Preliminaries, Banach spaces, Weak topologies on Banach spaces, Banach valued functions and their derivatives, Holomorphic functions, Banach space values measures and Integration.

Unit 2

Definition of Banach Algebra, Homomorphisms, Spectrum, Basic properties of Spectra, Gelfand- Mazur Theorem, Spectral Mapping Theorem, group of invertible elements.

Unit 3

Ideals, Maximal Ideals and Homomorphisms, Semisimple Banach Algerbras

Unit 4

Gelfand Topology, Gelfand Transform, Involutions, Banach-C-*Algebras, Gelfand Naimark Theorem, Applications to Non-Commutative Banach Algebras, Positive functions.

Unit 5

Operators on Hilbert Spaces, Commutativity theorem, Resolution of the identity spectral theorem, A Charecterization of Banach C*-Algebras

REFERENCES

1. Rudin.W, Functional Analysis.
2. Bachman and Narice L, Functional Analysis , Academic Press.
3. B.V.Limaye, Functional Analysis, New Age International Limited
4. S.K.Berbenon, Lectures in Functional Analysis and Operator Theory, Narosa, 1979.

4.5 ELECTIVE

III - OPERATIONS

RESEARCH Unit-1

The linear programming problem, properties of a solution to the linear programming problem, generating extreme point solution, simplex computational procedure, development of minimum feasible solution, the artificial basis techniques, a first feasible solution using slack variables, two phase and Big-M method with artificial variables.

Unit-2

General Primal-Dual pair, formulating a dual problem, primal-dual pair in matrix form, Duality theorems, complementary slackness theorem, duality and simplex method, economic interpretation of duality, dual simplex method.

Unit-3

General transportation problem, transportation table, duality in transportation problem, loops in transportation tables, LP formulation, solution of transportation problem, test for optimality, degeneracy, transportation algorithm (MODI method), time- minimization transportation problem.

Unit-4

Mathematical formulation of assignment problem, assignment method, typical assignment problem, the traveling salesman problem. Game Theory: Two-person zero-sum games, maximin minimax principle, games without saddle points(Mixed strategies), graphical solution of $2 \times n$ and $m \times 2$ games, dominance property, arithmetic method of $n \times n$ games, general solution of $m \times n$ rectangular games.

Unit-5

Integer Programming: Gomory's all I.P.P. method, constructions of Gomory's constraints, Fractional cut method-all integer and mixed integer, Branch-and-Bound method, applications of integer programming. Dynamic Programming: The recursive equation approach, characteristics of dynamic programming, dynamic programming algorithm, solution of-Discrete D.P.P., some applications, solution of L.P.P. by Dynamic Programming.

REFERENCES

1. Taha, Operations Research, Pearson Education; Eighth edition (2011)
2. Kambo N. S., Mathematical Programming,
3. G. Hadley, Linear Programming, Addison Wesley.
4. Gass, S. L., Linear Programming, Courier Dover Publications, 2003

4.5 ELECTIVE

IV- COMPUTATION COMPLEXITY

Unit1.

Turing machines; determinism and non-determinism --- time and space hierarchy theorems; speed-up and tape compression;

Unit2.

Blum axioms --- structure of complexity classes NP, P, NL, L, PSPACE;

Unit3.

Complete problems --- randomness and complexity classes RP, RL, BPP --- alternation, polynomial-time hierarchy --- circuit complexity --- parallel complexity, NC, RNC ---

Unit4.

Relativized computational complexity --- time-space trade-offs ---

Unit5.

Introduction to Interactive Proofs --- Arthur-Merlin Games, IP = PSPACE.

Reference Books:

1. C. H. Papadimitrou: Computational Complexity, Addison Wesley.
2. J. Radhkrishnan, S. Saluja: Interactive Proof Systems, TCS lecture notes, TIFR.

4.6 PROJECT

The candidate shall submit a dissertation carrying 80 marks and appear for viva-voce carrying 20 marks.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

BASIC KANNADA

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 1: AECC - Ability Enhancement Compulsory Course (B.A/B.S.W/CCJ Basic Kannada)

Sem	Course Code	Title of the Paper	Teaching Hours/ Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	3	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	3	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	3	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	3	80	20	100	3 Hrs

ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಬೊಬ್ಬುಳಿಕೆಯುರ್ಬು ಪರ್ಬಿದ ಭೋಗಂ	– ಪಂಪ
೨. ಘನ ಸತ್ಯವೇ ಜೀವ	– ರಾಘವಾಂಕ
೩. ಅಹುದಾದರಹುದೆನ್ನಿ ಅಲ್ಲವಾದರಲ್ಲವೆನ್ನಿ	– ಕನಕದಾಸರು
೪. ನಡೆ–ನುಡಿ	– ಸರ್ವಜ್ಞ
೫. ಇಂದಿನ ದೇವರು	– ಕುವೆಂಪು
೬. ಮುಗಿಲ ಮಲ್ಲಿಗೆ	– ವಿ.ಕೃ. ಗೋಕಾಕ
೭. ಶಿಶಿರದಲ್ಲಿ ಬಂದ ಸ್ನೇಹಿತ	– ಚೆನ್ನವೀರ ಕಣವಿ
೮. ಎಲ್ಲ ಮರೆತಿರುವಾಗ	– ಕೆ.ಎಸ್. ನಿಸಾರ್ ಅಹಮದ್

ಗದ್ಯಭಾಗ

೯. ರಾಜಶೇಖರ	– ಜನಪದ
೧೦. ನಿಜಗಲ್ಲಿನ ರಾಣಿ	– ಮಾಸ್ತಿ ವೆಂಕಟೇಶ ಅಯ್ಯಂಗಾರ
೧೧. ಭಿಕ್ಷಾಟನ ಲೀಲೆ	– ಆರ್. ಸಿ. ಹಿರೇಮಠ
೧೨. ಮೂರು ಗಾಲಿಯ ಮಹಾರಥ ಟೆಂಪೊ	– ದ. ನಿಂ. ಬೆಳಗಲಿ
೧೩. ಜನಪದ ಸಾಹಿತ್ಯದಲ್ಲಿ ಸಂಗೊಳ್ಳಿ ರಾಯಣ್ಣ	– ಎಂ. ಬಿ. ನೇಗಿನಹಾಳ
೧೪. ನೆನಪು	– ರಾಘವೇಂದ್ರ ಪಾಟೀಲ
೧೫. ವಚನಗಳಲ್ಲಿ ಮೌಢ್ಯವಿರೋಧಿ ನಿಲುವು	– ವಸುಂಧರಾ ಭೂಪತಿ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಇಜಿಯೆಂ ಬಿಟ್ಟಿನಂ	– ರನ್ನ
೨. ನುಡಿಯಬಹುದೆ ಬಂಜೆವಾತನು	– ಕುಮಾರವ್ಯಾಸ
೩. ನನ್ನ ಕೈಯ ಹಿಡಿದಾಕೆ	– ಅಂಬಿಕಾತನಯದತ್ತ
೪ ಗಾಂಧಿ	– ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
೫ ಶಿವಾಪುರ	– ಚಂದ್ರಶೇಖರ ಕಂಬಾರ
೬. ನಾಭಿಕೇಂದ್ರದಿಂದ ಜೀವಕೇಂದ್ರದವರೆಗೆ	– ಕೆ. ಶರೀಫಾ
೭. ಕೋಲಾಟದ ಹಾಡು	– ಜಾನಪದ
೮. ಹತ್ತು 'ಹನಿ'ಗಳು	– ಎಚ್. ದುಂಡಿರಾಜ್
೯. ಕುದರಿಯೊಂದಕ ಕಟ್ಟೇತಿ ಪಾಗಾದಾಗ	– ಅಲಭ್ಮೈರಿ
೧೦. ಮುಗಿದಿಲ್ಲ ಪ್ರಯಾಣ ತಥಾಗತರೆ....	– ಸುಬ್ಬು ಹೊಲೆಯಾರ್

ಗದ್ಯಭಾಗ

೧೧. ಜೀವನ್ಮುಕ್ತ	– ಶ್ರೀ ಸಿದ್ದೇಶ್ವರ ಶ್ರೀಗಳು
೧೨. ಅಂಬೇಡ್ಕರ್ ಅವರೊಂದಿಗೆ ಒಡನಾಡಿದ ಕ್ಷಣಗಳು	– ನಾಮದೇವ ನಿಮಾಡೆ ಅನು: ಬಿ. ಶ್ರೀಪಾ
೧೩. ಜಾಣ ವೀಳೆಯ ಹಿಡಿಯ	– ಮಿರ್ಜಿ ಅಣ್ಣಾರಾಯ
೧೪. ಪಾದರಸದೊಡನೆ ಅಪಾಯದ ಸರಸ	– ನಾಗೇಶ ಹೆಗಡೆ
೧೫. ಕನ್ನಡ ಮರಾಠಿ ಬಾಂಧವ್ಯ	– ಗುರುಲಿಂಗಪ್ಪ ಧಬಾಲೆ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

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ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ
೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ
೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ
೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ
೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

<div align="center">

ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೭೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೭೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ

೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ

೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನಪದ ಭಾಗ

೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ

೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

BASIC ENGLISH

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

RANI CHANNAMMA UNIVERSITY, BELAGAVI
ENGLISH SYLLABI
For Undergraduate Programmes: BA

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

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   Question Paper Pattern

1. Board of Studies: English (UG)

01	**Prof. Vijay Nagannawar** Department of Studies in English, Rani Chanamma University, Belagavi.	Chairman
02	**Shri. M. C. Karabari** Department of English, BLDEA's College, Jamkhandi.	Member
03	**Shri. U. S. Aralimatti** Department of English, RPD College, Belagavi.	Member
04	**Shri. S. B. Khot** Department of English, MES College, Mudalagi.	Subject Expert
05	**Dr. M. M. Hurali** Department of English, KLE's B. K. College, Chikodi.	Subject Expert
06	**Dr. S. B. Biradar** Department of English, SVM College, Ilkal.	Subject Expert

2. Abbreviation Used

Part 1: AECC – Ability Enhancement Compulsory Course (Basic English)

3. Course Objectives for BA/BSC/BCOM/BBA/BCA/BSW

1) To acquaint the students with communication skills

2) To inculcate life skills and human values

3) To improve the language competency

4) To enhance listening and speaking skills

5) To improve reading and writing skills

6) To encourage to think creatively and critically

7) To expand emotional intelligence

8) To develop gender sensitivity

4. Course Outcomes for BA/BSC/BCOM/BBA/BCA/BSW

On successful completion of CBCS English courses, an undergraduate student will be able to:

1) Read, understand, and interpret a variety of written texts

2) Undertake guided and extended writing using appropriate vocabulary and correct grammar

3) Listen and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation

4) Become employable with requisite professional skills, ethics and values

5. *Course wise Credit Structure*

Choice Based Credit System (CBCS) for **BA Programme**

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Sem End Exam	IA	Total	Duration of Exam
I	AECC ENG101	English Language I	4	3	80	20	100	3 Hrs
II	AECC ENG102	English LanguageII	4	3	80	20	100	3 Hrs
III	AECC ENG103	English LanguageIII	4	3	80	20	100	3 Hrs
IV	AECC ENG104	English LanguageIV	4	3	80	20	100	3 Hrs

Course wise Syllabus and Teaching Hours

BA/BSW PROGRAMME

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Semester I: AECCENG101 - English Language - I

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The Course brings in some of the most magnificent, instructive and enjoyable artifacts of English literature to the students beginning their undergraduate course. The literary texts in the course provide powerful contexts to understand human situations in our world and show how they are expressed in English language.

The units of the Language Activity strengthen the students' English vocabulary and understanding of English sentence structure. Internal Assessment consists of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams; the one-mark, five-mark and ten-mark questions in the examination are designed to evaluate language comprehension and textual understanding.

Unit 1. Prose (1 hour / week; 25 Marks)
1. A Dialogue on Democracy - A. S. Hornsby
2. A Day's Wait - Earnest Hemingway
3. Spoken English and Broken English - G. B. Shaw
4. Round the World on a Bicycle - Bernard Newman

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Where the Mind is without Fear - Rabindranath Tagore
2. True Love - William Shakespeare
3. Don't Quit - Edgar Albert Guest
4. If - Rudyard Kipling

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Word class (Nouns, Adjectives, Verbs, and Adverbs)
2. Articles
3. Prepositions (Place, Time, Position)
4. Synonyms
5. Antonyms
6. Introducing: Self Introduction and Introducing the chief-guest /principal/president/family member/relatives/friend

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern

I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: One from Prose and one from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester II: AECCENG102 - English Language - II
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Prose (1 hour / week; 25 Marks)
1. My Lord, The Baby - Rabindranath Tagore
2. Good Manners - J. C. Mill
3. And then Gandhi Came – Jawaharlal Nehru
4. With the Photographer – Stephen Leacock

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Once upon a Time – Gabriel Okara
2. On His Blindness – John Milton
3. Tables Turned– William Wordsworth
4. Night of the Scorpion – Nissim Ezekiel

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Use of Possessive Adjectives and Pronouns
2. Tenses
3. Use of Negatives (conversion from affirmative to negative and vice versa)
4. Framing Questions (with 'Wh-' words & yes/no questions)
5. Completion of Proverbs / Sayings
6. Punctuations (Capitalization, Comma, Period, Question Mark and Exclamation Mark)

IA **: 20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: One from Prose and one from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester III: AECCENG103 - English Language -III
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Short Stories (2 hours / week; 50 Marks):
1. The Curd Seller – Masti Venkatesh Iyengar
2. The Night Train at Deoli – Ruskin Bond
3. Our Lady's Juggler – Anatole France
4. The Happy Prince – Oscar Wilde
5. Poor Relations – Charles Lamb

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)

1. One-word Substitutes

2. Active and Passive Voice

3. Degrees of Comparison

4. Notice writing

5. Narration (fables, films, events)

6. Translation of a Passage (English to Kannada / Hindi / Marathi / Urdu)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 comprehension questions from the stories	10x01=10
II.	02 essay type questions out of 4 from the stories	02x10=20
III.	04 short notes out of 6 on the stories	04x05=20
IV.	Language Activity on each topic	06x05=30
Total		80

Semester IV: AECCENG104 - English Language - IV
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Play (2 hours / week; 50 Marks): *The Merchant of Venice* – William Shakespeare

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Correction of Sentences (articles, numbers, verbs, prepositions, adjectives, adverbs, concord)
2. Direct and Indirect Speech
3. Transformation of Sentences (Remove 'too….to', 'if', 'as soon as' & Use 'so…that', 'unless', 'No sooner …..than'; Assertive to Exclamatory, Simple to compound / vice versa)
4. Welcome Address and Vote of Thanks
5. Job Application writing
6. Report Writing (Tour, Student Activities, News)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 comprehension questions from the play	10x01=10
II.	02 annotations out of 4 from the play	02x05=10
III.	02 short notes out of 4 from the play	02x05=10
IV.	02 essay type questions out of 4 from the play	02x10=20
V.	Language Activity:	06x05=30
Total		80

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CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.A. is applicable to B.S.W.

Courses

AECC: Ability Enhancement Compulsory Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks

Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks

Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks

Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks

Q-5 Others : 28 Marks

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
B.A. / B.S.W

BASIC HINDI –AECC 2020-21 & 2021-22 On words

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Exam	Total	Credits
I	AECC	1) प्रतिनिधी कहानियाँ (कहानी संकलन) 2) भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
	DSC	1) कहानी कुंज (कहानी संकलन) 2) अनुवाद : (पारिभाषिक शब्दावली तथा परिच्छेद)	1T*	5	3	20	80	100	3
II	AECC	1) काव्यकलश (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
	DSC	1) पद्य परिमल (कविता संकलन) 2) हिन्दी साहित्य का इतिहास – आदिकाल	1T*	5	3	20	80	100	3
III	AECC	1) गद्य विविधा (गद्य संकलन) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	DSC	1) गद्य धारा (गद्य संकलन) 2) हिन्दी साहित्य का इतिहास – भक्तिकाल	1T*	5	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1) काला पत्थर (नाटक 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	DSC	एकांकी कलश (एकांकी संकालन)	1T*	5	3	20	80	100	3

2020-21 & onwords

Semester I

AECC: Ability Enhancement Compulsory Course

1) प्रतिनिधी कहानियाँ (कहानी संकलन)

2) हिंदी भाषा के विविध रूप : बोलचाल की भाषा, परिनिष्ठित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा

3) स्वर तथा व्यंजन – सामान्य परिचय

4) अनुवाद (पारिभाषिक शब्दावली)

प्रात्यक्षिक : कथाकारिता, शब्दों का योग्य उद्घारण, शब्दों का अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) काव्यकलश (कविता संकलन)

2) व्याकरण-संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय

3) पत्रलेखन–पारिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र

प्रात्यक्षिक : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

2021-22 & onwords

Semester III

AECC : Ability Enhancement Compulsory Course

1) गद्य विविधा (गद्य संकलन)

2) भाषा संप्रेषण-परिभाषा, प्रकार, चरण

3) मुहावरें और लोकोक्तियाँ

4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द

प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग प्रस्तुती

AECC : Ability Enhancement Compulsory Course

1) काला पत्थर (नाटक) : डॉ. सुरेश शुक्ल 'चन्द्र' अमन प्रकाशन, कानपुर

2) पल्लवन तथा संक्षेपण –

पल्लवन अथवा कल्पना विस्तार के लिए विषय –

जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है– मन के जीते जीत,
मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय,
परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला

3) अनुवाद (परिच्छेद)

प्रात्यक्षिक : पल्लवन तथा अनुवाद का अभ्यास

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

BASIC URDU

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.A. is applicable to B.S.W.

Courses

AECC: Ability Enhancement Compulsory Course

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
B.A. / B.S.W

SEMESTER	COURSE	TITLE OF THE PAPER	PAPER	TEACHING Hrs per week	Duration of Exam (Hrs)	Marks			CR
						IA	TH	TOTAL	
I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T	4 Hrs	3	20	80	100	3
IV	AECC	Study of Prose and poetry	1 T	4 Hrs	3	20	80	100	3

Question Paper Pattern and Distribution of Marks
Scheme of Examination:

Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks   will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all AECC Papers

I. Multiple choice questions   (from all text)   1x10=10

II.Essay type question on prose   (1out of3)   12x1=12

III.Summary of the poem   (1 out of3)   12x1=12

IV.Appreciation of verses from Ghazals   (4 out of 6)   03x4=12

V.R C   (4 out of6)   03x4=12

VI.Summary Essay type question on text   (1 out of3)   12x1=12

VII.Short note questions on practical   (1 out of2)   10x1=10

            (Que No II to VII are with choice)

B.A. / B.S.W.
SEMESTER I   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

Unit:I Prose:Nasr1.Waqt

2.Sairpahledarvesh

3.Maulalanawahiduddeensalim

4.Gulbanu

5. Manzoor

Unit: II.Poetry: Nazm

1.Aye Khuda

2.Shahadat H ImamHusain(r) ka

3.Awara hona Gul Bakawali ka

4.Tazheek rozgaar

Unit: III. Poetry: Ghazal

1 Patta patta buta buta

2Dayam pada huwa

3Thani thi dil mein

4Khatir se ya lihaz se

5 Ab na kahin nigah hai

Unit: IV. Fiction

1 Mantar

2 Naya qanoon

3 Main ne aisa kyun kiya

4 Nazara darmiyan hai

Practical:

1. Story telling

2. Collect stories (minimumfive) of the same author

Prescribed Texts: 1**) Asrar -e –adab   Compiled by: Dr Khwaja Faraz Badami
Dr Md Iqbal I Jarman**

 2) Urdu ke dus Afsane   Compiled by: Mazjlis e Idarat

B. A. / B. S. W.

SEMESTER II.   SUBJECT: URDU

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose:Mazameen
1. Sinema ka ishq
2. Chatari
3. Char paai
4. Internet aur Urdu
5. Gesu-e-urdu gessu daraz

UNIT: II Poetry: Nazm
1.Muflisi
2.Sher se Khitab
3.Shuwa e ummeed
4.Chand taron ka ban

UNIT: III Poetry:Ghazal
1.Husn be parwa
2.Bana bana ke
3.Dil mei ab yun tere
4.Safar mein dhoop to hogi
5.Dhund Chatati jayegi

UNIT: IV Fiction
1.Addu
2.Wo jo kho gaye
3.Bajooka
4.Overcoat

Practical: 1. Read the given poem and find out the difficult words and make 'Farhang'
2.Write an Essay on a current issues and give an appropriate title.

Prescribed Texts: **1) Asrar -e–adab   Compiled by: Dr Khwaja Faraz Badami**
Dr Md Iqbal I Jarman
        2) Urdu ke dus afsane   Compiled by: Mazjlis e Idarat

B.A./ B.S.W.
SEMESTER III   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT : I Prose:Nasr
1 Urdu Abzad ka saktiyati tajziya
2 Insan kisi hal me khush nahi rehta
3 Naya kanoon
4 Jeene ka Saleeqa
5 Garam coat
 UNIT : II Poetry: Nazm
1 Surat taqweer
2 Mukafat e amal
3 Gujre zamane ki yad
4 Mahajan awr mufliss
UNIT: III Poetry: Ghazal
1 Hamare aage ter jab kisi ne
2 Gada dast e ahle karam
3 Asar usko zara nahin hota
4 Aah ko chahiye
5 Gamza nahi hota ke
UNIT: IV Fiction
1 Amawas ki rat
2 Aazmaish
3 Naya qanoon
4 Kalu bhangi
Practical:1. Vocabulary: Homonyms, Homographs, Homophones.
2. Note taking and note making

Prescribed Books:
1) Kaynat -e –adab   Compiled by: Prof. M N Saeed
 2) Numainda Mukhtasar Afsane   Compiled by: Md Tahir farooqi

B. A./ B.S.W.   **SEMESTER IV.**   **SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose:Nasr
          1 Saheb e alam
2.Bhagwan ki aamad
3 Khuda ki hasti
          4 Moulavi Abdul haq
          5 Ulti ho gayin sab tadbire
UNIT: II Poetry: Nazm
          1Chand taron ka bun
           2 Mai gotam nahi hoon
           3 Subah e aazadi
           4 Ukhde khemon ka dard
 UNIT: III Poetry:Ghazal
          1 Agar kaj ro hain
          2 Nigah e naaz jise
          3 Dunya ke sitam yaad
          4 Bahut pahle se un kadmon ki
          5 Dil me ek lehr si
UNIT: IV Fiction
          1 Athara aane
          2 Sirf ek aana
          3 Garhan
          4 Chouthi ka joda
Practical:1. Making Albumof famous Urdu poets
2. Making Albumof famous Urdu Prose writer

Prescribed Books:
1) Kaynat -e –adab   Compiled by: Prof. M N Saeed
 2) Numainda Mukhtasar Afsane   Compiled by: Md Tahir farooqi

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

APPLIED STATISTICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

B.A Applied Statistics (UG) Course Structure (CBCS)

Sem	Course Code	Title of the Paper	Teaching Hrs Per	Credits	Marks			Duration of Exam
					Sem Exam	IA	Total	
I	DSC1A	Basics Statistics	5hrs	3	80	20	100	3 hrs
II	DSC1B	Descriptive Statistics	5hrs	3	80	20	100	3 hrs
III	DSC1C	Probability & Standard Probability Distributions	5hrs	3	80	20	100	3 hrs
	SEC-1	Descriptive Statistics–I	2hrs	1	40	10	50	2 hrs
IV	DSC1D	Inference and Exact Sampling Distributions	5hrs	3	80	20	100	3 hrs
	SEC-2	Descriptive Statistics - II	2hrs	1	40	10	50	2 hrs
V	DSC1E	Theory of Sampling	5hrs	3	80	20	100	3 hrs
	DSE1A OR	Population Studies	5hrs	3	80	20	100	3 hrs
	DSE1B	Statistical Quality Control & Econometrics	5hrs	3	80	20	100	3 hrs
	SEC3	Sampling Theory	2hrs	1	40	10	50	2 hrs
VI	DSC1F	ANOVA and Design of Experiments	5hrs	3	80	20	100	3 hrs
	DSE2A OR	Operation Research -I	5hrs	3	80	20	100	3 hrs
	DSE2B	Operation Research-II	5hrs	3	80	20	100	3 hrs
	SEC4	Population Studies	2hrs	1	40	10	50	2 hrs

Regulations and Syllabus

For

APPLIED STATISTICS

In

Three Year B.A. Course (CBCS 2020)

Regulation and Scheme of Instructions:

Regulations for governing three years semesterised bachelor degree programme of Rani Channamma University, Belagavi in Applied Statistics optional subject with effect from academic year 2020-2021.

I. Goals and Objectives:

The following aims have been kept in view while designing the syllabus of Bachelor's programme (BA) in applied statistics as one of the optional statistics.

1. To create an aptitude and bring statistical awareness among the students.

2. To train promising learners to teach Applied Statistics effectively at various level in the educational institutions.

3. To provide adequate Statistical knowledge and skills as required for the competitive examination.

4. To enrich and enhance analytical skill through Statistical techniques.

5. To make the subject student friendly, socially relevant and to cultivate research culture among the students.

II. Admission criteria:

Any candidate who have passed PUC/10+2 with any subjects are eligible to choose Applied Statistics as one of the optional subjects at the under graduate course. The other rules for admission are as per the university and government notifications from time to time.

III. Medium of Instruction:

The medium of instruction will be in English, however, the students are allowed to opt Kannada medium also.

IV. Attendance:

A minimum of 75% of attendance in each semester is compulsory.

V. Scheme of instruction:

1. The M.A/M.Sc./M. Stat. Master degree holders in Statistics can only teach Applied Statistics optional subject at UG level.
2. Applied Statistics as an optional subject at UG level which consists of six semesters. There will be one theory paper in I, II, III and IV semester of 100 marks. Where as in the V and VI semesters there will be two theory papers each of 100 marks. The duration of teaching hours will be 5 hours per week in each paper.

VI. Scheme of Instruction:

1. Theory course shall carry 100 marks of which 80 marks allotted for semester end examination and 20 marks for internal assessment.
2. The semester end examination will be conduction by the university which will be of three hours duration and maximum 80 marks. The minimum passing marks in the examination is of 40 percent.
3. There shall be three sections in every question paper- A, B and C. Section A shall have 12 question of each 2 marks and candidates have to solve 10 questions (10x2 = 20 marks). Section B shall have 8 questions of each 5 marks and the candidate has to solve 6 questions only (6x5 = 30 marks). Section C shall have 6 questions of each 10 marks and the candidate has to solve 3 questions as per instructions (3x10 = 30 marks).

Question Paper Pattern in Applied Statistics (Optional) for all semester

Section A

I. Answer any **10** questions out of **12** questions (Q. No. 1 to 12)

$$10 \times 2 = 20 \text{ Marks.}$$

Section B

II. Answer any **6** questions out of **8** questions (Q. No. 13 to 20)

$$6 \times 5 = 30 \text{ marks.}$$

Section C

III. Answer any **6** questions out of **8** questions (Q. No. 21 to 26)

$$3 \times 10 = 30 \text{ marks.}$$

21 or 22

23 or 24

25 or 26

Total = 80 marks

Rani Channamma University, Belagavi

BLUE PRINT FOR MODEL QUESTION PAPERS IN APPLIED STATISTICS

Questions of 2 marks, 5 marks and 10 marks to be asked from each unit of the semester syllabus of B.A. Course in Applied Statistics is as follows:

B.A.I Semester Applied Statistics Paper
DSC1A - Basic Statistics

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Introduction to Statistics and Basic concepts	3	2	1	26
II Diagrammatic and Graphical representation	2	2	1	24
III Measures of Central Tendency	3	1	2	31
IV Measures of Dispersion	2	2	1	24
V Skewness and Kurtosis	2	1	1	19
Total Questions	**12**	**08**	**06**	**124**

B.A.II Semester Applied Statistics Paper
DSC1B -Descriptive Statistics

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Index Numbers	3	2	2	36
II Time Series	3	2	1	26
III Correlation	2	2	1	24
IV Regression	2	1	1	19
V Association of Attributes	2	1	1	19
Total Questions	**12**	**08**	**06**	**124**

B.A.III Semester Applied Statistics
DSC1C – Probability and Standard Probability Distributions

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Probability	3	2	1	26
II Random variable and Mathematical Expectation	3	2	1	26
III Binomial Distribution	2	1	1	19
IV Poisson Distribution	2	1	1	19
V Normal Distribution	2	2	2	34
Total Questions	**12**	**08**	**06**	**124**

B.A.III Semester Applied Statistics
SEC1 – Descriptive Statistics-I

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Introduction to Statistics	2	1	0	09
II Measures of Central Tendency	2	2	2	34
III Measures of Dispersion	2	1	1	19
Total Questions	**6**	**4**	**3**	**62**

B.A.IV Semester Applied Statistics
DSC1D - Statistical Inference & Exact Sampling Distributions

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Sampling Distribution	2	1	00	09
II Estimation	2	2	1	24
III Testing of Hypothesis	2	1	2	29
IV Chi-Square Distribution	3	2	1	26
V t - test and F-test	3	2	2	36
Total No of Questions	**12**	**08**	**06**	**124**

B.A.IV Semester Applied Statistics
SEC2 – Descriptive Statistics-II

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Index Numbers	2	1	1	19
II Time Series	2	1	1	19
III Correlation Regression	2	2	1	24
Total Questions	**6**	**4**	**3**	**62**

B.A.V Semester Applied Statistics

DSC1E – Theory of Sampling

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Indian Official Statistics	2	1	0	09
II Sampling Theory	3	2	1	26
III Simple Random Sampling	2	1	2	29
IV Stratified Random Sampling	2	2	2	34
V Systematic Random Sampling	3	2	1	26
Total Questions	**12**	**08**	**06**	**124**

B.A.V Semester Applied Statistics

DSE1A – Population Studies

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I National Population Census	3	2	0	16
II Census Survey	3	2	1	26
III Population Studies	2	2	2	34
IV Measurement of Mortality	2	1	1	19
V Life Tables	2	1	2	29
Total Questions	**12**	**08**	**06**	**124**

B.A.V Semester Applied Statistics

DSE1B –SQC & Econometrics

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Introduction to SQC	3	1	1	21
II Control Charts for Variables	2	1	2	29
III Control Charts for Attributes	3	2	1	26
IV Single sampling and Double Sampling	2	2	1	24
V Econometrics	2	2	1	24
Total Questions	**12**	**08**	**06**	**124**

B.A.V Semester Applied Statistics
SEC3 – Sampling Theory

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Introduction to Sampling	2	2	0	14
II Simple Random Sampling	2	1	1	19
III Stratified Random Sampling	2	1	2	29
Total Questions	**6**	**4**	**3**	**62**

B.A.VI Semester Applied Statistics

DSC1F – ANOVA & Designs of Experiment

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I One-way Classification	3	2	1	26
II Two-way Classification	3	2	1	26
III Completely Randomised Design	2	1	1	19
IV Randomised Block Design	2	2	1	24
V Latin Square Design	2	1	2	29
Total Questions	**12**	**08**	**06**	**124**

B.A.VI Semester Applied Statistics

DSE2A – Operations Research - I

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Linear Programming Problems	3	2	2	36
II Transportation Problems	3	2	1	26
III Assignment Problems	2	1	1	19
IV Game Theory	2	2	1	24
V Replacement Theory	2	1	1	19
Total Questions	**12**	**08**	**06**	**124**

B.A.VI Semester Applied Statistics

DSE2B – Operations Research - II

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Linear Programming Problems	3	2	2	36
II Sequencing	2	1	1	19
III Decision Theory	2	2	1	24
IV Inventory Theory	3	1	1	21
V PERT/CPM	2	2	1	24
Total Questions	**12**	**08**	**06**	**124**

B.A.VI Semester Applied Statistics
SEC4 – Population Studies

Unit and unit Title	Questions from each unit			Total Marks
	2 marks	5 marks	10 marks	
I Census survey	2	2	0	14
II Population Studies & Fertility	2	1	1	19
III Measurement of Mortality	2	1	2	29
Total Questions	**6**	**4**	**3**	**62**

COURSE: DSC1A (BA-I Semester)
Basic Statistics

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. Introduction to Statistics and Basic Concepts:

Meaning, origin, definition, functions and limitations of Statistics, applications in other subjects. Primary and secondary data. Methods of collection of primary data with merits and demerits. Meaning of questionnaire and schedule, Source of secondary data. Classification meaning and objectives of classifications. Types of classifications. Chronological, Geographical, Qualitative and Quantitative classifications. Explanation with examples, Explanation of range, class, class limits, class intervals, width of class interval, open-end classes, inclusive and exclusive classes. Formation of discrete and continues frequency distributions.

Tabulation: Meaning and objectives and Rules of tabulation, format of a table and brief explanation of parts of table. Types of table Preparation of tables of blank table and tables with numerical information   15 Hours

Unit-II. Diagrammatic and Graphical Representation of Data:

Diagrams : Meaning, importance of diagrams and general rules of construction of diagrams. Types of Diagrams – simple, multiple, Component, percentage bar diagrams and pie diagram. Problems on the construction of diagrams. Graphs: Types of Graphs – explanation of construction histogram and examples on obtaining mode from histogram. Method of construction of frequency Polygon and frequency curve. Ogives - method of construction of Ogives and problems obtaining the value of median and quartiles from less than Ogive. Difference between diagrams and graphs.   10 Hours

Unit-III. Measures of Central Tendency:

Meaning, types and functions of measures of central tendency. Essentials of a good measure of central tendency. Arithmetic mean definition, merits and demerits. Properties of arithmetic mean. Problems on both grouped and ungrouped data. Median-definition and merits and demerits. Problems on grouped and ungrouped and data. Mode –definition and merits and demerits. Problems on grouped and ungrouped data. Median Empirical relationship between mean, median and mode. Geometric mean-definition merits and demerits.Harmonic mean mean-definition merits and demerits. Partition values-definition and types of partition values , meaning of quartiles, deciles and percentiles. Problems on Quartiles for grouped ungrouped data only.   15 Hours

Unit-IV. Measures of Dispersion:

Meaning and objectives of measures of dispersion. Essentials of a good measure of dispersion, absolute and relative measures of dispersion. Range –definition, absolute and relative measures formulae. Examples on ungrouped data, Merits and demerits. Quartile Deviation definition, absolute and relative measures formulae. Merits and demerits Problems on grouped and ungrouped data. Mean Deviation definition, absolute and relative formulae, merits & demerits, simple problems on grouped and ungrouped data, Standard Deviation-definition and merits and demerits, Coefficient of Variation, Simple problems on grouped and ungrouped data on standard deviation and coefficient of variation.   15 Hours

Unit-V. Skewness and Kurtosis:

Skewness- Definition, objectives and types of skewness, explanation of positive skewness and negative skewness with diagrams. Measures of skewness- Karl Pearson's coefficient of skewness and Bowley's coefficient of skewness. Simple problems.

Kurtosis :Definition and types of kurtosis. Explanation of types of kurtosis with neat diagrams. Measure of skewness based on moments. Difference between skewness and kurtosis.   05 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra: by S. G Gani

2. Fundamentals of applied Statistics: by Gupta S C. and V K Kapoor :

3. Applied Statistics: Parimala Mukhyopadhyaya

4. Gupta S P. and V K Kapoor

5. Applied Statistics: by S.P.Gupta

6. Statistics Volume-1. by Raj Mohan

Descriptive Statistics

MAX. MARKS: 100 (SEC- 80 + IA – 20) **Credits: 3**
Teaching Hours: 60 Hours **Workload: 05 Hrs/ Week**

Unit-I. Index Numbers:

Definition, uses and limitations of index numbers. Brief description of the steps in the construction of index numbers, Classification of index numbers. Construction of Laspeyre's, Paasche's, Fishers, and Marshall – Edge worth's price and quantity index numbers. Tests of a index number-Unit test, time reversal test, factor reversal test and circular test. Verification of index numbers satisfying the time reversal and factor reversal tests. Problems on index numbers. Cost of living index numbers- meaning, uses and brief description of the steps involved in the construction of a cost of living index number. Methods of construction of cost of living index numbers-Aggregate expenditure method and Family budget method. Problems on cost of living index number. 15 Hours

Unit-II. Time Series:

Definition, uses, components of time series, brief explanation of the components of time series. Measurement of trend by graphical, semi average, moving averages method and problems on them. Method of least squares- Fitting of straight line trend –method, normal equations, obtaining trend values, estimating future trend and plotting the original and trend values on the graph. Fitting of second degree trend–Normal equations and obtaining trend line and making future estimates. 15 Hours

Unit-III. Correlation:

Definition, meaning of types of correlation-positive, negative, perfect and no correlation with examples. Utility of study of correlation analysis. Methods of studying correlation. Scatter diagram-definition and explanation with charts. Merits and demerits, problems regarding construction of scatter diagram. Karl Person's coefficient of correlation-definition, formulae, and properties of coefficient of correlation. Problems based on ungrouped data. Spearman's Rank coefficient of correlation-definition and explanation of method with merits and demerits. Problems with ties and without ties. 15 Hours

Unit-IV. Regression:

Definition of regression, regression equation of X on Y and Y on X, Properties of regression co-efficient and regression lines. Problems based on ungrouped data. Comparison between correlation and regression. 08 Hours

Unit-V. Association of Attributes:

Meaning of association of attributes, definition of class of the first order and second order. Methods of studying association. Yule's coefficient of association and its interpretation. Determination of Yule's coefficient of association in case of two attributes. 07 Hours

Reference Books :
1. Goon A.M., Gupta M.K.: Das Gupta B. (2005): Fundamentals of Statistics, Vol. I, World Press, Calcutta.
2. Mukhopadhyay.P, (2005): Applied statistics, New Central Book agency , Calcutta.
3. Gupta S.C and Kapoor V.K.: Statistical Methods-Sultan Chand & Sons Publications Delhi.

Probability and Standard Probability Distributions:

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. Theory of Probability:

Introduction to probability, definition of experiment, outcomes, sample space, events, equally events, mutually exclusive events, exhaustive events, favourable events, complimentary events, independent events, dependent events, union and intersection of events with examples. Classical/mathematical, empirical/Statistical and axiomatic definitions of probability. Statements and proof of $p[\phi] = 0$, $P[S] = 1$ and $0 \leq P[A] \leq 1$. Statement and proof of addition theorem of probability for two non-mutually exclusive events and mutually exclusive events. Definition of independent and dependent events with examples. Conditional probability. Statement and proof of multiplication of theorem of probability for dependent independent events. Simple numerical problems.   15 Hours

Unit-II. Random Variable and Mathematical Expectation:

Definition with examples of discrete and continuous random variables. Definition of probability mass function and probability density function. Definition of mathematical expectation, expected mean and variance of discrete random variable. Applications to find expectation of a discrete random variable and variance. Expectation and variance of the functions-a, ax, ax+b, where a and b are constants and related examples. Statement of addition and multiplication theorem of expectation.   15 Hours

Unit-III. Binomial Distribution:

Definition of Binomial variate, Bionomical distribution and probability mass function. Properties of Bionomical distribution. Examples of Occurrence of Binomial distributions, expression for mean and variance of Binomial distribution. Given the mean and variance, finding the parameters. Fitting of Binomial distribution and obtaining expected probabilities. Simple problems.   10 Hours

Unit- IV. Poisson Distribution:

Definition of Poisson variate, Poisson distribution and probability mass function. Examples of occurrence of Poisson Distribution. Properties of Poisson distribution. Expression for mean and variance of Poisson distribution. Computing probabilities for large n and small p for the given λ, finding λ for given two successive probabilities. Conditions for Poisson distribution as limiting form of Binomial distribution.   10 Hours

Unit-V. Normal Distribution:

Definition of normal variate, normal distribution, examples of occurrence of normal distribution, properties of normal distribution and importance of normal distribution, Definition of standard normal variate, standard normal distribution and properties of standard normal distribution. Statement of conditions under which binomial distribution tend to normal distribution. Finding probabilities and expected numbers when mean and variance are given quartile deviation, mean deviation and standard deviation and problems.   10 Hours

Reference and Text Books:
1. S.G. Gani - A New Introductory Statistics Vol-II
2. S.C. Gupta and V.K.Kapoor - Fundamental of Mathematical Statistics.
3. S.C. Gupta - Fundamentals of Statistics.
4. S.P. Gupta - S atistical Methods.
5. D.C. Sanchethi and V.K.Kapoor - Statistics.
6. R.H. Dhareshwar & Sangeetashetti- Business Statistics

COURSE: SEC1 (BA–III Semester)

Descriptive Statistics-I

MAX. MARKS: 50 (SEC- 40 + IA – 10)   **Credits: 3**
Teaching Hours: 30 Hours   **Workload: 02 Hrs/ Week**

Unit-I. Introduction:

Meaning, origin, definition, functions and limitations, scope of Statistics. Basics Concept of statistics, Primary and secondary data. Presentation – classification meaning , objectives, types. Construction of frequency distribution,. Tabulation - meaning , objectives, types, format of table, parts of table. Procedure for construction of blank tables with examples. Diagrammatic and Graphical representation data: Meaning, types of diagrams - simple, multiple, subdivided, percentage and pie-diagram. Graphs– Construction Histogram examples on obtaining mode, construction of frequency polygon, frequency curve, ogive curves, construction, obtaining median with simple examples.   15Hours

Unit-II. Measures of Central Tendency:

Meaning, definition, essentials of a good measure of central tendency. A.M, Median and Mode. Merits and demerits, problems on grouped and un-grouped data. Partitioned values - quartiles, deciles and percentiles.   07Hours

Unit-III. Measures of Dispersion:

Meaning and objectives of measures, essential of good measure of dispersion absolute and relative measure - range, quartile deviation, mean deviation, standard deviation problems on grouped and un-grouped data. coefficient of variation, problems on grouped and un-grouped data on standard deviation and coefficient of variation.   08 Hours

Books for Reference:

1. Goon A.M., Gupta M.K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol. I & II, 8th Edn. The World Press, Kolkata.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia.
3. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons publications.

Inference and Exact Sampling Distributions

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. Sampling distribution:

Definition of population, parameter, sample, statistic, sampling distribution of a statistic along with examples. Definition of standard error. Standard error. Standard error of mean, standard deviation, proportion, difference of means and difference of proportions. Uses of standard error and simple problems.   05 Hours

Unit-II. Estimation:

Explanation of the terms – estimation, point estimation and interval estimation. Meaning of confidence interval, confidence limits and confidence co-efficient with examples. Construction of 95% and 99% confidence interval for mean, difference of means, proportion and difference of proportions for large samples only .Numerical problems on the construction of 95% and 99% confidence limits for mean , difference mean, proportion and difference of proportions.   15 Hours

Unit-III. Testing of Hypothesis:

Explanation of terms – Statistical hypothesis, Null hypothesis, Alternative hypothesis, Level of significance, critical region, size of the test , power of the test with examples. Definition of type–I and type–II errors. Large sample tests- Test of significance of population mean, test of significance of equality of means of two populations, test of significance of two population proportion and test of significance of equality proportion of two populations.

                                        15 Hours

Unit-IV. Chi-Square Distribution.

Introduction to Chi-square distribution, definition of Chi-square variate. Properties of chi-square distribution. Applications of chi-square distribution. Chi-square test of goodness of fit. Problems on Chi-square test of Goodness of fit. Chi-square test of independence of attributes. Problems on Chi-square test of independence attributes.   10 Hours

Unit-V. *t* **- test and F-test.**

Definition of t-statistic, assumptions of t-test, properties of t-distribution and applications of t-test. Study of t-test for testing population mean, equality of means and paired t-test and their applications.

Definition of F-statistic, assumptions of F-test and properties of F-distribution. F-test for equality of variances and its applications. 15 Hours

Books for Reference:
1. Sankhyshastra and Ganakayantra: by S.G. Gani
2. Fundamentals of Applied Statistics –by Gupta S C. and V K Kapoor
3. Applied Statistics- by Parimala Mukhyopadhyaya
4. Applied Statistics- by Gupta S P. and V K Kapoor
5. Statistical Methods-by S.P.Gupta
6. Statistics Volume-1 by Raj Mohan

Descriptive Statistics-II

MAX. MARKS: 50 (SEC- 40 + IA – 10)   **Credits: 3**
Teaching Hours: 30 Hours   **Workload: 02 Hrs/ Week**

Unit-I. Index Numbers:

Meaning and definition, Uses ,Limitations, Brief description of the steps in the construction of index number types- Price, quantity and Value index. Un-weighted and weighted prices and quantities. Cost of living index numbers, Uses and brief description of the steps involved in the construction of cost of living index number-Aggregate expenditure method and Family budget method. Problems on cost of living index numbers.   8 Hours

Unit–II. Time Series :

Meaning and definition of time series, uses , components of time series. brief explanation of the components Measurement of Time series – Graphical method. semi- averages method, method of moving averages (3,4 and 5 yearly),methods of least square(Linear) simple problems.   8 Hours

Unit-III.   Correlation & Regression:

Correlation: Meaning and Definition simple correlation, types- positive, negative and Zero correlation. Methods of measurement- scatter diagram, Karl Pearson's correlation coefficient, Spearman's Rank correlation coefficient, Properties, coefficient of correlation co-efficient. numerical problems.

Regression: Meaning, definition, regression equations. Regression co-efficient, properties of regression lines and regression co-efficient and numerical problems. Comparison between correlation and regression.   14 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra: by S.G. Gani
2. Fundamentals of Applied Statistics –by Gupta S C. and V K Kapoor
3. Applied Statistics- by Parimala Mukhyopadhyaya
4. Applied Statistics- by Gupta S P. and V K Kapoor
5. Statistical Methods-by S.P.Gupta
6. Statistics Volume-1 by Raj Mohan

Theory of Sampling

MAX. MARKS: 100 (SEC-80 + IA – 20) **Credits: 3**
Teaching Hours: 60 Hours **Workload: 05 Hrs/ Week**

Unit-I. Indian Official Statistics:

Statistical organization at the Centre, National Sample Survey–historical background and functions. Central Statistical Organization–introduction, functions and publications of CSO.

5 Hours

Unit-II. Sampling Theory:

Meaning of population, population size, finite population, infinite population, sample, sample size, sampling, sampling technique, sampling unit, sampling frame, census and sample survey, advantages of sampling. Examples of sampling. Types of errors in sample survey-Sampling errors and non-sampling errors- non response errors, response errors and tabulation errors. Advantages of sampling over complete census. Limitation of sampling. Planning of sample survey and its execution. 10 Hours

Unit-III. Simple Random Sampling:

Methods of sampling. Meaning of random sampling. Definition of simple random sampling and formulae for estimating population mean, total and variance. Methods of obtaining simple random sample-Lottery method and Random numbers table method. Merits demerits of methods. Simple problems on simple random sampling method. 15 Hours

Unit-IV. Stratified Random Sampling:

Definition of strata, stratification, and stratified random sampling. Formulae for estimating population mean, total and variance. Methods of allocation and sample size in difference strata-Equal allocation, Proportional allocation and Optimal allocation. Determination of Bowley's formulae for proportional allocation and Neyman's formula for optimal allocation. Advantages and disadvantages of stratified random sampling method. Simple problems on stratified random sampling method, Proportional and Optimal allocation. 15 Hours

UNIT-V. Systematic Random Sampling:

Definition of systematic random sampling. Explanation of methods of obtaining systematic random sample. Examples of systematic random sample. Formulae for estimating population mean, total and variance. Situations of applications of systematic random sampling method. Merits and demerits of systematic random sampling method. Simple problems on systematic random sampling method. 15 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra: by S.G. Gani

2. Fundamentals of applied Statistics: by Gupta S.C. and V.K. Kapoor

3. Applied Statistics: by Parimala Mukhyopadhyaya

4. Statistics Volume-I: by Raj Mohan

Population Studies

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**

Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. National Population Census:

Definition of National Population census, official system in India for census enumeration. Reference point of time. Methods of collecting census data - Household method, Canvasser method and Mailed questionnaire method, their merits & demerits. Framing of census questionnaire.   10 Hours

Unit-II. Census Survey:

Methods of conducting census survey. De-facto method and D-jure method, their merits and demerits. Distinction between D-facto and D-jure methods of conducting census. Functions and aims of census. Changes introduced in the house schedule of 2010 and 2011 census.

10 Hours

Unit-III. Population Studies and Fertility Measures:

Meaning of population studies. Definition of vital events and vital Statistics. Sources of vital Statistics- Census enquiry, Registration method, Sample survey, Hospital records and Research and analysis. Uses of Vital Statistics. Merits and demerits. Fertility measure- Definition of fertility and fecundity. Population growth rates- CBR, GFR, ASFR and TFR- definition, merits and demerits , computation and interpretation. Growth Rate – Gross Reproduction Rate and Net Reproduction Rate – definition, merits and demerits, computation and interpretation, difference between GRR and NRR.   15 Hours

Unit-IV. Measurement of Mortality:

Mortality rates – CDR, ASDR, STDR- Definition, merits and demerits , Computation and interpretation, Infant mortality rate (IMR), Neo-Natal morality rate (NNMR) and maternal mortality rate (MMR) – meaning and simple problems.   10 Hours

Unit-V. Life Tables: Life Tables: Definition and uses, components of life table- Explanation of the columns of life table. Abridged life table- King's method.   15 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra- by S. G Gani

2. Fundamentals of Applied Statistics- by Gupta S C. and V K Kapoor

3. Applied Statistics – by Parimala Mukhyopadhyaya

4. Applied Statistics- by Gupta S P. and V K Kapoor

5. Statistical Methods – by S.P.Gupta

6. Statistics Volume-1 by Raj Mohan

COURSE: DSE1B (BA–V Semester)
SQC & ECONOMETRICS

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

UNIT- I: Introduction: Quality assurance and management, Quality pioneers, Quality costs. Aims &objectives of statistical process control. Chance & assignable causes of variation. Statistical Quality Control, importance of Statistical Quality Control in industry.   10 Hours

UNIT-II: Control charts for variables: Theoretical basis and practical background of control charts for variables. 3 -sigma limits, Warning limits & probability limits. Criteria for detecting lack of control. Derivation of limits and construction of a Mean (x) and R-charts and interpretation. Natural limits &specification limits. .   15 Hours

UNIT-III: Control charts for attributes: np-chart, p-chart c-chart and u-chart.- Construction and examples.   15 Hours

UNIT-IV: Single Sampling & Double Sampling Plans: 10 Hours

UNIT-V: Econometrics: Definition and scope of econometrics. Relationship between variables, the simple linear regression model.   10 Hours

Books for Reference:

1. Gujarati, D. and Sangeetha, S. (2007): Basic Econometrics, 4th Edition, McGraw Hill Companies.

2. Johnston, J. (1972): Econometric Methods, 2nd Edition, McGraw Hill International.

3. Koutsoyiannis, A. (2004): Theory of Econometrics, 2nd Edition, Palgrave Macmillan Limited,

4. Maddala, G.S. and Lahiri, K. (2009): Introduction to Econometrics, 4th Edition, John Wiley & Sons.

5. Applied Statistics by S.C. Gupta & V.K.Kapoor

Sampling Theory

MAX. MARKS: 50 (SEC- 40 + IA – 10)   **Credits: 3**
Teaching Hours: 30 Hours   **Workload: 02 Hrs/ Week**

Unit-I. Introduction:

Meaning of population, population size, finite population, infinite population, sample, sample size, sampling, sampling technique, sampling unit, sampling frame, census and sample survey, advantages of sampling. Examples of sampling. Types of errors in sample survey-Sampling errors and non-sampling errors- non response errors, response errors and tabulation errors. Advantages of sampling over complete census. Limitation of sampling. Planning of sample survey and its execution.   10 Hours

Unit-II. Simple Random Sampling:

Methods of sampling. Meaning of random sampling. Definition of simple random sampling and formulae for estimating population mean, total and variance. Methods of obtaining simple random sample-Lottery method and Random numbers table method. Merits demerits of methods. Simple problems on simple random sampling method.   10 Hours

Unit-III. Stratified Random Sampling:

Definition of strata, stratification, and stratified random sampling. Formulae for estimating population mean, total and variance. Methods of allocation and sample size in difference strata-Equal allocation, Proportional allocation and Optimal allocation. Determination of Bowley's formulae for proportional allocation and Neyman's formula for optimal allocation. Advantages and disadvantages of stratified random sampling method. Simple problems on stratified random sampling method, Proportional and Optimal allocation.   10 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra: by S.G. Gani
2. Fundamentals of applied Statistics: by Gupta S.C. and V.K. Kapoor
3. Applied Statistics: by Parimala Mukhyopadhyaya
4. Statistics Volume-I: by Raj Mohan

Analysis of Variance and Design of Experiment

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. Analysis of Variance: One-Way Classification:

Definition of analysis of variance and basic assumptions of it. Meaning of assignable and chance variations. ANOVA for one-way classified data-definition, linear mathematical model, assumptions, statement of hypothesis, splitting up of total sum of squares into various components, degrees of freedom and ANOVA table. Simple numerical problems one-way classified data.   10 Hours

Unit-II. Two-Way Classification:

Analysis of variance for two way classification – definition, linear mathematical model, assumptions, statement of hypothesis, splitting up of total sum of squares into various components. Degrees of freedom and ANOVA table. Simple numerical problems on two way classified data.   10 Hours

Unit-III. Completely Randomized Design:

Definition of terms - Experiment, treatment, experimental unit, experimental material, yield, block, precision, experimental error, uniformity trails, and efficiency. Basic principles of design of experiments - Replication Randomization and Local control. Completely Randomized Design-definition, layout, linear mathematical model, assumptions, hypothesis, splitting up of sum of squares into various components, degrees of freedom and ANOVA table. Merits and demerits and applications of CRD. Simple numerical problems.   10 Hours

Unit-IV. Randomized Block Design:

Definition of RBD, layout, linear mathematical model, assumptions, statistical hypothesis, splitting up of total sum of squares into various components, degree of freedom, and ANOVA table. Merits and demerits of RBD. Applications of RBD. Comparative study of CRD and RBD. Simple problems.   15 Hours

Unit-V. Latin Square Design:

Definition of LSD, layout of LSD, linear mathematical model, Assumptions, Statistical hypothesis, splitting up of total sum of squares into various components, degree of freedom and ANOVA table., merits and demerits of LSD, applications of LSD, Comparative study of RBD and LSD. Simple problems.   15 Hours

Books for Reference:

1. Sankhyshastra and Ganakayantra- by S. G Gani

2. Fundamentals of Aapplied Statistics- by Gupta S C. and V K Kapoor

3. Applied Statistics – by Parimala Mukhyopadhyaya

4. Applied Statistics- by Gupta S P. and V K Kapoor

5. Statistical Methods – by S.P.Gupta

6. Statistics Volume-1 by Raj Mohan

Operations Research-I

MAX. MARKS: 100 (SEC- 80 + IA – 20)   **Credits: 3**
Teaching Hours: 60 Hours   **Workload: 05 Hrs/ Week**

Unit-I. Linear Programming Problem:

Origin, development, definition and applications of Operations research. Definition of LPP and statement of the general linear programming problem. Explanation of terms- Objective function, feasible solution and Optimal solution. Mathematical formulation of linear programming problem in case of two variables with examples. Graphical method of solving LPP and merits and demerits. Simple numerical problems.   15 Hours

Unit-II. Transportation Problem:

Definition of transportation problem, feasible solution, basic feasible solution , degenerate solution, non-degenerate solution and optimal solution. Methods of finding basic feasible solution-North West Corner Rule, Vogel's approximation method (Unit cost penalty method) and Matrix Minima method (lowest cost entry method) simple problems.   15 Hours

Unit-III. Assignment Problem:

Definition of Assignment problem, procedure of solving assignment problem. Simple numerical problems on assignment.   10 Hours

Unit-IV. Game Theory:

Meaning of a competitive game. Explanation of a n-person game, a two-person game, a two-person zero-sum game, strategy, pure and mixed strategies, pay off matrix, meaning of maximin and minimax, and saddle point. Solving rectangular game with maximin-minimax principle and dominance principle.   10 Hours

Unit-V. Replacement Theory:

Meaning, need for replacement, the principle of replacement in case of items that deteriorate with age (discrete case) without considering the change in money value. The formula for finding the average annual cost and problems relating to it.   10 Hours

Books for Study:
1. Kantiswaroop,Man Mohan and P.K Gupta (2003):Operations Research-Sultan Chand & co .
2. S.Kalavathy. Operations Research, Vikas Publishing House.
3. Sharma J.K: Operations Research - Theory and Applications, Mc Millan India Ltd., New Delhi
4. Anand Sharma: Quantitative techniques, Himalaya Publishing House.
5. Kapoor V.K: Operations Research- Sultan Chand & Co.
6. Vohra N.D. Quantitative Techniques in Management. Mc Graw Hill Education Pub's

Operations Research-II

MAX. MARKS: 100 (SEC- 80 + IA – 20) **Credits: 3**
Teaching Hours: 60 Hours **Workload: 05 Hrs/ Week**

Unit-I. Linear Programming Problem:

Origin, development, definition and applications of Operations research. Definition of LPP and statement of the general linear programming problem. Explanation of terms- Objective function, feasible solution and Optimal solution. Mathematical formulation of linear programming problem in case of two variables with examples. Graphical method of solving LPP and merits and demerits. Simple numerical problems. 15 Hours

Unit-II. Sequencing Problems: Introduction, Terminology and notations. Principle assumptions. Solution of sequencing problems. Processing of n jobs through 2 machines. Processing n jobs through 3 machines. 10 Hours

Unit-III. Decision Theory: Introduction, basic terminology, steps in decision making. Decision making environment - Decision under conditions of uncertainty – maximax criterion, maximin criterion, Laplace criterion, Regret criterion and Hurwicz criterion. Decisions making under conditions of risk – EMV, EVPI and EOL. Decision tree analysis.

 15 Hours

Unit-IV. Inventory Theory: Description of Inventory system. Inventory costs. Demand, lead time. EOQ model without shortages – Purchasing model with uniform demand and with finite replenishment rate. Examples based on these models. 10 Hours

Unit-V. PERT-CPM: Introduction, Historical development of PERT/CPM techniques. Basic steps in PERT/CPM techniques. Network diagram representation. Rules for drawing network diagram. Labelling: Fulkerson's I-J rule. Time estimation and Critical path in network analysis. Project evaluation and Review techniques (PERT). Uses of PERT and CPM for management. 10 Hours.

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Books for Study:
1. Kantiswaroop,ManMohan and P.K Gupta (2003):Operations Research-Sultan Chand & co .
2. S.Kalavathy. Operations Research, Vikas Publishing House.
3. Sharma J.K: Operations Research - Theory and Applications, Mc Millan India Ltd., New Delhi
4. Anand Sharma: Quantitative techniques, Himalaya Publishing House.
5. Kapoor V.K: Operations Research- Sultan Chand & Co.
6. Vohra N.D. Quantitative Techniques in Management. Mc Graw Hill Education Pub's

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Statistical Data Analysis

MAX. MARKS: 50 (SEC- 40 + IA –10)   **Credits: 3**
Teaching Hours: 30 Hours   **Workload: 02 Hrs/ Week**

Unit-I. Introduction:

Meaning, objectives and motivation in research. Types of research, research approach, and significance of research. Research problems: Definition, selection and necessity of research problems, techniques in defining a research problem.   10 Hours

Unit-II. Survey Methodology and Data Collection

Introduction, inference and error in surveys, target population, sampling frames and coverage error. Methods of data collection, non response, questions and answers in surveys.

                                                                        10 Hours

Unit-III. Statistical Analysis and Report Writing

Measures of Central Tendency and average. Measures of Dispersion, Skewness and Kurtosis.

Layout of research report and characteristics of a good research report.   10 Hours

Books for Reference:

1. Research Methodology Methods and Techniques: Kothari C.R. (2004)- New age International (P) Ltd, Publishers.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

ECONOMICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

0

CBCS Based Syllabus Course Structure for B.A (UG) in Economics (Optional) (W.e.f. 2020-21 Onwards)

Semester	Code/ Course	Paper No	Title of the Paper	Teaching Hours/ Week	Credits	Marks			Duration of Sem End Exam
						IA	Sem End Exam	Total	
I	DSC 1	1	Micro Economics	5	3	20	80	100	3
II	DSC 2	2	Macro Economics	5	3	20	80	100	3
III	DSC 3	3	Public Economics	5	3	20	80	100	3
	SEC 1	4	Statistics for Economics	2	2	10	40	50	2
IV	DSC 4	5	International Economics	5	3	20	80	100	3
	SEC 2	6	Human Resource Management	2	2	10	40	50	2
V	DSE 1	7	1) Indian Economy	4	4	20	80	100	3
		7.1	2) Monetary Economics OR 3) Rural Development	4	4	20	80	100	3
	SEC 3	8	Financial Institutions and Markets	2	2	10	40	50	2
VI	DSE 2	9	1) Development Economics	4	4	20	80	100	3
		9.1	2) Environment Economics OR 3) Industrial Economics	4	4	20	80	100	3
	SEC 4	10	Economics of Tourism	2	2	10	40	50	2
				44	36				

2

BA ECONOMICS
FIRST SEMESTER
Paper No. 1 (DSC 1) : Micro Economics

Objectives: The objectives of this paper are to familiarize the students with economic behaviour of consumers and producers, and production, cost and revenue functions and the determination of price and output in different markets, and to theories relating to rent and profits.

Unit-I : Introduction to Micro Economics
Meaning, Scope, Types – Importance and Limitations; Methodology in economics; Choice as an economics problem; Law of Scarcity and Supply frame work, Production Possibility Curve.

Unit-II: Theory of Consumer's Behaviour
Demand-Meaning, Determinants and Law of Demand; Elasticity of Demand – Demand Forecasting ; Supply-Meaning, Determinants and Law of Supply; Elasticity of Supply; Theory of Consumer Behaviour- Marginal Utility Analysis -Theory of Indifference Curve and Its Properties; Consumers' Price Effect, Income Effect and Substitution Effect; Inferior Goods and Giffen Goods.

Unit-III: Production, Costs and Revenue
Production Function- Short-run and Long-run; Law of Variable Proportions; Returns to scale; Characteristics of Isoquants and Isocost line; Cost Function- Different Concepts of Costs, Short-run and Long run Cost Analysis; Least cost combination of factors; Break-even- analysis.

Unit-IV: Market Structure and Product Pricing
Concepts of Total, Average and Marginal Revenue; Perfect Competition-Equilibrium of the Firm and Industry; Monopoly-Equilibrium of the firm, Price discrimination; Monopolistic Competition-, Short- run and Long-run Equilibrium of the Firm and Group Equilibrium; Oligopoly- Features and Types of Oligopoly.

Unit-V: Factor Pricing and Distribution
Wage Determination, Marginal Productivity Theory of Distribution; Ricardian and Modern Theories of Rent, Quasi-rent;; Theories of Profit-Dynamic Theory, Risk and Uncertainty Theory and Schumpeterian Theory of Profit.

References:

1) Ahuja, H.L. (2017): Modern Micro Economics, S. Chand & Company Ltd New Delhi
2) Dwivedi, D. N. (2016): Micro Economics Theory and Applications, 3rd Edition, Vikas Publishing.
3) Jhingan, M. L. (2017): Micro Economic Theory, Vrinda Publication, Pvt, Delhi.
4) Koutsoyiannis A. (2003): Modern Micro Economics, 2nd Edition, Macmillan London
5) Pindyck, R. S. and D.L. Rubinfeld (2000): Microeconomics, 3rd Edition, Prentice Hall, India.
6) Seth, M.L. (1985): Micro Economics, Lakshmi Narain Agrawal Publisher, Agra.
7) Varian, Hal R. (2010): Micro Economic Analysis, W.W. Norton & Company, New York.

3

Paper No. 2 (DSC 2) : Macro Economics

Objectives: The objectives of this paper are to acquaint the students with the behaviour of macro economics variables; to provide knowledge of national income accounts, classical macro economics, the Keynesian economics, business cycles and inflation.

Unit - I: Introduction to Macro Economics

Meaning, Scope and Importance of Macro Economics; National Income Accounting: Concepts of National Income- GDP, GNP, NNP, National Income at Factor Cost, PI, DPI, PCI**;** Methods and Difficulties in Measuring National Income; Circular Flow of Income

Unit- II: Classical Theory of Employment

Classical Theory of Employment-Assumptions and Full-employment Equilibrium; Say's Law of Market; Wage-Price Flexibility, A.C. Pigou's Reformulation.

Unit-III: Keynesian Economics

Keynesian Theory of Employment- Concept of Effective Demand and its Determinants; Consumption Function - Average Propensity to Consume and Marginal Propensity to Consume and Factors Determining Consumption Function; Saving Function - Average Propensity to Save and Marginal Propensity to Save; Determinants of Savings; Investment Function - Marginal Efficiency of Capital and Factors Influencing the MEC.

Unit-IV: Theory of Multiplier and Accelerator

Multiplier- Meaning, Working and Limitations; Accelerator- Meaning, Working and Limitations.

Unit- V: Business Cycles and Inflation

Business Cycles- Meaning, types of the business cycle, features of the business cycle, phases of business cycle; Control of Business Cycles.

Definitions of Inflation, Causes of Inflation, Types of Inflation-demand push inflation and cost push inflation; inflationary gap; Effects of Inflation, Measures to control Inflation.

References:

1) Ahuja, H. L. (2013): Macro Economics Theory & Policy, 19th Edition, S. Chand & Company Ltd, New Delhi

2) Chopra, P. N. (2016): Macro Economics, Kalyani Publishers, New Delhi

3) Dornbusch, R. and F. Stanley (1997): Macro Economics, McGraw Hill, New York.

4) Shapiro, Edward (1996): Macro Economic Analysis, Galgotia Publications, New Delhi.

5) Gupta, R. D. (1983): Keynesian Economics an Introduction, Second Revised Edition, Kalyan Publishers, New Delhi.

6) Jhingan, M. L. (2017): Macro Economic Theory, Vrinda Publications (P) Ltd. Delhi.

7) Rana, K. C. and K. N. Verma (2014): Macro Economic Analysis, 10th Reprint, Vishal Publishing Co., Daryaganj, Delhi.

8) Seth, M. L. (2006): Macro Economics, Laxmi Narain Agarwal, Educational Publishers, Agra.

4

THIRD SEMESTER

Paper No. 3 (DSC 3) : Public Economics

Objectives: The objectives of this paper are to acquaint the students with the concepts of public economics, basis for public expenditure, public revenue, canons of taxation and theories of public expenditure, and also to familiarise the students with different concept of budgetary deficits, budget and fiscal policy.

Unit- I: Introduction to Public Economics
Nature, Scope and Importance of Public Finance; Public and Private Finance- Similarities and Dissimilarities; Concept of Public and Private Goods; Principle of Maximum Social Advantage.

Unit-II: Public Revenue
Meaning, Significance and Sources of Public Revenues; Canons of Taxation; Merits and Demerits of Direct and Indirect Taxes; Concept of Progressive, Regressive, Proportional and Digressive Taxes; Shifting and Incidence of Taxes; Goods and Service Tax (GST)- Meaning, Objectives, Slabs of GST, Structure (SGST, CGST and IGST), GST Council and Impact of GST.

Unit- III: Public Expenditure
Meaning and Types of Public Expenditure; Cause for Growing Public Expenditure and its Effects; Role of Public Expenditure in Economic Development; Wagner's views on Public Expenditure.

Unit- IV: Public Debt and Deficit Financing
Meaning, Objectives, Types and Burden of Public Debt; Causes for Growth of Public Debt and Methods of Redemption of Debt; Meaning, Objectives and Effects of Deficit Financing.

Unit- V: Budget and Fiscal Policy
Meaning, Types and Importance of Budget; Budget Preparation and Process; Budgetary Deficits- Fiscal Deficits – Primary Deficit, Revenue Deficits; Zero- Based Budgeting; Fiscal Policy- Meaning, Objectives and Tools, Federal Finance.

References:
1) Agarwal, R. C. (2016): Public Finance Theory and Practice, Lakshmi Narain Agarwal, Agra
2) Bhatia, H L (2018): Public Finance, S. Chand and Co., New Delhi.
3) Dalton, Hugh (1997): Principles of Public Finance, Allied Publishers Pvt. Ltd. New Delhi.
4) Hinderick, John and Myles Gareth (2016): Intermediate Public Economics, PHI, New Delhi.
5) Hyman, David N (2013): Public Finance- A Contemporary Application of Theory to Policy, Thomson South Western Ohio, USA.
6) Lekhi, R.K (2015): Public Finance, Kalyani Publishers, New Delhi.
7) Musgrave, R.A and Musgrave P.A (2017): Public Finance in Theory and Practice, Mcgraw-Hill Kogakkusha, Tokyo.
8) Om Prakash (2016): Public Economics: Theory and Practice, Vishal Publishing Co. Ludhiana.
9) Singh, S.K. (2016): Public Economics: Theory and Practice S. Chand and Co., New Delhi.
10) Tyagi, B. P (2016): Public Finance, Jai Prakash Nath and Company, Meerut, India.

Paper No. 4 (SEC 1) : Statistics for Economics

Objective : The objectives of this paper are to acquaint the students of economics with basic methods of data analysis in Economics using statistical tools/models. The paper aids the students of economics in understanding the importance of decision in determining the choice.

Unit-I: Introduction to Statistics

Statistics- Meaning, Scope, Importance and Limitations; Sources of Data-Primary and Secondary; Types of Data-Qualitative and Quantitative; Classification of Data- Nominal, Ordinal, Interval and Ratio; Frequency and Tabulation of Data.

Unit-II: Measures of Central Tendency and Dispersion

Measures of Central Tendency: Mean-Arithmetic, Harmonic and Geometric, Median and Mode; Measures of Dispersion: Range, Inter-quartile Range, Mean Deviation, Standard Deviation and Co-efficient of Variation.

Unit-III: Correlation and Regression

Correlation- Meaning and Types-Simple, Partial and Multiple Correlation; Measures of Correlation-Karl Pearson and Spearman's Rank Correlation; Regression- Meaning and Types
- Simple Regression and Multiple Regression Analysis and its Applications.

References:

1) Gupta, S. P. (2012): Statistical Methods, S. Chand and Sons, Educational Publishers, New Delhi.
2) Gupta, S.C. and Kapoor, V. K. (2016): Fundamentals of Applied Statistics, 3rd Edition, Sultan Chand & Sons, New Delhi.
3) Monga, G. S. (2015): Mathematics and Statistics for Economics, Second Revised Edition, Vikas Publishing House, Pvt. Ltd. New Delhi.
4) Salvatore, D. (2015): Mathematics and Statistics, Schaum's Series, Tata McGraw Hill.

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FOURTH SEMESTER

Paper No. 5 (DSC 4) : International Economics

Objectives: This paper aims to understand the theories of international trade, role of WTO in foreign trade, balance of payment and determination of foreign exchange rate, foreign investment, Make in India v/s Made in India and institutions promoting international trade and investment.

Unit-I: Introduction
International Trade – Meaning and Importance, Distinction between Internal and International Trade; Theories of Absolute Cost Advantage and Comparative Cost Advantage; Heckscher-Ohlin Theory.

Unit-II : Balance of Trade and Balance of Payments
Causes for Disequilibrium in Balance of Payments, Methods of Correcting Disequilibrium; Terms of Trade – Factors affecting Terms of Trade.

Unit-III : Exchange Control
Meaning, Methods of Exchange Control; Appreciation and Depreciation of Rupee – Meaning and effects; Dumping and Anti-Dumping – Meaning – Objectives – Effects

Unit IV : Foreign Exchange
Meaning – Equilibrium Rate of Exchange, Fixed and Flexible Exchange Rates; Purchasing Power Parity Theory; Foreign Exchange Market – Structure, Functions and Methods of Payments, Spot and Forward Rate of Exchange, Hedging, Speculation and Arbitrage.

Unit V : International Economic Organizations
WTO **-** Structure, Objectives and Functions; Foreign Capital - Sources - Foreign Direct, Investment (FDI) and Foreign Institutional Investments (FIIs) in India; Make in India; SAARC, BRICS- Objectives and Functions.

References :

1) M.L.Seth : "International Economics- Laksmi Narayan Educational Publications", Agra.
2) M.L.Jingan : "International Economics" – Vrinda Publications, New Delhi.
3) A.B.N.Kulkarni and A.B.Kalkundrikar : "International Economics", R.Chand& Co.
4) K.P.M.Sundaram : "Money Banking and International Trade" – S.Chand& Co New Delhi.
5) B.O. Soderston : "International Economics".
6) C.P. Kindelberger : "International Economics"
7) P.A. Samuelson and Nordous : "Economics"

Paper No. 6 (SEC 2) : Human Resource Management

Objectives: The aim of this course is to enable the students to understand thoroughly the concepts of Human Resource Management and to familiarize the students about the vital aspects of Human Resource Management and Human Resource Development.

Unit – I : Introduction
HRM- Meaning, Objectives, Scope and Its Importance; Functions of HRM; Planning, Recruitment and Selection, Training and Development,

Unit - II : Human Resource Planning and Appraisal
Human Resource Planning (HRP): Meaning, Need and Process of HRP, Responsibility for HRP, Performance Appraisal: Need and Significance- Setting Employees Performance, Objectives and Goals; Creating Organizational Conditions for Improving Employee Performance.

Unit – III : Human Resource Development
Concept and Evolution; Relationship between Human Resource Manegement and Human Resource Development; HRD Mechanisms, Processes and Outcomes; HRD Matrix; Roles and Competencies of HRD Professionals.

References:
1) Aswathappa, K. (2000): Human Resource and Personal Management, Tata Mc Graw Hill, New Delhi.
2) Daniel Goleman (2004): Emotional Intelligence, Bloomsbury Publishing India Private Limited, New Delhi.
3) Jim Mathewinan (2000): Human Resource Planning, Jaico Publish House, Bangalore.
4) Mamoria, C. B. and S. V. Gankar (2008): A Textbook of Human Resource Management, Himalaya Publishing House, Mumbai.
5) Wayne, F. Cascio (2000): Management Human Resources, McGraw Hill Higher Education, New York
6) Mankin, D., Human Resource Development, Oxford University Press India.
7) Haldar, U. K., Human Resource Development, Oxford University Press India.

Paper No. 7 (DSE 1/1) : Indian Economy

Objectives: The objectives of this course are to analyze the structure and condition of Indian Industries, to examine the development various problems of agricultural sector, to know about the performance of Indian banking sector, to understand the structure of India's foreign trade, to examine the trends and patterns of public expenditure and revenue of Central Government.

Unit-I: Industrial Development

Importance and Classification of Industries; Major Industries- Iron and Steel Industries, Cotton Textile Industries and their Progress and Problems; Micro, Small, Medium Enterprises (MSMEs)- Concept, Classification, Importance, Problems and Measures; Multinational Companies in India - Meaning, Importance and Defects, New Industrial Policy of India.

Unit-II: Agricultural Development

Indian Agriculture - Importance and Problems; Causes of Low Agriculture Productivity and Measures to Increase Agriculture Productivity; Minimum Support Price Policy; Sources of Agriculture Finance; Agriculture Marketing - Defects and Its Measures; Crop Insurance Policy; New Agriculture Policy of India

Unit-III: Banking Sector

Reserve Bank of India – Functions and its Monetary Policy, Commercial Banks- Meaning, Importance and Growth of Commercial Banks; Regional Rural Banks-Objectives, Progress, Problems and Remedial Measures; Banking Sector Reforms in India; Demonetisation- Meaning and Its Impacts on Indian Economy;

Unit-IV: Indian Public Finance

Sources of Public Revenue-Tax and Non-tax Revenue; Public Expenditure-Development and Non-development; Revenue and Capital Expenditure; Causes for Growing Public Expenditure; Public Debt- Meaning, Importance, Sources, Budget –Meaning and Types; Fiscal Policy- Meaning, Objectives and Tools.

Unit-V: Foreign Trade of India

Features, Volume, Composition and Direction of India's Foreign Trade; Recent Position of India's Balance of Payment; New Foreign Trade Policy of India - India and World Trade Organization (WTO)

References:
1) Agarwal, A. N. and Agarwal M. K. (2016): Indian Economy: Problems of Development and Planning, New Age International (P) Limited Publishers, New Delhi.
2) Agarwal, H. S. (2011): Indian Economy, Lakshmi Narain Agarwal, Agra.
3) Agarwal, R. C. (2015): Economics of Development and Planning (2014-15), Lakshmi Narain Agarwal, Agra.
4) Dhingra, I. C. (2018): Indian Economy, S. Chand and Company Limited, Ram Nagar, New Delhi.
5) Government of India (2017): Economic Survey of India (Annual), Ministry of Finance, Government of India, New Delhi.
6) Lekhi, R.K. and Joginder Singh (2014): The Economics of Development and Planning, Kalyani Publishers New Delhi.
7) Misra, S. K. and V. K. Puri (2018): Indian Economy, Himalaya Publishing House, Mumbai.
8) Ruddar Dutt and K.P.M. Sundharam (2002): Indian Economy, S. Chand and Company Limited, New Delhi.
9) Sundaram, K.P.M. (2004): An Introduction to Indian Economy, S. Chand and Company Limited, Ram Nagar, New Delhi.

Paper No. 7.1 (DSE 1/2) : Monetary Economics

Objectives: The objectives of this paper are to understand the working of monetary system, understanding the value of money in modern economic context and to study the recent development in banking and market and capital market sectors.

Unit- I: Nature and Functions of Money
Money- Meaning, Evolution and functions, and Components of money- M_1, M_2, M_3 and M_4. Creation of Money; Money multiplier, money market equilibrium, Digital money – meaning and its instruments.

Unit- II: Demand for Money
Demand for Money- Classical Approach-Quantity Theory of Money- Fisher's Equation and Cambridge Equation; Keynesian Liquidity Preference Approach.

Unit-III: Money Market and Capital Market
Money Market-Meaning, Features and Instruments and India's Money Market; Capital Market-Meaning, Features, Types of Market- Primary and Secondary Markets; Indian Capital Markets and Its Instruments; SEBI- Working of SEBI-Sensex and Nifty.

Unit-IV: Central Banking
Central Banking-Meaning, Functions, Methods of Credit Control- Quantitative and Qualitative Credit Control Methods; Monetary Policy- Meaning, Objectives and Instruments.

Unit-V: Commercial Banking
Commercial Banking: Meaning, Functions, Credit Creation and Balance Sheet of Commercial Banks, Performance and problems; Private Banking, Recent Banking Sector Reform.

References:

1) Gupta, Suraj B. (2010): Monetary Economics: Institutions, Theory and Policy, S. Chand & Company, New Delhi.
2) Jhingan, M. L. (2012): Monetary Economics, Vrinda Publications (P) Ltd. Delhi
3) Kulkarni, A.B.N. and B. K. Kalkundrikar and A.H. Shaikh (2012): Monetary Economics, R. Chand & Co. New Delhi.
4) Pathak, B.V. (2011): The Indian Financial System: Market, Institution and Services, 3rd Edition, Pearson Education.
5) Paul, R .R. (2005): Monetary Economics, Kalyani Publishers, New Delhi.
6) Seth, M. L. (2010): Monetary Economics, Lakshmi Narain Agarwal Educational Publisher Agra.
7) Sundaram, K.P. M. (2010): Money, Banking and International Trade, Sultan Chand and Sons, New Delhi.

Paper No. 7.1 (DSE 1/2) : RURAL DEVELOPMENT

Objectives : The objective of this paper is to understand the basics of rural development, including characteristics, problems and programmes of rural development in India. It also attempts to study the trends and patterns of economic diversification and governance in rural areas and the role of infrastructures and governance in rural development

Unit – I : Nature and Scope of Rural Development
Need for Rural Development; Concept, Objectives and Indicators of Rural Development; Characteristics of Rural Economy; and Rural-Urban Linkage.

Unit – II: Poverty and Unemployment in Rural India
Rural Poverty-Concept, Poverty Line, Measurement, Poverty Trends, Poverty and Causes of Poverty; Unemployment- Concept, Measurement, Trends, Regional Pattern and Causes of Unemployment; Review of Current Poverty Alleviation and Employment Generation Programmes in India.

Unit – III : Transferring Rural Economy
Importance of Agriculture and Allied Activities in Rural Development; Rural Non-Agricultural Employment in India- Importance, Growth, Regional Pattern and Determinants; Progress and Problems of Small-Scale Industries (SSI/ MSME's) and Remedial Measures.

Unit – IV: Infrastructures for Rural Development
Rural Infrastructures- Meaning, Classification, Importance, Problems; Educational and Health infrastructure; Housing and Sanitation; Drinking Water Supply; Rural Energy; Rural Transport and Communication; Rural Electrification.

Unit – V : Rural Governance
Panchayat Raj Institutions Legislations powers, Functions and sources of revenue- Role of N.G.Os in rural development.

References :

1) Chambers, R. (1983): Rural Development: Putting the Last First, Longman, Harlow.
2) Desai, Vasant (2015): Rural Development, Himalaya Publication, Mumbai.
3) Gupta. K .R. (Ed) (2003): Rural Development in India, Atlantic Publishers and Distributors, New Delhi.
4) Jain, Gopal Lal (1997): Rural Development, Mangal Deep Publications, Jaipur,.
5) Maheshwari, S. R. (1985): Rural Development in India, Sage Publications, New Delhi.
6) Satya Sundaram, I. (2015): Rural Development, Himalaya Publishing House, Delhi.
7) Singh, Katar (1986): Rural Development: Principles, Polices and Management, Sage Publications, New Delhi, (Second Edition).
8) Mondal, Sagar and G. L. Ray (2011): Rural Development, Kalyani Publishers, New Delhi.

Paper No. 8 (SEC 3) : Financial Institutions and Markets

Objectives: The objectives of this paper are to understand the financial systems, operation objectives and functions of primary and secondary markets.

Unit-I: Financial Institutions

Meaning, Structure, Objectives; Structure and Features of Indian Financial System; Role of Financial Institutions in Economic Development of with special reference to India

Unit-II: Primary Markets

Meaning, Objectives and Features; Instruments of Primary Markets-Debt, Equity Shares, and Preference Shares, Advantages and Disadvantages of Primary Market; Role of Primary Markets in Economic Development with special reference to India.

Unit-III: Secondary Markets

Meaning, Objectives, Features and Instruments; Role of Secondary Markets in Economic Development; Advantages and Disadvantages of Secondary Market; Distinction between Primary and Secondary Market; Stock Exchange – Meaning and Growth of Stock Exchange.

References:

1) Bhole, L. M. and J. Mahukud (2011): *Financial Institutions and Markets*, 5th Edition Tata McGraw-Hill, New Delhi.

2) Bhole L.M (2000) : 'Indian Financial System', Chugh Publications, Allahabad.

3) Edminster R. O (1986) : 'Financial Institutions: Markets and Development', Yale, London.

4) Johnson J. J (1993) : Financial Institutions and Markets, MaGrow Hill, New York

5) Varshney, P. N. and D. K. Mittal (2004): *Indian Financial System,* S. Chand and Sons.

Paper – 9 (DSE 2/1) : Development Economics

Objectives: The objectives of this paper are to provide the students with the essential tools and concepts of development economics, general theories of economic growth and development, problems of economic development and to prepare them to understand what helps development to succeed.

Unit-I: Concepts of Development

Economic development – Meaning and Definitions – Distinction between Economic Growth and Development - Indicators of Development: Gross National Product (GNP), Net National Product (NNP), Per Capita Income, Human Development Index (HDI), Human Poverty Index (HPI), Gender Related Development Index, Inclusive Development, MDGs, Poverty and inequality.

Unit-II: Theories of Economic Growth and Development

Adam Smith's Theory, Ricardo's, Karl Marx's Theory - Schumpeter's Theory and Rostow's Growth Theories, Lewis Labour Surplus Model – Rodan's Big Push Theory – Balanced and Unbalanced Growth.

Unit-III: Factors in the Development Process

Capital Accumulation-Determinants of Capital Accumulation, Importance of Capital Formation, Sources of Capital Formation; Capital - Output Ratio; Technology and Economic Development - Institutional Factors; Natural Resources and their Importance-Man Power planning, Human Resources and development.

Unit-IV : Sectoral view of Development

Role of agriculture in economic development; Modernization and agricultural development; Efficiency and Role of industrial growth in economic development; the choice of technique, appropriate technology and employment.

Unit-V : Environment and Sustainable Development

Definition, Importance and role of environment in sustainable development; environment –
economy linkage; environmental externalities and state regulation of the environment, economic activity and climate change.

References:

1) Gerald M. Meier and James E. Rauch (2005): Leading Issues in Economic Development, 8 th Edition, Oxford University Press, USA.
2) Higgins, Benjamin (1968): Economic Development, W.W. Norton & Company.
3) Jhingan, M.L. (2012): Economic Development and Planning, 40th Revised Edition, Vrinda Publications, Delhi.
4) Kindleberger , Charles P. (1958):.Economic Development, 8 th Edition, McGraw-Hill Book Company, Inc., New York.
5) Misra, S. K. and V. K. Puri (2010): Economic Development and Policy in India, Himalaya Publishing House, Pvt. Ltd., Mumbai.
6) Naqvi, Syed NawabHaider (2002). Development Economics – Nature and Significance, Sage, New Delhi.
7) Ray, D., (1998). Development Economics, Princeton University Press.

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Paper No. 9.1 (DSE 2/2) : Environment Economics

Objectives: The objectives of this paper are to enable the students to understand the importance of environment and resource conservation, to identify the causes of various types of pollutions and reflect upon what needs to be done to promote sustainable development.

Unit- I: Environment and Ecology
Meaning and Elements of Ecology, Environment and Economic Linkages; Entropy Laws, Population Environment Linkage; Concept and Indicators of Sustainable Development.

Unit- II: Natural Resources and Conservation
Meaning; Natural Resource and Economic Development; Renewable and Non-Renewable Resources; Reasons for Scarcity of Natural Resources; Conservation and Recycling Measures; Energy Resources –Energy and Economic Development; Alternative Energy Sources.

Unit- III: Environmental Pollution (With reference to India)
Meaning, Types of Pollution - Air, Water and Noise Pollution; Land Degradation and Deforestation, Loss of Biodiversity and Climate Change – Causes and Consequences

Unit-IV: Environment Valuation
Values of Environment and Ecosystem, Importance of valuation, Total Economic Valuation, Methods of valuation; Contingent valuation method, Travel cost method.

Unit-V: Environmental Policy and Citizen Enforcement
Environmental Management System and Regulatory in India – Role of Pollution Control Boards and their Functions; Provisions of the Environmental Protection Act, 1986; Environmental Movements in India (Chipko);, Swachh Bharat Abhiyan; Afforestation Programmes

References:
1) Bhattacharya, R.N. (Ed.) (2001): Environmental Economics: An Indian Perspective, Oxford University Press, New Delhi.
2) Karpagam, M. (1991): Environmental Economics: A Text Book, Sterling Publishers, New Delhi.
3) Kumar, N. (2017): Environmental Economics, Lakshmi Narain Agarwal, Agra
4) Nick Hanley, Jason F., Shogren and Ben White (1997): Environmental Economics in Theory and Practice, Macmillan India Ltd. London.
5) Rajalakshmi, N. and Dhulasi Birundha (1994): Environomics, Economic Analysis of Environment, Allied Publishers, Ahmedabad.
6) Sankaran, S. (1994): Environmental Economics, Margham, Madras,Chennai.
7) Sengupta, R. P. (Ed.) (2001): Ecology and Economics: An Approach to Sustainable Development, Oxford University Press, New Delhi.
8) Shankar, U. (2001): Environmental Economics, Oxford University Press, New Delhi.
9) Singh, G.N (Ed.) (1991): Environmental Economics, Mittal Publications, New Delhi.

Paper No. 9.1 (DSE 2/2) : Industrial Economics

Objectives: The objectives of this paper are to understand the various problems confronting the entrepreneurs in the process of industrialization, to study the significance of industrialization in the dynamic competitive economic systems; and to examine the of development and expansion of major and small-scale industries.

Unit-I: Introduction to Industrial Economics

Meaning and Definition of Industrial Economics-Need for Industrialisation -Factors affecting Industrialisation Industrial Location-Meaning. Location Theories-Weber and Sergeant Florence-Factors affecting Location. Split in Location.

Unit-II: Productivity and Efficiency

Industrial Productivity and Efficiency-Meaning and Measurement of Productivity, Scope and Significance of Productivity, Factors influencing Productivity, National Productivity Council.

Unit-III: Industrial Growth and Pattern

Classification of Industries; Role of Public and Private Sector;; Multinational Corporations and Transfer of Technology. Liberalisation and Privatization, Issues in Industrial Pollution and Environmental Preservation, Pollution Control Policies.

Unit-IV: Industrial Finance

Role, Nature, Value and Types of Institutional Finance; IDBI, IFCI, ICICI, SFCs, SIDBI, and Commercial Banks, EXIM BANK and MUDRA.

Unit-IV: Current Problems of Selected Industries

Iron and Steel, Cotton Textiles, Jute Textiles, Sugar, Coal, Cement and Engineering Goods Industries; Development of Small Scale and Cottage Industries in India ; (MSME's), make in India Need for Skill Development.

References:
1) Ahluwalia, I. J. (1985): Industrial Growth in India, Stagnation in the Mid Sixties, Oxford University Press, New Delhi.
2) Barthwal, R. R. (1985): Industrial Economics, Wiley Eastern Ltd., New Delhi.
3) Cherunilam, F. (1994): Industrial Economics: Indian Perspective (3rd Edition), Himalaya Publishing House, Mumbai.
4) Dasai, B. (1999): Industrial Economy in India, (3rd Edition), Himalaya   Publishing House, Mumbai.
5) Divine, P.J. and R. M. Jones et.al. (1976): An Introduction to Industrial Economics, George Allen and Unwin Ltd., London.
6) Hay, D. and D. J. Morris (1979): Industrial Economics: Theory and Evidence, Oxford University Press, New Delhi.
7) Kuchhal, S.C. (1980): Industrial Economy of India, (5th Edition), Chaitanya Publishing House, Allahabad.
8) Singh, A. and A.N. Sadhu (1988): Industrial Economics, Himalaya Publishing House, Bombay.

Paper No. 10 (SEC 4) : Economics of Tourism

Objectives: The objectives of the paper are to examine the importance of tourism in national economy, concepts of tourism, economic impact of tourists, tourism planning and policy for sustainable tourism development.

Unit-I: Introduction to Economics of Tourism
Tourism: Definition- Meaning- Nature and Scope of Tourism, Tourism Development and National Economy: Contribution to GDP-Importance of Tourism Industry in India and Karnataka, Factors Influencing Growth and Development of International and National Tourism.

Unit-II: Economic Impact of Tourist
Employment and Income Creation; Special Characteristics of Employment and Income Generated by Tourism; Secondary Employment and Income, Tourism Multiplier- Limitations of Tourism Multiplier.

Unit-III: Tourism Planning and Policy
Tourism Policy of the Government and Planning; Changing Dimensions of Tourism Planning; Environmental Impact Analysis, Sustainable Tourism Development- Approaches to Tourism Planning.

References:

1) Bhatia, A. K. (2012): Tourism Development: Principles and Practice, (Paperback), Sterling Publishers Pvt. Ltd., New Delhi.
2) Heinemann (2014): The Economics of Tourism Destination, Elsevier Butterworth, Oxford.
3) Jenkins, Carson L. and Leonard J. Lickorish (1997): An Introduction to Tourism, Butterworth-Heinemann, Oxford.
4) Kotler, Philip T., John T. Bowen, James Makens and Seyhmus Baloglu (2016): Marketing for Management & Hospitality and Tourism Marketing, Pearson.
6) Patel, S.G. (2015): Modern Market Research, Himalaya Publishing House, Mumbai.
7) Seth, P. N. (2006): Successful Tourism Management: Fundamentals of Tourism, Sterling Publishing House, New Delhi.
8) Swain, Sampad Kumar and Jitendra Mohan Mishra (2011):Tourism: Principles and Practices,(Paperback), Oxford University Press.
9) Vanhove, N. (2005): The Economics of Tourism Destinations: Theory , Elsevier Butter worth, Oxford.

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MODEL QUESTION PAPER

.... Semester B.A. Degree Examination 2020

Time 3 Hours   Max Marks: 80

Instruction to candidates:

1. Answer all the three sections
2. Draw the diagrams wherever necessary
3. Section D is Compulsory

SECTION-A

1. Answer any Five of the following Questions in one or two sentences   5X2=10

    (a)
    (b)
    (c)
    (d)
    (e)
    (f)
    (g)

SECTION-B
Answer any Five of the following Questions   5X5= 25

2.
3.
4.
5.
6.
7.
8.

SECTION-C
Answer any Two of the following Questions   2X15=30

9.
10.
11.
12.

SECTION-D
13. **Caselet**   15 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

ENGLISH

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

CONTENTS

1. Board of Studies: English (UG)

01	**Prof. Vijay Nagannawar** Department of Studies in English, Rani Chanamma University, Belagavi.	Chairman
02	**Shri. M. C. Karabari** Department of English, BLDEA's College, Jamkhandi.	Member
03	**Shri. U. S. Aralimatti** Department of English, RPD College, Belagavi.	Member
04	**Shri. S. B. Khot** Department of English, MES College, Mudalagi.	Subject Expert
05	**Dr. M. M. Hurali** Department of English, KLE's B. K. College, Chikodi.	Subject Expert
06	**Dr. S. B. Biradar** Department of English, SVM College, Ilkal.	Subject Expert

2. Abbreviation Used

Part 1: DSC - Discipline Specific Course (Optional English)

Part 2: DSE - Discipline Specific Elective (Optional English)

Part 3: AECC -Ability Enhancement Compulsory Course (Basic English)

Part 3: SEC - Skill Enhancement Course (Communicative English)

3. Course Objectives for BA/BSC/BCOM/BBA/BCA/BSW

1) To acquaint the students with communication skills

2) To inculcate life skills and human values

3) To improve the language competency

4) To enhance listening and speaking skills

5) To improve reading and writing skills

6) To encourage to think creatively and critically

7) To expand emotional intelligence

8) To develop gender sensitivity

4. Course Outcomes for BA

On successful completion of CBCS English courses, an undergraduate student will be able to:

1) Read, understand, and interpret a variety of written texts

2) Undertake guided and extended writing using appropriate vocabulary and correct grammar

3) Listen and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation

4) Become employable with requisite professional skills, ethics and values

5. *Course wise Credit Structure*

Choice Based Credit System (CBCS) for **BA Programme**

Part 1: DSC - Discipline Specific Course (Optional English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks Sem End Exam	IA	Total	Duration of Exam
I	DSC ENG105	Understanding Literature – I	5	3	80	20	100	3 Hrs
II	DSC ENG106	Understanding Literature – II	5	3	80	20	100	3 Hrs
III	DSC ENG107	Understanding Literature – III	5	3	80	20	100	3 Hrs
IV	DSC ENG108	Understanding Literature – IV	5	3	80	20	100	3 Hrs

Part 2: DSE - Discipline Specific Elective (Optional English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks Sem End Exam	IA	Total	Duration of Exam
V	DSE ENG109	Literary Criticism and Theory	4	4	80	20	100	3 Hrs
	DSE ENG110A	Linguistics and ELT	4	4	80	20	100	3 Hrs
	DSE ENG110B	**OR** Media and Communication						
VI	DSE ENG111	The English Language and Phonetics	4	4	80	20	100	3 Hrs
	DSE ENG112A	Indian English Literature	4	4	80	20	100	3 Hrs
	DSE ENG112B	**OR** Translation Studies						

Part 3: SEC - Skill Enhancement Course (Communicative English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
III	SEC ENG113	Soft Skills	2	2	40	10	50	2 Hrs
IV	SEC ENG114	Business Correspondence	2	2	40	10	50	2 Hrs
V	SEC ENG115	Media and Communication	2	2	40	10	50	2 Hrs
VI	SEC ENG116	Media Writing	2	2	40	10	50	2 Hrs

Part 1: DSC – Discipline Specific Course (Optional English)

Semester I: DSCENG105 – Understanding Literature I
(3 Credits; 5 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The courses introduce the students who have opted to study English as one of their major subjects a few literary gems from various parts of the globe. The selections are aimed at initiating students for a systematic study of literature. They read the representatives poems of the age alongside the concise meanings of 22 literary terms.

Internal Assessment consists of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams. 20 marks of IA in every semester is part of the continuous evaluation process and help students in knowing their texts. The semester end exam for 80 marks tests the student's progress in the semester from multiple perspectives. One-mark, five-mark and ten-mark questions in the examination are designed to evaluate the textual understanding.

Unit I: History of English Literature (2 hrs, 30 Marks)
1) The Renaissance
2) Elizabethan Poetry
3) Elizabethan Drama
4) Metaphysical Poetry
5) Cavalier Poetry
6) Puritan Prose

Unit II: Introduction to Literature (1 hr, 10 Marks)
1) What is Literature?
2) Literature and society
3) Literature and Culture
4) Literature and Science

Unit III: Selected Poems (1 hr, 20 Marks)
1) And Wilt thou Leave me Thus? - Sir Thomas Wyatt
2) One day I wrote her name… - Edmund Spencer
3) To Celia - Ben Jonson
4) Sonnet 130 - William Shakespeare
5) To His Coy Mistress – Andrew Marvel

Unit IV: Literary Forms and Terms (1 hr, 20 Marks)
4.1) Literary Forms: Essay, Novel, Tales, Legends, Sonnet, Lyric, Epic, Comedy, Tragedy, Tragicomedy, and Farce
4.2) Literary Terms: Allegory, Simile, Metaphor, Metonymy, Personification, Pun, Soliloquy, Chorus, Climax and Euphemism

IA 	**: 20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern

I.	10 Objective questions on Unit I	10x1=10
II.	05 Short answer type questions on Unit IV Literary Terms (4.2)	5x02=10
III.	Essay type question on Unit I (1 out of 2)	1x10=10
IV.	Essay type question on Unit I (1 out of 2)	1x10=10
V.	Essay type question on Unit II (1 out of 2)	1x10=10
VI.	Essay type question on Unit III (1 out of 2)	1x10=10
VII.	Short notes on Unit III (2out of 4)	1x10=10
VIII.	Short notes on Unit IV Literary Forms (4.1)	2x05=10
Total		80

Reference Books

Abrams, M. H. A Glossary of Literary Terms, Thomson Press (India) Ltd, 2019.

Cuddon, J .A. *A Dictionary of Literary Terms.* Viva Books, 1998.

Daiches, David. *A Critical History of English Literature.* Secker & Warburg, 1968.

Gray, Martin. *A Dictionary of Literary Terms.* Pearson, 2008.

Hudson, WH. *An Introduction to the Study of Literature.* Rupa, 2015.

Jespersen, 0 . *Growth and Structure of the English Language.* Blackwell, 1991.

Kreutzer, James. *Elements of Poetry.* Macmillan, 1971.

Lemon, Lee T. *A Glossary for Study of English.* OUP, 1974.

Wood, F. T. *An Outline History of the English Language.* Macmillan, 2000.

Semester II: DSCENG106 – Understanding Literature II
(3 Credits; 5 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: History of English Literature 18th century (2 hrs, 30 Marks)
1. Features of Restoration Literature
2. Restoration Poetry
3. Restoration Comedy
4. Neo-classical Poetry
5. Periodical Essay
6. 18th Century Novel
7. Sentimental Comedy

Unit II: *The School for Scandal* – Richard Brinsley Sheridan (2 hrs, 30 Marks)

Unit III: Literary Forms and Terms (1 hr, 20 Marks)
3.1 Literary Forms: Biography, Autobiography, Memoir, Mock Epic, Ode, Novella, Dramatic Monologue, Elegy, Ballad, and Idyll.

3.2 Literary Terms: Hyperbole, Irony, Paradox, Atmosphere, Character, Imagery, Narrative technique, Plot, Setting and Symbolism

Question Paper Pattern
I.	10 Objective questions on Unit I	10x1=10
II.	05 Short answer type questions on Unit III (3.2)	5x02=10
III.	Essay type question on Unit I (1 out of 2)	1x10=10
IV.	Essay type question on Unit I (1out of 2)	1x10=10
V.	Essay type question on Unit II (1 out of 2)	1x10=10
VI.	Essay type question Unit II (1 out of 2)	1x10=10
VII.	Short notes on Unit II (2 out of 4)	2x05=10
VIII.	Short notes on Unit III (3.1) (2 out of 4)	2x05=10
Total		80

Reference Books
1. Andrew Sanders: The Short Oxford History of English Literature
2. Edward Albert: History of English Literature
3. Michael Alexander: A History of English Literature
4. G.M. Trevelyan: English Social History
5. Bibhash Choudhury: English Social and Cultural History

Semester III: DSCENG107 – Understanding Literature III
(3 Credits; 5 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: History of English Literature (2 hrs, 30 Marks)
1. Salient Features of Romanticism
2. Romantic Poetry
3. Romantic Prose
4. Features of Victorian Poetry
5. Victorian Poetry
6. Victorian Prose
7. Victorian Novel

Unit II: Poetry (1 hr, 20 Marks)

1) Three Years She Grew - William Wordsworth
2) Ode to a Nightingale - John Keats
3) Skylark - P. B. Shelley
4) Lotus Eaters – Lord Tennyson

Unit III: Essays (2 hrs, 30 Marks)
1) On Reading Old Books - William Hazlitt
2) The Londoner - Charles Lamb
3) Will Wimble - Joseph Addison
4) On Finding Things - E. V. Lucas
5) Man in Black (Meeting with Begger, Soldier and seller) – Oliver Goldsmith

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.   10 Objective questions on Unit I   10x1=10
II.   Essay type question on Unit I (1 out of 2)   1x10=10
III.   Essay type question on Unit I (1out of 2)   1x10=10
IV.   Essay type question on Unit II (1out of 2)   1x10=10
V.   Essay type question Unit III (1out of 2)   1x10=10
VI.   Essay type question on Unit III (1 out of 2)   10x1=10
VII.   Short notes on Unit II (2 out of 4)   2x05=10
VIII.   Short notes on Unit III (2 out of 4)   2x05=10
Total   80

Reference Books
1. Andrew Sanders: The Short Oxford History of English Literature
2. Edward Albert: History of English Literature
3. Michael Alexander: A History of English Literature
4. G.M. Trevelyan: English Social History
5. Bibhash Choudhury: English Social and Cultural History

Semester IV: DSCENG108 – Understanding Literature IV
(3 Credits; 5 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: History of English Literature 20th Century (1 hr, 20 Marks)
1. Introduction to 20th Century English Literature
2. 20th Century Drama – Poetic Drama & Irish Literary Movement
3. 20th Century Poetry – Georgian Poetry & War Poetry
4. 20th Century Novel – Stream of Consciousness Novel & Women Novelists

Unit II: Waiting for Godot – Samuel Becket(2 hrs, 30 Marks)

Unit III: Animal Farm – George Orwell (2 hrs, 30 Marks)

IA   : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 Objective questions on Unit I	10x1=10
II.	Essay type question on Unit I (1 out of 2)	1x10=10
III.	Essay type question on Unit II (1 out of 2)	1x10=10
IV.	Essay type question on Unit II (1 out of 2)	1x10=10
V.	Short notes on Unit II (2 out of 4)	2x05=10
VI.	Essay type question on Unit III (1out of 2)	1x10=10
VII.	Essay type question on Unit III (1 out of 2)	1x10=10
VIII.	Short notes on Unit III (2 out of 4) 2x05=10	
Total		80

Reference Books
1. Andrew Sanders: The Short Oxford History of English Literature
2. Edward Albert: History of English Literature
3. Michael Alexander: A History of English Literature
4. G.M. Trevelyan: English Social History
5. Bibhash Choudhury: English Social and Cultural History

Semester V: DSEENG109 – Literary Criticism and Theory
(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I (1 hr, 20 Marks)
1. Criticism: Nature, Functions and Types
2. Aristotle and Plato: Mimesis
3. What is Poetry?
4. Longinus: Sublime

Unit II (1 hr, 20 Marks)
1. Classicism, Romanticism and Realism
2. Style
3. Matthew Arnold: Criticism and Creation and Touchstone Method
4. Allen Tate: The New Criticism

Unit III (1 hr, 20 Marks)
1. William Empson's Ambiguity
2. T. S. Eliot: Tradition and Individual Talent
3. Feminism
4. I. A. Richards: Principles of Criticism

Unit IV (1 hr, 20 Marks)
1. Eco criticism
2. Modernism
3. Postmodernism
4. Orientalism

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 Objective type questions based on all Units.	10x1=10
II.	Essay type question Unit I (One out of Two)	1x10=10
III.	Essay type question on Unit II (One out of Two)	1x10=10
IV.	Essay type question on Unit III (One out of Two)	1x10=10
V.	Essay type question on Unit IV (One out of Two)	1x10=10
VI.	Short Notes on all Units (6 out 8)	6x05=30
Total		80

Reference Books
Barry, Peter. Beginning Theory: An Introduction to Literary and Cultural Theory. Manchester and New York: Manchester University Press, 2002.
Bennett, Andrew, and Nicholas Royle. An Introduction to Literature, Criticism and Theory.
Biradar S. B. Literary Criticism and Theory. Scholar Space Pub, 2018
Harlow: Pearson Education Limited. 2009.
Culler, Jonathan. Literary Theory: A Very Short Introduction. Oxford: OUP, 2011.
Eagleton, Terry. Literary Theory: An Introduction. Oxford: Blackwell, 2008.
Preminger, Alex, Leon Golden et al, eds. Classical Literary Criticism: Translations and Interpretations. New York: Frederick Ungar Publishing, 1974.
Rylance, Rick. Debating Texts: A Reader in Twentieth-Century Literary Theory and Method. Milton Keynes: Open University Press, 1987.
Waugh, Patricia. Literary Theory and Criticism: An Oxford Guide. Oxford: OUP, 2006

Semester V: DSEENG110A – Linguistics and ELT

(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: (1 hr, 20 Marks)
i) Definition and Nature of Linguistics
ii) Branches of Linguistics
iii) Properties of Human Language
iv) Approaches to the Study of Linguistics: Synchronic- Diachronic,
Langue and Parole, Competence and Performance

Unit II: (1 hr, 20 Marks)
i) Sentence and its kinds
ii) Sentences Processes (Patterns)
iii) The Structure of Noun Phrase, Verb Phrase, Adjective Phrase, Adverb
    Phrase and Prepositional Phrase in English
iv) Clauses, Subordination and coordination,

Unit III (1 hr, 20 Marks)
i) What is ELT?
ii) Importance of ELT
iii) Knowing the Learner
iv) LSRW

Unit IV (1 hr, 20 Marks)
i) Methods of Teaching English Language and Literature
ii) Materials for Language Teaching
iii) Using Technology in Language Teaching
iv) Assessing Language Skills

IA   : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern

I.	10 Objective type questions on Unit I	10x1=10
II.	Short notes on Unit I (2 out of 4)	2x05=10
III.	Short notes on Unit II (4 out of 6)	4x05=20
IV.	Short notes on Unit III (4 out of 6)	4x05=20
V.	Short notes on Unit IV (4 out of 6)	4x05=20
Total		80

Or

Semester V: DSEENG110B - Media and Communication
(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1: (1 hr, 20 Marks)
1. Define Media
2. Types of Media
3. Role and Importance of Media Today
4. Advantages and Disadvantages of Media

Unit II (1 hr, 20 Marks)
1. Define Communication and its Types
2. Importance of Mass Communication
3. Forms of Mass Communication
4. Mass Communication and Globalization

Unit III: (1 hr, 20 Marks)
1. Digital Media: E-book, E-magazine, E-journal, E-newspaper
2. Use of English in Digital Media
3. Web Writing - Blogging.- Profile Writing – Caption Writing
4. News Writing : Inverted Pyramid, Headline, Blurb, Lead

Unit IV (1 hr, 20 Marks)
1. Advertisement in Different Media
2. Promotional Literature: Pamphlets, Brochures, Classifieds, Text, Logo.
3. Language in Commercials
4. Job opportunities in Media

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	Short notes on Unit I (4 out of 6)	4X05=20
II.	Short notes on Unit II (4 out of 6)	4X05=20
III.	Short notes on Unit III (4 out of 6)	4X05=20
IV.	Short notes on Unit III (4 out of 6)	4X05=20
Total		80

Reference Books
1. Cambridge English for the Media - Elizabeth Lee and Nick Ceramella
2. Understanding Media - Marshall McLuhan
3. English for the Media – Latha Nair, Shelton Pinheiro, Priya K Nair, Vidhu Mary John

Semester VI: DSEENG111 – English Language and Phonetics
(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: The English Language (2 hrs, 20 Marks)
1) Characteristics of the English Language
2) Development of the English Language: Old English, Medieval English, Modern English
3) Vocabulary: Influences on the English Language: Greek, Latin, French
4) Makers of the English Language: the Bible Translations, Shakespeare and Milton
5) Development of Dictionaries
6) English as a Global Language

Unit II: Introduction to Phonetics (2 hrs, 30 Marks)
1) Organs of Speech and Speech Mechanism
2) Classification of Speech Sounds
3) Descritption Speech Sounds
4) Transcription of Words
5) Word stress

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern

I.	10 Comprehension questions on Unit I	10x1=10
II.	Essay type question Unit I (1 out of 2)	1x10=10
III.	Essay type question Unit I 1 out of 2)	1x10=10
IV.	Essay type question Unit I 1out of 2)	1x10=10
V.	Essay type question Unit I (1 out of 2)	1x10=10
VI.	Short notes on Speech sounds (2 out of 4)	2x05=10
VII.	Word Transcription	10x1=10
VIII.	Word Stress	10x1=10
Total		80

Reference books

1. The English Language – C. L. Wren
2. An Outline History of the English Language. F. T. Wood
3. English Language and Phonetics – S. B. Biradar

Semester VI: DSEENG112A - Indian English Literature
(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I: History of Indian English Literature (1 hr, 30 Marks)
1. Pre-Independence Indian English Poetry and Fiction
2. Post Independence Indian English Literature up to 2010: Poetry, Fiction and Drama

Unit II: Selected Poems (1 hr, 20 Marks)
1) Our Casuarina Tree - Toru Dutt
2) Let me not Forget - Rabindranth Tagore
3) Entertainment - Nissim Ezekiel
4) The Old Playhouse - Kamala Das
5) Obituary - A. K. Ramanujan

Unit III: The Vendor of Sweets - R. K. Narayan (2 hrs, 30 Marks)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 Objective questions Unit I	1X10=10
II.	Essay type question on Unit I (1out of 2)	1X10=10
III.	Essay type question on Unit I (1out of 2)	1X10=10
IV.	Essay type question on Unit II (1out of 2)	1X10=10
V.	Essay type question on Unit II (1out of 2)	1X10=10
VI.	Essay type question on Unit III (1 out of 2)	1X10=10
VII.	Essay type question on Unit III (1 out of 2)	1X10=10
VIII.	Short notes on Unit III (2 out of 4)	2X05=10
Total		80

Reference Books
1. History of Indian English Literature – M. K. Naik
2. Indian English Literature – Basavaraj Naikar
3. Indian English Litrarture – Srinivas Iyengar

OR

Semester VI: DSEENG112B - **Translation Studies**
(4 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit-I: Introduction to Translation (1 hr, 20 Marks)
1. Definition of Translation—Translating from source language to target language
2. Purpose of Translation: literary, cultural, knowledge bridge, self-other interaction
3. Importance of Translation
4. Types of Translation

Unit -II: Approaches to Translation (1 hr, 20 Marks)
1. Domestication: Readability in the target language
2. Foreignisation: Faithfulness to the source language

Unit-III: Methods of Translation (1 hr, 20 Marks)
1. Meta-phrase—sense translation based on difference
2. Paraphrase—word-to-word translation based on equivalence
3. Imitation—regulated transformation
4. Interpretation and Adaptation

Unit –IV: Problems of Translation (1 hr, 20 Marks)
1. Cultural Gap
2. Untranslatability
3. Translation as appropriation of indigenous languages by English
4. Translation of Kannada into English or vice versa or Paraphrasing of a poem

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : **100** Marks

Question Paper Pattern

I.	Short notes on Unit I (4 out of 6)	4X05=20
II.	Short notes on Unit II (4 out of 6)	4X05=20
III.	Short notes on Unit III (4 out of 6)	4X05=20
IV.	Short notes on Unit III (4 out of 6)	4X05=20
Total		80

Referance Books
Angelelli, Claudia and Baer, James Brian (eds). 2016. Researching Translation and Interpreting. London: Routledge.
Baker, Mona, and Gabriela Saldanha (eds). 2009. Routledge Encyclopedia of Translation Studies. Second edition. London: Routledge.
Bermann, Sandra, and Catherine Porter (eds). 2014. A Companion to Translation Studies. Malden/Oxford: Wiley Blackwell. Oxford: Oxford University Press.
Millan, Carmen and Bartrina, Francesca (eds). 2013. The Routledge Handbook of Translation Studies. London and New York: Routledge.

Part 3: SEC – Skill Enhancement Course (III to VI Semesters)

Introduction: The students of these courses have to deal with the challenges of life as well as occupation as soon as they finish their undergraduate programme. It is an advantage for them to learn Communicative English for precise and specific use in their future life and occupation. Suitable verbal communication skills give power to them to accomplish their scholastic and professional goals. It improves their societal associations. For this reason, these courses are designed to prepare students in essential communicative language skills.

Semester III: SECENG113 – Soft Skills
(2 Credits; 2 Teaching hours; 40 Theory + 10 IA = 50; 2 hrs Exam)

Unit I
1. Definition and Importance of Soft Skills
2. Leadership Skills. Companies want employees who can supervise and direct other workers.

Unit II
1. Teamwork
2. Communication Skills

Unit III
1. Problem Solving Skills
2. Work Ethics

Unit IV
1. Flexibility/Adaptability
2. Interpersonal Skills

IA : **10** Marks (1Internal Test: 05 marks; Attendance 2 marks & Language Activity 3 marks)

Theory: 40 Marks

Total : 50 Marks

Question Paper Pattern
I.	2 questions each on Unit 1	2X5=10
II.	2 questions each on Unit 2	2X5=10
III.	2 questions each on Unit 3	2X5=10
IV.	2 questions each on Unit 4	2X5=10
Total		50

Semester IV: SECENG114 - Business Correspondence
(2 Credits; 2 Teaching hours; 40 Theory + 10 IA = 50; 2 hrs Exam)

1. Enquiry and Reply Letters
2. Orders and Execution Letters / Cancellation Letters
3. Complaints and Settlements
4. Request for Loans / Overdrafts and Suitable Replies

IA   : **10** Marks (1Internal Test: 05 marks; Attendance 2 marks & Language Activity 3 marks)
Theory: 40 Marks
Total   : 50 Marks

Question Paper Pattern
I.	2 questions each on Unit 1	2X5=10
II.	2 questions each on Unit 2	2X5=10
III.	2 questions each on Unit 3	2X5=10
IV.	2 questions each on Unit 4	2X5=10
Total		50

Semester V: SECENG115 - Media and Communication Skills
(2 Credits; 2 Teaching hours; 40 Theory + 10 IA = 50; 2 hrs Exam)

1. Mass Communication and Globalization
2. Forms of Mass Communication
3. Writing Pamphlets and Posters
4. Creating jingles and taglines

IA : **10** Marks (1Internal Test: 05 marks; Attendance 2 marks & Language Activity 3 marks)

Theory: 40 Marks

Total : 50 Marks

Question Paper Pattern

I.	2 questions each on Unit 1	2X5=10
II.	2 questions each on Unit 2	2X5=10
III.	2 questions each on Unit 3	2X5=10
IV.	2 questions each on Unit 4	2X5=10
Total		50

Semester VI: SECENG116 – Media Writing

(2 Credits; 2 Teaching hours; 40 Theory + 10 IA = 50; 2 hrs Exam)

1. Script writing for TV and Radio
2. Writing News Reports and Editorials
3. Editing for Print and Online Media
4. Writing an editorial on a burning issues

IA **: 10** Marks (1Internal Test: 05 marks; Attendance 2 marks & Language Activity 3 marks)

Theory: 40 Marks
Total : 50 Marks

Question Paper Pattern

I.	2 questions each on Unit 1	2X5=10
II.	2 questions each on Unit 2	2X5=10
III.	2 questions each on Unit 3	2X5=10
IV.	2 questions each on Unit 4	2X5=10
Total		50

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

ENVIRONMENTAL SCIENCE

2ND   Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES.   16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION.   16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
2. Biodiversity and its conservation in India. Indus Publishing Company, New Delhi Primack, Richard B 2006.
3. Essentials of conservation biology, 4th edition, Senaceer Associates, Sunderland, Mass.
4. Krishnamurthy K V 20014. An advanced text book of Biodiversity,
5. Principles and Practice. Oxford and IBH Publishing Co. Lvt. Ltd. Negi S S 1933.
6. Biodiversity in India (floristic aspects). Bishen Singh Mahendra Pal Singh, Dehradun.
7. Muller Dombois J. And Ellenberg, H. (1974) aims and methods of vegetation ecology,Wiley, new york.
8.Odum, E.P. 91971) fundamentals of Ecology, saunders, Philadelphia.
9. Kormondy, E. J. (1996) concepts of ecology, prentice hall, India, New Delhi.
10. Foin, T.C. (1976) ecological system and environment, Mifflin, boston.
11. Nobel B.J. and Wright, R.T. (1996) environmental science, prentice hall New Jersey.
12. Lillesand T.M. and Kiefer R.W. (1987) Remote sensing and image interpretation , John Wiley and sons, New York.
13. Agarwal, S.B. and Agarwal, M. (Ed.) (2000) environmental pollution and responses, CKC, press, London.
14. Koshoo, T. N. (1991) environmental concept and stragies ashish publ. House, new delhi.
15. Colinvaux P.C. (1993) ecology John Wiley and Sons, New york.
16.Indian Journal of Ecology by Indian Journal of Ecology
17.Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.

 (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2)   : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

             b) Internal Assessment   :   10 Marks

             c) Total   :   50 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

HINDI

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

1. Syllabus Prescribed for B.A. is applicable to B.S.W. & C.C.J
2. Syllabus Prescribed for B.Com.is applicable to B.B.A.
3. Syllabus Prescribed for B.Sc. is applicable to B.C.A.

Courses

AECC: Ability Enhancement Compulsory Course

DSC: Discipline Specific Course

DSE: Discipline Specific Elective

SEC: Skill Enhancement Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks
Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks
Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks
Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks
Q-5 Others : 28 Marks

(DSC) DISCIPLINE SPECIFIC COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks
Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks
Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks
Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks
Q-5 Others : 28 Marks

(DSE) DISCIPLINE SPECIFIC ELECTIVE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks
Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks
Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks
Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks
Q-5 Others : 28 Marks

(SEC) SKILL ENHANCEMENT COURSE (Total 40 Marks)

4 Questions Carrying 10 marks each : 4x10=40 Marks

COURSE PATTERNS, SCHEME OF EXAMINATION AND CREDITS
B.A/B.S.W. /C.C.J Subject : HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	Marks IA	Marks Exam	Marks Total	Credits
I	AECC	1) प्रतिनिधी कहानियाँ (कहानी संकलन) 2) भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
	DSC	1) कहानी कुंज (कहानी संकलन) 2) अनुवाद : (पारिभाषिक शब्दावली तथा परिच्छेद)	1T*	5	3	20	80	100	3
II	AECC	1) काव्यकलश (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
	DSC	1) पद्य परिमल (कविता संकलन) 2) हिन्दी साहित्य का इतिहास – आदिकाल	1T*	5	3	20	80	100	3
III	AECC	1) गद्य विविधा (गद्य संकलन) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	DSC	1) गद्य धारा (गद्य संकलन) 2) हिन्दी साहित्य का इतिहास – भक्तिकाल	1T*	5	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1) काला पत्थर (नाटक 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	DSC	एकांकी कलश (एकांकी संकलन) हिंदी साहित्य का इतिहास – रीतिकाल	1T*	5	3	20	80	100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40	50	2
V	DSE-1	1) मध्यकालीन हिन्दी काव्यसंकलन 2) हिन्दी साहित्य का इतिहास : आधुनिक काल	1T*	4	3	20	80	100	4
	DSE-2A DSE 2B	1) गाथा कुरुक्षेत्र की (नाट्य काव्य) 2) भारतीय आर्यभाषाएँ और हिन्दी भाषा का इतिहास OR 1) कल परसों के बस्सों (रेखाचित्र संग्रह) 2) काव्यशास्त्र तथा छंद और अलंकार	0	4	3	20	80	100	4
	SEC	अनुवाद विज्ञान	1T*	2	2	10	40	50	2
VI	DSE-1	1) जी जैसी आपकी मर्जी (नाटक) 2) सोशल मीडिया	1T*	4	3	20	80	100	4
	DSE-2A DSE-2B	1) दौड़ (उपन्यास) 2) भाषा विज्ञान OR 1) समय सरगम (उपन्यास) 2) पत्रलेखन	1T*	4	3	20	80	100	4
	SEC	पत्रकारिता और मीडिया लेखन	1T*	2	2	10	40	50	2

B.A/B.S.W./C.C.J Subject : HINDI
Semester I

AECC: Ability Enhancement Compulsory Course

1) प्रतिनिधी कहानियाँ (कहानी संकलन)
2) हिंदी भाषा के विविध रुप : बोलचाल की भाषा, परिनिष्ठित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा
3) स्वर तथा व्यंजन – सामान्य परिचय
4) अनुवाद (पारिभाषिक शब्दावली)

प्रात्यक्षिक : कथाकारिता, शब्दों का योग्य उच्चारण, शब्दों का अनुवाद

DSC: Discipline Specific Course

1) कहानी कुंज (कहानी संकलन)
2) अनुवाद (पारिभाषिक शब्दावली तथा परिच्छेद)
प्रात्यक्षिक : कथाकारिता, अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) काव्यकलश (कविता संकलन)
2) व्याकरण–संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
3) पत्रलेखन–परिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र
प्रात्यक्षिक : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

DSC : Discipline Specific Course

1) पद्य परिमल (कविता संकलन)
2) हिन्दी साहित्य का इतिहास : कालविभाजन एवं नामकरण, आदिकालीन साहित्य की विशेषताएँ, सिद्ध, नाथ, जैन एवं रासो साहित्य का सामान्य परिचय
प्रात्यक्षिक : काव्य रचना, काव्य प्रस्तुति,

Reference books :

1. हिंदी साहित्य का इतिहास : आचार्य रामचंद्र शुक्ल
2. हिंदी साहित्य का आदिकाल : आचार्य हजारीप्रसाद द्विवेदी

B.A/B.S.W. Programme
Subject : HINDI
Semester III

AECC : Ability Enhancement Compulsory Course

1) गद्य विविधा (गद्य संकलन)

2) भाषा संप्रेषण-परिभाषा, प्रकार, चरण

3) मुहावरें और लोकोक्तियाँ

4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द

प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग प्रस्तुती

DSC : Discipline Specific Course

1) गद्य धारा (गद्य संकलन)

2) हिन्दी साहित्य का इतिहास- भक्तिकाल,

भक्तिकाल की सामान्य विशेषताएँ, प्रमुख कवि-कबीरदास, सूरदास, तुलसीदास, जायसी, रसखान का परिचय

प्रात्यक्षिक : संतों तथा भक्तों के काव्य की प्रस्तुति

Reference books :

1. हिंदी साहित्य का इतिहास : आचार्य रामचंद्र शुक्ल

2. हिंदी साहित्य का आदिकाल : आचार्य हजारीप्रसाद द्विवेदी

SEC (Skill Enhancement Course)

1) संभाषण कला

1) संभाषण का अर्थ 2) संभाषण के विविध रुप, वार्तालाप, व्याख्यान, वाद-विवाद, जनसंबोधन

3) संभाषण कला के प्रमुख उपादान– यथेष्ट भाषा ज्ञान, मानक उच्चारण, सटीक प्रस्तुती, अन्तराल ध्वनि (वॉल्यूम), लहजा (ऑक्सेंट)

4) संभाषण कला के अन्य रुप– उद्घोषणा कला (अनाउन्समेंट), आँखों देखा हाल (कमेंट्री) संचालन (अँकरिंग),

वाचन कला, समाचार वाचन (रेडीयो, टी.व्ही.) मंचीय वाचन (कविता, कहानी आदि)

2)प्रयोजनमूलक हिंदी- 1) सूचना प्रौद्योगिकी : अर्थ, परिभाषा और स्वरुप 2) कंप्यूटर पर हिंदी में कामकाज : हिंदी फॉंट तथा हिंदी टायपिंग टूल

प्रात्यक्षिक : विभिन्न तरह के वार्तालाप (बँक में, डाकघर में, रेल्वे स्टेशन, बाजार) तथा कार्यक्रम का संचालन

Reference Books

1) भाषण और संभाषण की दिव्य शक्ति : श्री राम आचार्य, (युग निर्माण योजना प्रेस, मथुरा)

2) भाषण कला : डॉ. महेश शर्मा (ज्ञान गंगा, दिल्ली)

3) आधुनिक जनसंचार और हिंदी : हरिमोहन

4) कंप्यूटर और हिंदी : हरिमोहन

AECC : Ability Enhancement Compulsory Course

1) काला पत्थर (नाटक) : डॉ. सुरेश शुक्ल 'चन्द्र' अमन प्रकाशन, कानपुर
2) पल्लवन तथा संक्षेपण –
पल्लवन अथवा कल्पना विस्तार के लिए विषय –
जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है– मन के जीते जीत,
मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय,
परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला
3) अनुवाद (परिच्छेद)
प्रात्यक्षिक : पल्लवन तथा अनुवाद का अभ्यास

DSC : Discipline Specific Course

1) एकांकी कलश (एकांकी संग्रह)
2) हिन्दी साहित्य का इतिहास–रीतिकाल
रीतिकाल की सामान्य विशेषताएँ, प्रमुख कवि बिहारी, भूषण और घनानन्द का परिचय
प्रात्यक्षिक : संवाद लेखन

Reference books :

1. हिंदी साहित्य का इतिहास : आचार्य रामचंद्र शुक्ल
2. हिंदी साहित्य का आदिकाल : आचार्य हजारीप्रसाद द्विवेदी

SEC : Skill Enhancement Course

चलचित्र लेखन
1) भारतीय सिनेमा का इतिहास तथा फिल्म निर्माण की प्रक्रिया
2) लोकप्रिय हिन्दी फिल्में – बागबान, तारें जमीन पर, चक दे इंडिया, अ वेंसडे
3) बॉलीवुड का हिन्दी फिल्म उद्योग
4) हिन्दी की विश्व व्याप्ति में फिल्मों की भूमिका
5) भारतीय सिनेमा में नारी
प्रात्यक्षिक : सिनेमा का परीक्षण

Reference Books
1) हिंदी सिनेमा का इतिहास : मनमोहन चड्ढा
2) सिनेमा : कल आज और कल : विनोद भारद्वाज

DSE 1 : Discipline Specific Elective

1) मध्यकालीन हिन्दी काव्यसंकलन
2) हिंदी साहित्य का इतिहास (आधुनिक काल)
हिंदी में गद्य विधाओं का उद्भव और विकास (उपन्यास, कहानी, नाटक, निबंध)
प्रात्यक्षिक : कथाकारिता

DSE 2A : Discipline Specific Elective

१) गाथा कुरुक्षेत्र की (नाट्यकाव्य) – मनोहर श्याम जोशी, वाणी प्रकाशन, नई दिल्ली
2) भारतीय आर्यभाषाएँ और हिन्दी भाषा का इतिहास
प्रात्यक्षिक : नाट्यकाव्य की प्रस्तुति

DSE 2B : Discipline Specific Elective

1) कल परसों के बरसों (रेखाचित्र संग्रह) – ममता कालिया, वाणी प्रकाशन, नई दिल्ली
2) काव्यशास्त्र : साहित्य की परिभाषा, तत्व तथा प्रयोजन
3) छंद : चौपाई, हरिगीतिका, दोहा
 अलंकार : उपमा, रुपक, अतिशयोक्ति
प्रात्यक्षिक : प्रिय लेखक पर टिप्पणी

SEC : Skill Enhancement Course

अनुवाद विज्ञान
अनुवाद की परिभाषा, प्रकार तथा अनुवाद प्रयोग
प्रात्यक्षिक : प्रत्यक्ष अनुवाद

DSE 1 : Discipline Specific Elective

1) जी जैसी आपकी मर्जी (नाटक) : नादिरा जहीर बब्बर
2) सोशल मीडिया
1) स्वरुप और विकास
2. सोशल मीडिया का प्रभाव : राजनीतिक, सामाजिक, धार्मिक (युवाओं पर, बच्चों पर, महिलाओं पर)
3. फेसबुक, व्हॉट्सअप, ट्विटर, अन्य ऑप्स और हिंदी, ४. सोशल मीडिया में हिंदी का प्रसार और प्रयोग,
प्रात्यक्षिक : ऍप्स का प्रत्यक्ष उपयोग

Reference books

1. पत्रकारिता से मीडिया तक – मनोज कुमार
2. इंटरनेट – शशि शुक्ला
3. वर्च्युअल रिएलिटी और इंटरनेट : जगदीश्वर चतुर्वेदी
4. सोशल मीडिया : योगेश पटेल
5. सोशल नेटवर्किंग : नए समय का संवाद : संपादक संजय द्विवेदी
6. उत्तर आधुनिक मीडिया तकनीक : हर्षदेव

DSE 2A : Discipline Specific Elective

1) दौड (उपन्यास) ममता कालिया, वाणी प्रकाशन, नई दिल्ली
2) भाषाविज्ञान – भाषाविज्ञान की प्रमुख शाखाएँ : वाक्यविज्ञान, रुपविज्ञान, शब्दविज्ञान, ध्वनिविज्ञान तथा अर्थविज्ञान
प्रात्यक्षिक : अन्य उपन्यास की समीक्षा

DSE 2B : Discipline Specific Elective

A) समय सरगम (उपन्यास) – कृष्णा सोबती, राजकमल प्रकाशन, नई दिल्ली
B) पत्रलेखन – पत्रव्यवहार, सामान्य परिचय तथा पत्रों के प्रकार : पारिवारिक पत्र, व्यावहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र
प्रात्यक्षिक : पत्र लेखन का अभ्यास

Reference books
1) व्यावसायिक सम्प्रेषण : डॉ. अनुपचन्द भयानी
2) व्यावहारिक हिन्दी : डॉ. ओमप्रकाश सिंहल, किताबघर, नई दिल्ली

SEC : Skill Enhancement Course

पत्रकारिता और मीडिया लेखन
प्रात्यक्षिक : समाचार लेखन का अभ्यास

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

HISTORY & ARCHAEOLOGY

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

1

UG CBCS SYLLABUS IMPLEMENTATION

Sl. No	Course	Academic Year of Implementation
1	FIRST SEMESTER	2020-2021 and onwards
2	SECOND SEMESTER	
3	THIRD SEMESTER	2021-2022 and onwards
4	FOURTH SEMESTER	
5	FIFTH SEMESTER	2022-2023 and onwards
6	SIXTH SEMESTER	

Department of History & Archaeology Patterns Schemes of Examination and Credits for B.A Programme

Semester	Code/ course	Paper No	Paper	Teaching Hrs/Week	Duration of Exams Hrs	Exams		Total	Credit Values
						I A	Exam		
I	DSC 1	1	**History of India (Early Times to Kushanas)**	05	03	20	80	100	03
II	DSC 2	2	**History of India (From Gupta to 1206 AD.)**	05	03	20	80	100	03
III	DSC 3	3	**History of India –1206 – 1526 A.D.**	05	03	20	80	100	03
	SEC 1	4	**Architecture of karnataka**	02	02	10	40	50	02
IV	DSC 4	5	**History of India- 1526 -1707 A.D.**	05	03	20	80	100	03
	SEC 2	6	**Museum Exhibition skills Development**	02	02	10	40	50	02
V	DSE 1	7	**1)History of India - British Rule -1707- 1947 A. D. - Paper I Compulsory**	04	04	20	80	100	04
		7.1	**2) History and Culture of Karnataka (From Early to 1336 A.D.)** OR **3)History of Modern Europe (1450 -1914 A.D.)** OR **4) History of Tourism and Heritage**	04	04	20	80	100	04
	SEC 3	8	**Information Technology in Tourism**	02	02	10	40	50	02
VI	DSE 2	9	**1)History of Modern India- Paper I Compulsory**	04	03	20	80	100	04
		9.1	**2) History of Modern Karnataka 1336- 1956 A.D** OR **3)History of Modern Europe (1914-1990 A.D.)** OR **4) History of Modern Tourism**	04	03	20	80	100	04
	SEC 4	10	**Guiding Skill & Personality Development**	2	2	10	40	50	2
				44	36				36

3

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B. A – I Semester
History of India (From Early Times to Kushanas)

Teaching Hours: 5 hrs per week 16x5 = 80hrs

Unit-I   Reconstructing Early Indian History

A) Geographical Features of India and Its Impact on History.
B) Sources of Information: Archaeological and Literary Sources.
C) Important Sites of Pre and Proto History :
Pre-Historic sites: Bhimbetak, Sangankallu, Kibbanhalli, Renugunta and Tinnvelly.
Proto-Historic sites: Aihole, Pattadakal, Ajanta, Mahabalipuram, Boudh Gaya.

Unit-II   Stone Ages
A) Palaeolithic Age –Main Features and Important Sites.
B) Neolithic Age –Main Features and Important Sites.
C) Megalithic Age-Main Features and Distribution of South Indian Burials.

Unit-III   Civilization and Culture of Ancient India
A) The Harappan Civilization Discovery and Main Features, Recent Excavation and Decline.
B) The Aryan Culture: Early Vedic and Later Vedic Period: Its Society, Polity, Economy, Religion and Literature.
C) New Religion-Jainism and Buddhism: Mahaveer and Goutam Buddha - Life, Teachings, Spread, Growth, Contributions and Decline.

Unit-IV Greek Invasion and Kingdoms of Northern India.

A) Alexander's Invasions: Causes, Course and Impacts.
B) The Mouryan Empire: Origin and Foundation of Chandragupta Mourya, Ashoka and His Early Life, Dhamma, Spread of Buddhism, Inscriptions, Administration and Growth of Mouryan Art and Architecture.
C) The Kushana's: Kanishka and Kushana's Contributions.
Unit V Map Topics
1. The extent of Harappan Civilization with important sites.
2. The location of Ashokan Inscriptions

4

Reference Books:

1 Thapar Romila : *History of India Vol-I,* Penguin Books India Pvt.Ltd., New Delhi, 2000.

2 Majumdar R.C. : *Ancient India,*MotilalBanarsidas Delhi, Reprint, 2017

3. Lunia B.N. : *Evolution of Indian Culture,* Lakshmi Narayan Agarwal, Agra, 1960.

4. Jha D. N. : *Ancient India- An Introductory,*Rawat Publishers, Jaipur, 1977.

5. Khurana K.L : *Ancient India,* Lakshmi Narayan Agarwal, Agra, 2011.

6. Das S.K. : *The Economic History of Ancient India,* Vohra Publishers, Allahabad, 2007.

7. Sharma R.S. : *Indian Feudalism,*Laxmi Publications, New Delhi, 2008.

8. Sharma R.S. : *Material Culture and Social Formations in Ancient India,* Macmillan India Ltd, Delhi, 2007.

9. Sharma L.P. : *History of Ancient India,*Konark Publishers Pvt.Ltd, Dehli, 2008.

10. Sharma R.S. : *India's Ancient Past,* Oxford University Press, New Delhi, 31st Impression 2018.

11. Bashyam A.L. : *The Wonder that was India, Vol-I,* Picador Pan Macmillan Publisher Ltd, London, 2004.

12. Bridget & Raymond Allchin :*The Rise of Civilization in India and Pakistan,* Cambridge University Press, Foundation Books Dehli, First South Asia Edition 2011.

5

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B.A- II Semester
History of India (From Gupta Period To 1206 AD)

Teaching Hours: 5 hrs per week 16x5 = 80hrs

Unit-I Reconstruction of Ancient Indian History.
   A) Sources- Archaeological and Literary Sources
   B) The Gupta's Empire: Samudragupta and Golden Age of Gupta's - Literature, Religion, Economy, Science-Technology and Art and Architecture.
   c) Vardhan Dynasty : Harshavardhana- Conquests, Buddhism and Education

Unit-II Empires in Deccan.
   A) Early Chalukya's of Badami : Early Rules, Pulakeshi-II and their Cultural Contributions Special Reference to Art and Architecture.
   B) Rastrakuta's of Malakheda- Dhruva, Govinda-III and Amoghavarsha Nrapatunga.
   C) Cultural Contributions of Rastrakutas:
      Administration, Religion, Literature, Education and Art and Architecture.

Unit -III Tamil Kingdoms in South India.
   A) The Pallava's :Mahendravarma-I, Narasimhavarm-I.
   B)The Chola's:Rajraj Chola-I, RajendraChola-I and Local Self Government of Chola's
   C) Growth of Dravidian Architecture with Special Reference to Pallava's and Chola's Period.

Unit-IV Muslim Invasion and Indian Philosophy.

   A) Arabs and Afghan Invasions: Mahammad Bin Kashim, Mahammad Ghazni and Mahammad Ghor – Invasion on India and its Impacts.
   B) Indian Philosophy: Advaita, Dwaita, Vishistadwaita
   C) Veerashaiva :Basaveshwar and Vachana Literature.

Unit-V   Map Topics
   1. The Gupta Empire under Samudragupta,
   2. The Chalukya's Empire under Pulakeshi-II.
   3. Places of historical importance –
   1.Taxila 2. Pataliputra 3.Nalanda 4. Kanuoj 5. Ellora 6.Badami
   7.Pattadakal   8. Kanchi 9.Tanjore 10.Sourastra

6

Reference Books:

1 ThaparRomila   : *History of India Vol-I,* Penguin Books India Pvt.Ltd, New Delhi, 2000.

2 Majumdar R.C.   : *Ancient India,*MotilalBanarsidas Delhi, Reprint, 2017

3. Lunia B.N.   : *Evolution of Indian Culture,* Lakshmi Narayan Agarwal, Agra, 1960.

4.Jha D. N.   : *Ancient India- An Introductory,*Rawat Publishers, Jaipur,1977.

5. Khurana K.L   : *Ancient India,* Lakshmi Narayan Agarwal, Agra, 2011.

6. Das S.K.   : *The Economic History of Ancient India,* Vohra Publishers,
                          Allahabad, 2007.

7. Sharma R.S.   : *Indian Feudalism,*Laxmi Publications, New Delhi, 2008.

8. Sharma R.S.   : *Material Culture and Social Formations in Ancient India.* Macmillan
                          India Ltd, Delhi, 2007.

9. Sharma L.P.   : *History of Ancient India,*Konark Publishers Pvt.Ltd, Dehli, 2008.

10. Sharma R.S.   : *India's Ancient Past,* Oxford University Press, New Delhi,
                          31st Impression 2018.

11. Bashyam A.L.   : *The Wonder that was India, Vol-I,* Picador Pan Macmillan
                          Publisher Ltd. London, 2004.

12 NilkantaSastri K.A. :*The Illustrated History of South India,* Oxford University Press
                          New Delhi, 2009

13. Bridget & Raymond Allchin :*The Rise of Civilization in India and Pakistan,*
                          Cambridge University Press, Foundation Books Delhi,
                          First South Asia Edition 2011.

7

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B.A- III Semester
History of India (From 1206 To 1526 AD)

Teaching Hours: 5 hrs per week 16x5 = 80hrs

Unit-I   Sultanate of Delhi

A) Sources: Literary and Archaeological Sources

B) The Slave Dynasty : Qutabuddin Aibak, Iltuthmish, Raziya and Balban

C) The Khilji and Tughalaq Dynasty's: Allauddin khilji- His Conquests and Reforms. Mahammad-Bin-Tughalaq and Firoz Shah Tughalaq their Reforms.

Unit-II Cultural Contributions of Delhi Sultanate

A) Administration and Socio-Economic Life

B) Education and Literary System

C) Indo-Islamic Art and Architecture

Unit-III The Vijayanagar and Bahumani Kingdoms

A) The Vijayanagar Empire: Devaroy II–Krishnadevaroy and Their Contribution - The Battle of Talikot and Its Effects

B) Contributions of Vijayanagar – Administration, Religion, Literature, Socio-Economic and Art and Architecture.

C) The Bahumani Kingdoms: Mahammad Gawan: His Administration and Art and Architecture.

Unit-IV The Adilshahi's Kingdom and Bhakti Movement.

A)Adilshahi's of Bijapur :Mahamad AdilShahi, Ibrahim Adilshahi-II, Contribution to Literature and Art and Architecture.

B) Bhakti Cult: Kabir, Gurunanak, Meerabhai.

C) Sufi Saints: Moyinuddin Chisti, Nizamuddin Aulliya and Bandenawaz

Unit-V Map Topics

A) The Khilji empire under Alla-Ud-Din-Khilji

B) The Vijayanagar Empire under Krishnadevaroy

C) Places of Historical Importance-1.Delhi 2.Agra 3.Lahore 4.Ranathambor

5.Chittor 6.Doulatabad 7. Hampi 8. Bijapur 9. Bidar 10. Gulbarga .

8

Reference Books:

1 Habib Irfan (Ed)   : *Medieval India, (1200-1750)* Oxford University Press, New Delhi, 1998.

2 Chandara Satish   : *Medieval India from Sultanate to Mughals,* HarAnand Publications, Delhi, 2007.

3. Mehta J.L.   : *Advance Study in the History of Medieval India, Vol- 1(1000-1526),* Sterling Publishers Pvt. Ltd, New Delhi, 2009.

4.Habib Mohammad : *A Comprehensive History of India - The DehliSultanat Vol-V,* People's Publishing House, Delhi.1992

5. Khurana K.L   : *Medieval India,* Lakshmi Narayan Agarwal, Agra, 2009.

6. Chandara Satish: *History of Medieval India,* Orient Black Swan Pvt.Ltd. Hydrabad,   2007.

7. Hassan Nurul S   : *Religion, State and Society in Medieval India,* Oxford University Press, New Delhi, 2008.

8. Chandara Satish   : *Essays on Medieval Indian History,* Oxford University Press, New Delhi, 2003.

9. Sharma L.P.   : *History of Medieval India 1000-1740,* Konark Publishers Pvt.Ltd, Delhi, 1996.

10. Sharma R.S.   : *India's Ancient Past.* Oxford University Press, New Delhi, 31st Impression 2018.

11. Bashyam A.L.   : *The Wonder that was India, Vol-I,* Picador Pan Macmillan Publisher Ltd., London, 2004.

12. Nazim Khalil Ahmed :*Religion and Politics in India during the Thirteenth Century,* Oxford University Press, New Dehli, 2002.

13. Mahajan V.D.   :*History of Medieval India Saltanate Period and Mughal Period,* S. Chand & Company Ltd., New Dehli, 2012.

9

Department of History and Archaeology

SEC I . B.A – III Semester

Architecture of Karnataka

Teaching Hours : 2hrs per week 16 X 2= 3

Unit – I – Buddhist Architecture

a)   General types of Buddhist Architecture-Stupas, Chaityas, Viharas
b) Ashokan period Buddhist Architecture in Karnataka
c) Shatavahana and Later period Buddhist Architecture in Karnataka

Unit – II- Hindu Architecture

a) Origin of Hindu Temples Styles –Nagara,Dravida,Vesara
b) Chalukyan and Rashtrakutas period Architecture and Sculptures
c) Hoysala Temple Architecture and Vijayanagar Monuments

Unit – III- Islamic Architecture

a) Origin of Islamic Architecture
b) Bahamani Architecture
c) Adilshahi Architecture

Reference Books:

1. Percy Brown   : Indian Architecture (Buddhist and Hindu Period), Bombay-1971
2. Percy Brown   : Indian Architecture (Islamic Period), Bombay- 1971
3. Srinivasan K.R: South Indian Temples ,New Delhi-1971
4. Dr. Rajashekara: Karnataka Architecture ,Dharavada-1985
5. Tippeswami P.R: Shilpakala Prapancha,bangaloore-1994

10

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B.A- IV Semester
History of India (From 1526 To 1707 AD)

Teaching Hours: 5 hrs per week 16x5 = 80hrs

Unit-I   Mughal Rule In India
   A) Sources: Archaeological and Literary Sources
   B) Foundation of Mughal Empire–Babar and Humayun:Their Achievements
   C) The Rise of Afghans : Shershah Sur early career and administrative reforms.

Unit-II   Mughal Imperial Period
   A) Akbar: His Conquests, Rajput and Religious Policy
   B) Jahangir and Shahajahan- Golden Age, Nurjahan
   C) Aurangzeb's Deccan, Religion Policies and Decline of Mughal Empire

Unit-III Cultural Contributions of Mughal

   A) Contributions of Administration, Art and Architecture and Paintings

   B) Social Conditions: Women's Position, Education, Literature and Music

   C) Economic Condition: Agriculture, Trade and Commerce, Irrigation, and

   Urbanization

Unit-IV Maratha Empire

   A) Chatrapati Shivaji: His life and military achievements

   B) Contribution of Shivaji's Administrative system

   C) South Indian Dasa Movements :Kanakadas, Purandardas, Vyasaroy

Unit-V Map Topics

   A)The Mughal empire under Akbar.

   B) The Martha empire under Shivaji

   C) Places of Historical Importance –

        1. Shahjahanbad [Delhi]   2. Kabul   3. Fathepur Sikri   4. Agra

        5.Shrinagar   6. Lahore   7. Aurangabad   8. Shivanerukote 9.

        Rayagad 10.Kaginele

11

Reference Books:

1 Habib Irfan : *Medieval India (1200-1750),* Oxford University Press, New Delhi, 1998.

2 Chandara Satish : *Medieval India from Sultanate to Mughals,*HarAnand Publications, Delhi, 2007.

3. Mehta J.L. : *Advance Study in the History of Medieval India- Mughal Empire (1526-1707) Vol- 2,* Sterling Publishers Pvt. Ltd. New Delhi.2009.

4.Athar Ali M. : *The Mughal Nobility under Aurangzeb,* People's Publishing House, Delhi,1992.

5. Khurana K.L : *Medieval India,* Lakshmi Narayan Agarwal, Agra, 2009.

6. Chandara Satish : *History of Medieval India,* Orient Black Swan Pvt. Ltd., Hydrabad, 2007.

7. Hassan Nurul S : *Religion, State and Society in Medieval India,* Oxford University Press, New Delhi, 2008.

8. Chandara Satish : *Essays on Medieval Indian History,* Oxford University Press, New Delhi, 2003.

9. Sharma L.P. : *History of Medieval India 1000-1740,*Konark Publishers Pvt. Ltd., Dehli,1996.

10. Sharma R.S. : *The Mughal Empire in India,* Lakshmi Narayan Agarwal, Agra, 2009.

11. Bashyam A.L. : *The Wonder that was India, Vol-I,* Picador Pan Macmillan Publisher Ltd., London, 2004.

12. Sharma R.S. : *The Crescent in India,* Lakshmi Narayan Agarwal, Agra, 2009.

13. Habib Irfan : *Akbar and His Time,* Oxford University Press, New Dehli, 2013.

14. Sarkar J. N. : *A Short History of Aurangzeb,* Orient Black Swan Pvt.Ltd., New Delhi, 2009.

15. Sarkar J. N. : *The Fall of the Mughal Empire, Volumes I-IV,* Orient Black Swan Pvt.Ltd., New Dehli, 2007.

16. Sarkar J.N. : *Shivaji and His Times*, Orient Black Swan Pvt.Ltd., New Dehli, 2010.

17. Qureshi IshtiaqHussain :*Administration of the Mughal Empire,* Low Price Publications, Dehli, 2004.

18. Desai Ranjeet : *Shivaji: The Great Maratha,* Harper Perennial, Delhi, 2017.

19. Richard John F : *The Mughal Empire,* Cambridge University Press, Delhi, 2016.

20. Mahajan V.D. :*History of Medieval India Saltanate period and Mughal period,* S. Chand & Company Ltd., New Dehli, 2012.

21. Smith V. A. : Akbar the Great Mughal, Create space Independent Publishers, 2015.

Department of History and Archaeology

SEC II . B.A – IV Semester

Museum Exhibition Skills Development

Teaching Hours: 2hrs per week 16 X 2= 32

Unit –I   Museum Exhibition

- a) Purpose and Ethics of Exhibition
- b) Types of Exhibition
- c) Case study of different Types of Exhibition

Unit –II Exhibition Planning's

- a) Concept of development
- b) Exhibition Design
- c) Evaluation of Exhibition

Unit –III Museum Exhibition Skills

- a) Ancillary exhibition
- b) Techniques – Model Making
- c) Photography, videography, etc.

Reference Books:

1. Dernie David   : Exhibition Design , Newyork-2006
2. Michael Belcher   : Exhibition in Museum, Washington (DC) -1991
3. T. Ambrose & C   : Museum Basics , Routledge – 2012
4. Elizabeth Bogle   : Museum Exhibition Planning and Design, Altimira-2013

13

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B.A- V Semester
COMPULSORY PAPER-I History of India –British Rule 1707 To 1905

Teaching Hours: 4 hrs per week 16x4 = 64hrs

Unit-I Advent of European and Expansion of British Power
    A) Advent of Europeans and Anglo-French Conflicts
    B) Consolidation of Power: Robert Clive and Warren Hastings-Their Reforms and Foreign Policy
    C) Lord Cornwallis Reforms

Unit-II British Power under Governor Generals
    A) Lord Wellesley-His Subsidy Alliance
    B) William Bentinck : His reforms
    C) Lord Dalhousie: Reforms and Doctrine of Lapse

Unit- III New Revenue Systems and Indian Revolts
    A) New Revenue Systems: Jamindari ,Raitwari, and Mahalwari.
    B) The Great Revolt of 1857: Nature, Causes and Results
    C) 1858 Queens Proclamation Act

Unit-IV Reforms of Viceroy's in India
    A) Lord Litton: Domestic and Foreign Policy
    B) Lord Rippan: Reforms and Foreign Policy
    C) Lord Curzon: Reforms and Foreign Policy

Unit-V **Map Topics**
    A) Mark the Important Places of Great Revolt 1857
    B) Places of Historical Places-
    1)Kolkata 2)Madras 3)Bombay4)Calicut 5) Surat6)Pandichery 7) Plassey
    8) Baxar 9) Salbha 10) Shrirangpattan

Reference Books:

01. Majumdar R.C. ; *Advanced History of India,* Fourth Edition MacMillan Publication, New Delhi,1978

02. Mahajan V.D.; *History of Modern India* ,S Chand and Company Limited, New Delhi, 2006.

03. Roy M.K.; *Princely States and Paramount Power*, M.K. Books of India, New Delhi,1988

04. Raychaudari S.C.; *Social, Cultural and Economic History of India Modern Times*, Surjeet publications, Delhi, 1976

05. Bipin Chandra .; *Nationalism and Colonialism in Modern India*, Orient Blackswan Private Limited, New Delhi, 1981

06. Grover B.L and AlkaMehata.; *A New Look at on Modern Indian History*, (Revised Edition) S. Chand Publication New Delhi, 2016

07. Percival Spear, *Oxford History of Modern India (1740-1975),* Published by Clarendon Press in Oxford, 1965.

08. Sarkar Sumith.; *Modern India (1985-1947),*Mac Millan Publication, New Delhi,1989.

09. Desai A.R.; *Social Background of IndianNationalism*, SAGE Publication Pvt. Ltd.2016.

10. Hassan Imam ; *Indian National Movement*, Anmol Publication, Delhi, 1999

11. Gopal S.; *British Policy in India (1858 -1905),* Cambridge University Press, 2009

12. Srinivas M.N ;*Social Change in Modern India* , University of California Press,1969.

13. Mishr D.K.; *The Uniform and Division of India*, Lucent Publications,2016.

14. Seel Anil; *The Emergence of Indian Nationalism*, Cambridge University Press, 1971.

15. Tarachand; *Indian National Movement's Volumes* The university of Virginia,2009

16. Sharma L.P.; *Modern India,*Konark Publications Pvt.Ltd., Reprint ,2008.

17. Agarwal R.N.; *Indian National Movement and Constitutional Development*, S Chand and Company, 2005.

18. Khurana K.L.; *History of Modern India*, Ninth Revised Edition, Educational Publisher, Agra, 2009

19. Shivarudrswamy S.N.;*AdhunikBharatdaItihas (Kannada)*, PourasthyaPrakashanTipaturu-Mysore, 2009

15

HISTORY and ARCHAEOLOGY
B.A- V Semester OR
OPTIONAL PAPER-II: HISTORY AND CULTURE OF KARNATAKA
(FROM EARLY TO 1336A.D

Teaching Hours: 4 hrs per week 16x4 = 64hrs

Unit - I Sources and Pre-Historic Sites in Karnataka

- A. Sources: Archaeological and Literary Sources
- B. Geographical of Features of Karnataka
- C. Pre and Proto History of Karnataka –Palaeolithic, Neolithic, Megalithic Cultures.

Unit - II The Early Rulers of Karnataka

- A. Shatavahanas – Goutamiputra Shatkarni and their Cultural Contributions
- B. The Kadambas: Mayur Varma and their Cultural Contributions.
- C. The Gangas: Durvinita and their Cultural Contributions.

Unit – III The Deccan Kingdoms of Karnataka

- A. The Chalukyas of Badami: Early Rulers and Pulakeshi –II and Cultural Contributions of Chalukyas.
- B. Rashtrakutas: Dhruva - Govinda –III- AmoghvarshNrupatunga and their Cultural Contributions.
- C. Chalukyas of Kalyana: Vikramaditya- VI and their Cultural Contribution:

Unit- IV The Kalachuris and Minor Dynasties of Karnataka

- A. Kalachuris of Kalyana –Bijjaladeva,Basaveshwar, Akkamahadevi.
- B. Hoysalas: Vishnuvardhana, Ballala –II and their Cultural Contributions
- C. The Kadambas of Hanagal, The Sindhas of Yalaburgi and The Rattas of Savadatti and Their Contributions.

Unit – V Map Topics

- A. The Chalukyan Empire under Pulakeshi II.
- B. Places of Historical importance -
  1.Sannati 2.Sanganakallu 3.Shravanabelagol 4.Vijayapur
  5.Talakadu 6.Belur7.Kudalasangama 8 Ihole 9. Badami
  10.Manyakheta

16

Reference Books:

01. Altekar A.S., Rashtrakutas and their times. Oriental Book Agency, Poona, 934,

02. Naik Ramesh and M. Kotresh., ChalukyaLekhanaSamputa, Prasaranga Kannada University. Hampi, 2008.

03. Chopra P.N Ravindran, History of South India (Ancient Medieval and Modern) Chand Publications,New Delhi, 2003.

04. George M. Moraes - The Kadambakula, A History of Ancient and Medieval Karnataka, Asian Educational Services, New Delhi. 1931,

05. ItihasDarshanas KarnatakaItihas Academy Bangalore. Volume No.1 to 30

06. TelagaviLaxman., Mauryas and Shatavahanas, Prasaranga Kannada University, Hampi, 2010.

07. Majumdar.R.C., History and Culture of the Indian People Vol., I- Macmillan Publication, New Delhi,1964.

08. Ramesh.K.V., Chalukyas of Vatapi,Agam Kala Prakashan Delhi, 1984,

09. NilakantaShastri K.A., A History of South India, Oxford University Press 1958.

10. Sheik Ali B., The Hoysala Dynasty, Prasaranga University of Mysore.1972,
11. ShilakanthaPattar,- Chalukyas of Badami, Prasaranga, Kannada University Hampi.2000,
12. S. Rajashekhara., TheChalukyas of Badami, Aryan Publications, International, 2016.

17

HISTORY AND ARCHAEOLOGY
B.A. V Semester OR
OPTIONAL PAPER– II : HISTORY OF MODERN EUROPE
(1450 -1914 A.D.)
Teaching Hours: 4 hrs per week 16x4= 64 hrs

Unit-I
   A. Geographical Discoveries: – Causes Inventions and Results.
   B. Renaissance-Meaning, Causes, Features and Renaissance in the field of Art, Literature and Science
   C. Reformation Movement- Causes-Martin Luther, Counter Reformation and Results

Unit-II
   A. French Revolution: – Causes Course and Results.
   B. Napoleon Era- Conquests and Reforms.
   C. Metternich Era:- Vienna Settlement, Concert of Europe.

Unit- III
   A. 1830 and 1848 Revolutions of France and Europe
   B. Second French Republic (1848-1852)
   C. Second French Empire and Napoleon-III (1852-1870)

Unit-IV
   A. Unification of Italy
   B. Unification of Germany
   C. Germany Empire (1871-1914)

Unit –V Map Topics:
   A. Napoleon Conquests
   B. Locate of Concert of Europe
   C. Places of Historical Importance
       1) Paris 2) London 3) Vienna 4) Cape of Good Hope 5)Berlin6)Rome
       7) Mascow8) Madrid 9) Constantinople 10) Alsace-Lorraine

Reference Books:

01. Edward Davis ; *Europe - A History*, Harper Perennial Publication, 1998.

02. Gokhale B.K.; *Modern Europe 1848 to 1960*, Philadelphia University, Jordan and Himalaya Publication, Bombay, 1987.

03. Fisher H.A.L.; *A History of Europe (2- Volumes),* Fontana Publication, 1971.

04. Thomson David; *Europe Since Napoleon (First Edition),* Penguin Books Limited, (UK), 1990.

05. Hazen Charles Downer ; *Europe Since 1815 Vol.-I*, Bell Publisher, 1909.

06. Edgar Swain James ; *A History of World Civilization*, published by McGraw Hill, New York, 1947.

07. Wall Bank and Taylor J.P.; *Civilization of Past and Present*, Harper Collins College Div Publication, 1992.

08. Taylor J.P.; *The struggle for mastery in Europe in 19th and 20th Century*, Publisher Oxford University Press, 1980.

09. Bames H.E.; *Intellectual History of Europe*, Publisher Prentice Hall, 1975.

10. Khurana K.L.; *History of Modern Europe (Ninth Edition),* Educational Publishers, Agra, 2010.

19

HISTORY AND ARCHAEOLOGY
B.A. V Semester OR
OPTIONAL PAPER– I: History of Tourism and Heritage
Teaching Hours: 4 hrs per week 16x4= 64 hrs

Unit-I   Definition and Sources of Tourism

A. Meaning and Definitions of Tourism

B. Sources of Tourism

C. Historical Evolution of Tourism

Unit-II Types and Services of Tourism

A. Types of Tourism-Historical, Cultural Tourism, Eco-Tourism etc.

B. Tourism Services-Travel agency, Tour Operators, Guides and Escorts

C. Transport-Road, Rail, Air & Water

Unit- III Tourist Destination and Fairs - Festivals

A. Important Tourist Destinations of Southern and Northern India, Incredible India
B. Tourism in Karnataka and its prospective "one state many worlds"
C. Fairs and Festivals- Cultural, National and Religious Festivals

Unit-IV Museums and Tourism in Karnataka

A. Museums as product of Tourism Historical, Tribal, Folk, Cultural and

Natural History Museum.

B. K.S.T.D.C Policy, Karnataka Tourism Prospectus.

C. Tourism in Karnataka- Historical Sites, Hill Stations, Beaches, Bird and

Wild life Sanctuaries

Unit-V: Map Topics:
A. Study Tour to World Heritage sites in India (any 1 or 2 sites per year)
B. Map questions- Important Tourist Places:1.Ajmer 2) Tirupati 3) Amritsar 4) Banaras 5) Goa 6) Nagarhole 7Hampi 8) Agra 9) Konark 10) Delhi 11) Calcutta 12) Bombay 13) Mount Abu 14Srinagar 15) Khajuraho.

20

Books for reference

1. History and Tourism (Kan. and Eng. Version) : K.S Vijaylakshmi
2. IGNOU study Material (Bachelor in Tourism Studies)
3. Bahratiya Pravasodyama : Dr.S.N Shivarudra Swami
4. Tourism products in India : T.C Gupta
5. ಭಾರತೀಯ ಪ್ರವಾಸೋದ್ಯಮ ಅಧ್ಯಯನ. ಡಾ॥ ಎಸ್.ಪಿ.ಸುರೇಬಾನಕಾರ ಮತ್ತು ಪ್ರೊ.ಸಿ.ಎಮ್. ಮುನ್ನೋಳಿ.

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Department of History and Archaeology

SEC III . B.A – V Semester

Information Technology in Tousism

Teaching Hours : 2hrs per week 16 X 2= 32

Unit –I   Computer and Information System

a) Internet, Www(world wide web), http(Hyper text transper protocol), Html (Hyper text markup language)
b) URL(Uniform Resource locator), DOS, Power Point
c) Role of Computer in travel and Tourism

Unit –II   Map work

a) GPS (Global positioning system)
b) Calculating Distance on Map
c) Preparation of Charts of the Countries Information

Unit –III   Procedure for Domestic and International Hotel Reservation

a) Documentation related with Hotel Reservation
b) Preparation of Hotel and Other Service Vouchers
c) Document Involved in Informing Sub – Agents for services

Reference Books :

1. James D.Foley   : Computer Graphics
2. Kennet C.Loudon : E-commerce
3. Sanjiv Saxena   : M.S.Office
4. Elliot D.Kapalan   : Undestanding GPS

22

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY and ARCHAEOLOGY
B.A- VI Semester
COMPULSORY PAPER-I : History of Modern India
Teaching Hours: 4 hrs per week 16x4 = 64hrs

Unit –I Socio-Religious Reform Movements of the 19th and 20th Century:
  A. Brahmo Samaj- Raja Ram Mohan Ray. Arya Samaj – Dayanand Saraswati Swami Vivekanand- Ramkrishna Mission and Theosophical Society
  B. Aligarh Movement- Sir Sayyed Ahmad Khan
  C. Upliftment of Women and Social Reforms – Jyotiba Phule, Savitrbai Phule

Unit –II Indian Constitutional Developments
   A. Act of 1909 and Act of 1919
   B. Act of 1935
   C. Indian Independence Act of 1947

Unit -III   Backward Class and Indian National Movements:
  A. Social Reforms of 20th Century: Chh. Shahu Maharaj, Dr.B.R. Ambedkar and Periyar Ramswamy
  B. Freedom Movements Under the Moderates-1885 to 1905
  C. Freedom Struggle from Extremities-1905 to 1919 and Mahatma Gandhiji- Indian National Movement

Unit-IV Partition of India and Economic Developments:
  A.   Mountbatten Plan- Partition of India-Princely States and Role of Vallbahi Patel
  B. Jawaharlal Nehru Era – five years Plans-Economic Progress.
  C. Indira Gandhi: Nationalizations of Banks and 20 Points Programme and Rajeev Gandhi :Panchayath Raj.

Unit V Map Topics:
  A. Places of Princely States in India-
         1. Kashmir 2.Mysore 3.Hydrabad 4.Gwalior 5.Travancore
         6. Jaipur7.Baroda 8.Oudh 9. Kolhapur 10.Indore

   B. Importance of Historical Places
         1.Dandi 2. Aligarh 3. Chouri–Chaura 4.Lahore 5.Surat
         6.Haripura 7. Calcutta 8. Banares   9. Champarannya 10. Belgaum.

23

Reference Books:

01. R.C. Majumdar   - Advanced History of India

02. V.D. Mahajan   - History of Modern India

 03. M.K. Roy   -   Princely States and Paramount Power

04. Raychaudari   -   Social, Cultural and Economic History of India Modern Times

05. Bipin Chandra -   Nationalism and Colonialism in India

 06. Grover and Grover -   A New Look at on Modern Indian History

07. Percival Spear -   Oxford History of Modern India (1740-1975)

08. SumithSarkar -   Modern India (1985-1947)

09. A.R. Desai   -   Social Background of Indian Nationalism

10. Hassan Imam -   Indian National Movement

11. Gopal S. -   British Policy in India (1858 -1905)

12. Srinivas M.N. -   Social Change in Modern India

13. Mishra -   The Uniform and Division of India

14. Anil Seel -   The Emergence of Indian Nationalism

15. Tarachand -   Indian National movement's volumes

16. L. P. Sharma -   Modern India

17. R.N. Agarwal   Indian National Movement and Constitutional Development

18. K.L.Khurana –   History of Medieval India

19. Shivarudrswamy-   AdhunikBharatdItihas

RANI CHANNAMMA UNIVERSITY, BELAGAVI
HISTORY And ARCHAEOLOGY
B.A- VI Semester OR
OPTIONAL PAPER-II: HISTORY OF MODERN KARNATAKA(1336-1956 A.D)

Teaching Hours: 4 hrs per week 16x4 = 64hrs

Unit- I Vijayanagar Empire and Deccan Sultans:
A. Vijayanagar Empire: Sangama, DevarayaII,Tuluva- Shri. Krishnadevaray and Achievements,Ramaraya - Battle of Talikote and Cultural Contributions of Vijayanagara Empire.
B. Bahamani:Mahammad Gawan- His Military and Administrative Reforms
C. Adilshahis of Bijapur :Muhammad Adilshahi, Ibrahim II and Contributions to Literature, Art and Architecture.

Unit - II Minor Dynasties of Karanataka
A. Wodeyars of Mysore and Minor Dynasties – Chikkadevaraj Wodeyars - Nayakasa of Keladi –Shivappa Nayaka.
B. Nayakas of Chitradurg : Veer Madakari Nayak –V and Nadaprabhus of Yalahanka –Kempegouda and Oneke Obavva.
C. Rise of Hyder Ali and Tipu Sultan : Their Achievements.

Unit – III Anti -British Revolts and Re-Rule of Mysore
A. Kittur Revolt : Rani Chennamma and Sangolli Rayanna
B. Babasaheb of Naragunda and Mundaragi Bheema Rao, Venkatappa Nayaka of Surupura Sansthan and Bedas of Halagali Revolts.
C. Rendition of Mysore Krishna Raja Wodeyar III-Diwan Poornayya

Unit - IV Commissioners and Reconstruction of Mysore
A. Commissioners rule of Mysore:Mark Cubbon and Luyi Bentham Bouring
B. Reconstruction of Mysore : Krishna Raja Wodeyar -IV - His Social, Industrial, Reforms . **Diwans of Mysore**: SheshadriIyer, Sir M Vishveshwarayya and Mirza Ismail- Their Reforms
C. Freedom Movement in Karnataka: Non- Co-operation Movement, Belgaum Session, Salt Satyagraha, Quit India Movement-Special Reference to Shivapura, Esur, Viduraswatva.
Unification Movement in Karnataka.

Unit - V Map Topics

A. The Vijaynagar empire under Krishnadevaray
B. Main Centres of Freedom Movement in Karnataka- 1.Esur 2.Vidurasatva 3. Shivpur 4.Belagavi 5. Ankola 6. Mundargi 7.Halagali 8.Kittur 9.Naragund 10. Surapur

Reference Books:

1. ನಂಜುಂಡಸ್ವಾಮಿ. ಎ.ಎಸ್: ವಿಜಯನಗರದಇತಿಹಾಸ, ಸಮಾಜ ಪುಸ್ತಕಾಲಯಧಾರವಾಡ. 1999,

2. ಲಕ್ಷ್ಮಣ್ತೆಲಗಾವಿ–ಚಿತ್ರದುರ್ಗ ನಾಯಕಅರಸರುರಾಜಕೀಯಚಿತ್ರ, ವಾಲ್ಮೀಕಿ ಸಾಹಿತ್ಯ   ಸಂಪದ ಹರ್ತಿಕೋಟೆ. 2009,

3. ಲಕ್ಷ್ಮಣ್ ತೆಲಗಾವಿ–ಎಪ್ಪತ್ತೇಳು ಪಾಳೆಯಗಾರರು, ವಾಲ್ಮೀಕಿ ಸಾಹಿತ್ಯ ಸಂಪದ ಹರ್ತಿಕೋಟೆ. 2010,

 4. Robert Sewell-   Forgotten Empire, Delhi National Book Trust. 1982,

5. Saletore B.A-Social and Political life in the VijayanagaraEmpire,Madras.   1934,

6. Suryanarain Roy B, A History of Vijayanagara. The never to be forgotten Empire

                    Asian Educational Services New Delhi1905,

 7. VenkataRamanayya -   Vijayanagara Origin of the city and Empire, Asian

Educational Services New Delhi. 1933,

 8. ಚುಳಕಿ ಆರ್.ಎಸ್–   ಮೆಡೋಸ್ಟೇಲರನು ಚಿತ್ರಿಸಿದ ಭಾರತ. ಕನ್ನಡ ಸಾಹಿತ್ಯ ಪರಿಷತ್ತು, ಬೆಂಗಳೂರು.

 9. Chandrashekar V.S- Dewan Rangacharlu. Publication Divission. New Delhi-1981

10. Chandrashekar.S-. Dimensions of Socio-Political Change in Mysore-1918-1940. New Delhi-1948.

11. Diwakar R.R- Karnataka through the Ages-Bangalore-1968.

12. Gayathri, M.B-Development of Mysore State, 1940-56. Mysore 1997.

13. Hettne, Bjorn- The Political Economy of Indirect Rule, Mysore-1881-1947 Delhi.

14. Iyenger.A.R- The Economic Outlook of Mysore Wadeyar-1917

15. Ramakrishna.-   Press and Politics in an Indian State, Mysore-1859-1947

26

HISTORY AND ARCHAEOLOGY
B.A. VI Semester OR
OPTIONAL PAPER– II : HISTORY OF MODERN EUROPE
(1914-1990 A.D.)
Teaching Hours: 4 hrs per week 16x4 = 64 hrs

Unit-I

  A. First World War- Causes Course and Results.

  B. Paris Peace Conference

  C. League of Nations

Unit-II

  A. Russian Revolution of 1917: – Causes Course and Results.

  B. Lenin and Stalin-Domestic and Foreign Policy

  C. Rise of Dictatorship in Italy and Germany

Unit- III

  A. Second World War- Causes Course and Results.

  B. UNO: Objectives, Structure and Achievements

  C. Post- War military pacts in Europe-NATO, CENTO, SEATO Warsaw pact

Unit-IV

  A. Cold War (1945-1990) Meaning, Ideology and Impact
  B. Re-union of Germany -1990
  C. Disintegration of USSR-Michael Gorbachev

Unit –V Map Topics:

   A. Important places where battles of World War I occurred

   B. Places of Historical Importance

1.Metz 2) Sarajevo 3) Geneva 4) The Hague 5) Rome 6) Berlin7) Munich 8) Warsaw 9) Crimea 10) Corfu 11) Bonn   12) Copenhagen 13) Lisbon 14) Locarno 15) Nuremberg

Books of reference :

1. Modern Europe : V.D.Mahajan
2. History of Modern Europe : Raghavendra Prabhu
3. Text book of European History: Raghubir Dayal, Dehi
4. Europe since Napolean, Penguin, 1978 : David Thompson
5. History of Modern Europe : C.D Hazen : S. Chand
6. Publication, New delhi.
7. Modern Europe- K L Khurana
8. ಆಧುನಿಕ ಯುರೋಪ : ಡಿ. ಟಿ ಜೋಶಿ
9. ಆಧುನಿಕ ಯುರೋಪ್ : ಕೆ ಜಗದೀಶ
10. ಆಧುನಿಕ ಯುರೋಪ : ಡಾ॥ ಘಟಪನದಿ
11. ವಿಶ್ವ ಇತಿಹಾಸದ ಹೆಜ್ಜೆ ಗುರುತುಗಳು : ರಾಮಲಿಂಗಪ್ಪ

28

OPTIONAL PAPER– II: History of Modern Tourism
Teaching Hours: 4 hrs per week 16x4 = 64hrs

Unit-I Organization and Environment Tourism

A. Tourism Organizations: State, National and International
B. Organizations: Government, Semi- Government and Non-Governmental Organizations
C. Responsible Tourism- Protection of Physical, Natural Environment in Tourist Sites

Unit-II   Impact of Tourism

A. Impact of Tourism
B. Impact of Tourism on Environment
C. Impact of Tourism on Society and Culture

Unit- III Heritage Sites and Development

A. World Heritage sites in India – Significance- Historical and Natural Sites.
B. Important Tourist Destination of Eastern, Western and Central India,
C. Threats to Tourism Development-Terrorism, Epidemics and Natural Disasters.

Unit-IV Economic Prospective of Tourism

A. Tourism as an Industry
B. Employment opportunities
C. Preservation and Conservation of Heritage Tourism Sites, Role and Responsibility of Tourists

Unit-V: Map Topics:

A. Map questions- Important Tourist Places

1 Westerns Ghats 2) Madikere 3) Mahabalipuram 4) Bhimbedka

5) Saranath 6) Elephanta   7 Mysore 8) Jaipur 9) Fatepur Sikri

10) Bijapur 11) Bodh Gaya 12) Pattadakal 13) Bandipur 14)

Kulu Manali 15) Darjiling 16) Udupi 17) Ooty 18) Pondiehery,

19) Ajanta 20) Ellora

Reference Books:

01. Ashorth G.J - Marketing in Tourism Industry

02. Bhatia A.K. - International Tourism

03. Bhatia A.K. - Tourism Development

04. Chunk Kelvin - Professional Travel Agency Management

05. Clare, Gunn - Tourism Planning

06. Gregory A - The Travel Agent : Dealers in Dream

07. Tourism Department - Publications and Folders

08. Jafari J - Anatomy of the Travel Industry

09. Khan, Nafees A - Development Tourism in India

10. Krippendrof J - The Holiday Makers

11. Krishna K Karama - Basics of Tourism

12. KSTDC - Publication Individual Folders

13. KSTDC - Publications, Karnataka Traveler, Bangalore

14. Kulakarni M.V - Tourism Marketing

15. Marrison A.M. - Hospitality and Travel Marketing

16. Peters Mischel - International Tours

17. Ranga Mukesh - Tourism Potential in India

18. Vijayalakshmi, K.S.- History and Tourism

30

Department of History and Archaeology

SEC IV . B.A – VI Semester

Guiding Skill and Personality Development

Teaching Hours : 2hrs per week 16 X 2= 32

Unit –I   Guiding Concept

   a) Meaning
   b) Concept and Types of Guides
   c) Conceptual meaning of Tourist Guide

Unit –II   Responsibility Of Guides

   a) Preparation of Tour
   b) Greeting Participants and Introducing self
   c) General Instruction to Participants at Monuments

Unit –III   Personality development

   a) Introduction Meaning of personality
   b) Personality Factors – External , Internal
   c) Physical Fitness , Dressinf sense, formal and Informal Clothing

Refrence Books :

   1. Goddy B.& Parkin I : Urban Interpretation, oxford polytechnic-1991
   2. Pond K.L   : The professional Guide , Newyork- 1993
   3. Pond K.L   : Dynamic of Tour Guiding, Newyork-1993

31

QUESTION PAPER PATTERN

BA CHOICE BASED CREDIT SYSTEM (SEMESTER SCHEME)
W.e.f 2020-2021

Time: 3 hours   **Max. Marks: 80**

NOTE: Read Instructions carefully. All parts are compulsory except for their Internal options.

PART – A

Instructions: Answer any four from the following in 100 words each. All questions

carry equal marks**.**   **4x5 = 20**

1)

2)

3)

4)

5)

6)

PART – B

Instructions: Answer any three from the following in 300 words each. All questions

carry equal marks.   **3x10 = 30**

1)

2)

3)

4)

5)

PART – C

Instructions: Answer any two from the following in 500 words each. All questions carry equal marks.

2x15 = 30

1)

2)

3)

4)

32

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

INDIAN CONSTITUTION

1ST Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	INDIAN CONSTITUTION	2	2	40	10	50	2 Hrs

The constitution of India aims to imbue students with the constitutional making process and its formulations. Further, it is done with the objective to acquaint / embolden students to have the basic understanding of the constitution of India.

Unit – 1 Constitution – Structure and Principles
1. Meaning and importance of Constitution.
2. Making of Indian Constitution – Sources
3. Salient features of Indian Constitution

Unit – 2 Fundamental Rights and Directive Priniples
1. Fundamental Rights.
2. Fundamental Duties.
3. Directive Principles.

Unit – 3 Government of Union
1. President of India – Electron and Powers.
2. Prime Minister and Council of Ministers.
3. Lok Sabha – Composition and Powers.
4. Rajya Sabha – Composition and Powers.

Reference :

1) Durga Das Basu, Introduction to the Constitution of India, Gurgaon; LexisNexis, 2018 (23rd edn.)
2) M. V. Pylee, India's Constitution, New Delhi; S. Chand Pub., 2017 (16th edn.)
3) J.N. Pandey, The Constitutional Law of India, Allahabad; Central Law Agency, 2018 (55th edn.)
4) Constitution of India (Full Text), India. Gov. in., National Portal of India, https://www.india.gov.in/sites/upload_files/npi/files/coi_part_full.pdf
5) Durga Das Basu, Bharatada Samvidhana Parichaya, Gurgaon; Lexis Nexis Butter worths Wadhawa, 2015.
6) Kb Merunandan, Bharatada Samvidhana Ondu Parichaya, Bangalore, Meragu Publications, 2015.
7) ಡಾ. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಪ್ರಾಚಾರ್ಯರು ಎಸ್.ಕೆ.ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ತಾಳಿಕೋಟಿ ಭಾರತದ ಸಂವಿಧಾನ ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ ತಾಳಿಕೋಟಿ.
8) ಪ್ರೋ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ.
9) ಎಸ್. ಪಿ. ಡಂಗಿ ಭಾರತ ಸಂವಿಧಾನ ಪರಮಲಕ್ಷ್ಮೀ ಪ್ರಕಾಶನ.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.
 (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2) : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

**   b) Internal Assessment   :   10 Marks**

**   c) Total   :   50 Marks**

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

KANNADA

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 2: DSC - Discipline Specific Course (B.A Optional Kannada)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	DSC KAN	ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ಮತ್ತು ರಗಳೆ ಸಾಹಿತ್ಯ ಪ್ರಕಾರದ ಪರಿಚಯಾತ್ಮಕ ಅಧ್ಯಯನ	5	3	80	20	100	3 Hrs
II	DSC KAN	ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ಮತ್ತು ಕಾದಂಬರಿ ಪ್ರಕಾರದ ಪರಿಚಯಾತ್ಮಕ ಅಧ್ಯಯನ	5	3	80	20	100	3 Hrs
III	DSC KAN	ಭಾರತೀಯ ಹಾಗೂ ಪಾಶ್ಚಿಮಾತ್ಯ ಕಾವ್ಯ ಮೀಮಾಂಸೆ ಹಾಗೂ ಕಥಾಪ್ರಕಾರದ ಪರಿಚಯಾತ್ಮಕ ಅಧ್ಯಯನ	5	3	80	20	100	3 Hrs
IV	DSC KAN	ಅಲಂಕಾರ ಮತ್ತು ಕನ್ನಡ ಛಂದಸ್ಸು ಹಾಗೂ ಹೊಸಗನ್ನಡ ಕವಿತೆಗಳ ಪರಿಚಯಾತ್ಮಕ ಅಧ್ಯಯನ	5	3	80	20	100	3 Hrs
V	DSC KAN	ಕನ್ನಡ ಜಾನಪದ ಸಾಹಿತ್ಯ ಹಾಗೂ ಯಕ್ಷಗಾನ ಪ್ರಕಾರದ ಪರಿಚಯಾತ್ಮಕ ಅಧ್ಯಯನ ಕನ್ನಡ ವ್ಯಾಕರಣ ಪರಂಪರೆ ಮತ್ತು ಭಾಷಾ ವಿಜ್ಞಾನ	5	3	80	20	100	3 Hrs
VI	DSC KAN	ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ಅಧ್ಯಯನ ಮತ್ತು ಸಂಶೋಧನಾ ಲೇಖನಗಳು ಕನ್ನಡದ ಪ್ರಮುಖ ಪಠ್ಯಗಳು	5	3	80	20	100	3 Hrs

Part 3: SEC - Skill Enhancement Course (ಕೌಶಲ್ಯ ಕನ್ನಡ) **for all courses (Open Elective Course)**

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
III	SEC KAN	ಸ್ಪರ್ಧಾತ್ಮಕ ಕನ್ನಡ	2	2	40	10	50	2 Hrs
IV	SEC KAN	ಕೌಶಲ್ಯ ಕನ್ನಡ	2	2	40	10	50	2 Hrs
V	SEC KAN	ಭಾಷಾಂತರ ಕೌಶಲ್ಯ	2	2	40	10	50	2 Hrs
VI	SEC KAN	ವ್ಯವಹಾರಿಕ ಕನ್ನಡ	2	2	40	10	50	2 Hrs

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1A) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಪ್ರಥಮ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯನ್ನು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ರಗಳೆ ಪ್ರಕಾರದ ಒಂದು ಕಾವ್ಯಭಾಗವನ್ನು ಹಾಗೂ ಆ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯನಿಸುವುದು.
೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೩೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೫, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೭, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೫ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೭೦ ಅಂಕಗಳು. ಕ್ರೆಡಿಟ್‌ಗಳು ೦೫

ಪಠ್ಯಕ್ರಮ

ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ೭೦ ಅಂಕಗಳು

೧ ಕನ್ನಡ ಭಾಷೆ–ಸಾಹಿತ್ಯದ ಪ್ರಾಚೀನತೆ ಹಾಗೂ ಸಾಹಿತ್ಯ ರೂಪಗಳು (೪೦ ಅಂಕಗಳು)

ಪ್ರಾಚೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ರೂಪಗಳು: ಚಂಪೂ ಮತ್ತು ಗದ್ಯ ಸ್ವರೂಪ, ಲಕ್ಷಣ, ಕೊಡುಗೆಗಳ ಸ್ಥೂಲ ಪರಿಚಯ.
ಮಧ್ಯಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ರೂಪಗಳು: ವಚನ, ರಗಳೆ, ಷಟ್ಪದಿ, ಕೀರ್ತನೆ, ಸಾಂಗತ್ಯ, ತ್ರಿಪದಿಗಳ ಸ್ವರೂಪ, ಲಕ್ಷಣಗಳ ಸ್ಥೂಲ ಪರಿಚಯ.

೨ ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳ ಅಧ್ಯಯನ (೪೦ ಅಂಕಗಳು)

ಶ್ರೀವಿಜಯ, ಪಂಪ, ರನ್ನ, ನಾಗಚಂದ್ರ, ದುರ್ಗಸಿಂಹ, ಜನ್ನ, ಆಂಡಯ್ಯ, ಬಸವಣ್ಣ, ಅಲ್ಲಮ, ಸಿದ್ಧರಾಮ, ಅಕ್ಕಮಹಾದೇವಿ, ಹರಿಹರ, ರಾಘವಾಂಕ, ಕುಮಾರವ್ಯಾಸ, ಲಕ್ಷ್ಮೀಶ, ಪುರಂದರದಾಸ, ಕನಕದಾಸ, ರತ್ನಾಕರವರ್ಣಿ, ಸರ್ವಜ್ಞ, ಶಿಶುನಾಳ ಶರೀಫ, ಮುದ್ದಣ.

ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು

೧ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ: ರಂ ಶ್ರೀ ಮುಗಳಿ

೨ ಸಾಹಿತ್ಯ ಸಂಗಾತಿ: ಕೀರ್ತಿನಾಥ ಕುರ್ತಕೋಟಿ

೩ ಶ್ರೀಸಾಮಾನ್ಯನಿಗೆ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ: ಬೆಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಬೆಂಗಳೂರು.

ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ.

೧ ಪ್ರಾಚೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೪ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೨ ಮಧ್ಯಕಾಲೀನ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೪ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೩ ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೪ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೪ ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು ೨೦ ಅಂಕಗಳು (ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಆರು ಟಿಪ್ಪಣಿ ಕೊಟ್ಟು ನಾಲ್ಕಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೫ ಒಂದು ಅಂಕದ ಪ್ರಶ್ನೆಗಳು ೧೪ ಅಂಕಗಳು (ಮೊದಲ ಭಾಗದಿಂದ ೧೦, ಎರಡನೆಯ ಭಾಗದಿಂದ ೦೪ ಪ್ರಶ್ನೆ ಕೇಳುವುದು)

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ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1B) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆಯನ್ನು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಕಾದಂಬರಿಯೊಂದನ್ನು ಹಾಗೂ ಕಾದಂಬರಿ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.
೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೧೨ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೨, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು. ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨

ಪದ್ಯ : ಶಾಸ್ತ್ರೀಯ ಭಾರತಿ – ೧

೧. ಪಂಪಭಾರತದಿಂದ ಆಯ್ದ ಭಾಗ – ೨೦ ಪದ್ಯ

೨. ಪಂಪರಾಮಾಯಣದಿಂದ ಆಯ್ದ ಭಾಗ – ೨೦ ಪದ್ಯ

೩. ಪಂಚತಂತ್ರದ ಒಂದು ಕಥೆ ೩ ಪುಟ

೪. ವಚನಗಳು ೧೧

೫. ಹರಿಹರನ ಒಂದು ರಗಳೆ

೬. ಕುಮಾರವ್ಯಾಸನ ಕಾವ್ಯದಿಂದ ಆಯ್ದ ಭಾಗ – ೨೫ ಪದ್ಯ

೭. ಕೀರ್ತನೆಗಳು ೫

೮. ಭರತೇಶ ವೈಭವದ ಆಯ್ದ ಭಾಗ ೨೦ ಪದ್ಯ

೯. ಶರೀಫರ ಹಾಗೂ ಕಡಕೋಳ ಮಡಿವಾಳಪ್ಪರ ಒಂದೊಂದು ತತ್ವ ಪದಗಳು

೧೦. ರಾಮಾಶ್ವಮೇಧದ ಒಂದು ಭಾಗ – ೩ ಪುಟ

ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ.

೧ ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
೨ ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
೩ ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
೪ ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು ೨೦ ಅಂಕಗಳು (ಆರು ಟಿಪ್ಪಣಿ ಕೊಟ್ಟು ನಾಲ್ಕಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
೫ ಒಂದು ಅಂಕದ ಪ್ರಶ್ನೆಗಳು ೧೫ ಅಂಕಗಳು (೧೫ ಪ್ರಶ್ನೆ ಕೇಳುವುದು)

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪದ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು **'ಶಾಸ್ತ್ರೀಯ ಭಾರತಿ–೧'** ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ.

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ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1C) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಭಾರತೀಯ ಹಾಗೂ ಪಾಶ್ಚಿಮಾತ್ಯ ಕಾವ್ಯ ಮೀಮಾಂಸೆಯನ್ನು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಐದು ಸಣ್ಣಕತೆಗಳನ್ನು ಹಾಗೂ ಕನ್ನಡದ ಸಣ್ಣಕತೆ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.
೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೦೫ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರೀಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೬, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೬, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೪ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು. ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨

ಪಠ್ಯಕ್ರಮ

ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ೮೦ ಅಂಕಗಳು

೧ ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ವಿಭಾಗ ಕ್ರಮ ಮತ್ತು ರೂಪಗಳು (೪೦ ಅಂಕಗಳು)

ನವೋದಯ–ಪ್ರಗತಿಶೀಲ–ನವ್ಯ–ದಲಿತ, ಬಂಡಾಯ ಮತ್ತು ಮಹಿಳಾ ಸಾಹಿತ್ಯ : ಸ್ವರೂಪ, ಪ್ರೇರಣೆ – ಧೋರಣೆಗಳು

ಆಧುನಿಕ ಸಾಹಿತ್ಯ ರೂಪಗಳ ಸ್ಥೂಲ ಪರಿಚಯ.

ಕಾವ್ಯ, ಕಥೆ, ಕಾದಂಬರಿ, ನಾಟಕ, ಪ್ರಬಂಧ, ಆತ್ಮಕಥೆ, ಜೀವನ ಚರಿತ್ರೆ ಇತ್ಯಾದಿ.

೨ ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳ ಅಧ್ಯಯನ (೪೦ ಅಂಕಗಳು)

ಕುವೆಂಪು, ಬೇಂದ್ರೆ, ಅ.ನ.ಕೃ, ನಿರಂಜನ, ಕಟ್ಟಿಮನಿ, ಪಿ. ಲಂಕೇಶ, ಅಡಿಗ–ಗೋಕಾಕ, ಸಿದ್ಧಲಿಂಗಯ್ಯ– ಬರಗೂರು, ಚಂಪಾ, ಕಣವಿ–ಶಿವರುದ್ರಪ್ಪ, ಭೈರಪ್ಪ, ಕುಂವೀ,ಸಾ.ರಾ.ಅಬೂಬಕರ, ಬಿ.ಟಿ.ಲಲಿತಾ ನಾಯಕ್, ಗೀತಾ ನಾಗಭೂಷಣ

ಪರಾಮರ್ಶನ ಗ್ರಂಥಗಳು

೧ ಹೊಸಗನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ: ಎಲ್.ಎಸ್.ಶೇಷಗಿರಿರಾವ

೨ ಶ್ರೀಸಾಮಾನ್ಯನಿಗೆ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ,ಸಂಪುಟ ೧೦, ಬೆಂಗಳೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಬೆಂಗಳೂರು.

ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ.

೧ ಆಧುನಿಕ ಕನ್ನಡ ಸಾಹಿತ್ಯ ಚರಿತ್ರೆ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೨ ಆಧುನಿಕ ಸಾಹಿತ್ಯ ರೂಪಗಳ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೩ ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೪ ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು ೨೦ ಅಂಕಗಳು (ಪ್ರಮುಖ ಕವಿ–ಕೃತಿಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಆರು ಟಿಪ್ಪಣಿ ಕೊಟ್ಟು ನಾಲ್ಕಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೫ ಒಂದು ಅಂಕದ ಪ್ರಶ್ನೆಗಳು ೧೫ ಅಂಕಗಳು (ಮೊದಲ ಭಾಗದಿಂದ ೧೦, ಎರಡನೆಯ ಭಾಗದಿಂದ ೦೫ ಪ್ರಶ್ನೆ ಕೇಳುವುದು)

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ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1D) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಅಲಂಕಾರ ಮತ್ತು ಛಂದಸ್ಸನ್ನು ಕುರಿತು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಹತ್ತು ಭಾವಗೀತೆಗಳನ್ನು ಹಾಗೂ ಭಾವಗೀತೆ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.

೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೪೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೦೩ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರೀಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೨, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೪ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

ಪಠ್ಯ : 'ಶಾಸ್ತ್ರೀಯ ಭಾರತಿ–೨'

೧. ಆಧುನಿಕ ಕಾವ್ಯ(ಸಂಪಾದನೆ)

೨. ಕಥಾಲೋಕ (ಸಂಪಾದನೆ)

೩. ನಾಟಕ/ಕಾದಂಬರಿ/ಆತ್ಮಕಥೆ/ಪ್ರಬಂಧ (ಮೂರು ಪಠ್ಯಗಳಿಗೆ ಸಮಾನ ಅಂಕಗಳು)

ಮಾದರಿ ಪ್ರಶ್ನೆಪತ್ರಿಕೆ.

೧ ಆಧುನಿಕ ಕಾವ್ಯದಿಂದ ಒಂದು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೨ ಕಥಾಲೋಕದಿಂದ ಒಂದು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೩ ಮೂರನೇ ಭಾಗದಿಂದ ಒಂದು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ– ೧೫ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೪ ಬೇಕಾದ ನಾಲ್ಕಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು ೨೦ ಅಂಕಗಳು (ಆರು ಟಿಪ್ಪಣಿ ಕೊಟ್ಟು ನಾಲ್ಕಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

೫ ಒಂದು ಅಂಕದ ಪ್ರಶ್ನೆಗಳು ೧೫ ಅಂಕಗಳು (೧೫ ಪ್ರಶ್ನೆ ಕೇಳುವುದು)

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು **'ಶಾಸ್ತ್ರೀಯ ಭಾರತಿ–೨'** ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ.

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ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಐದನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1E1) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಐದನೆಯ ಸೆಮಿಸ್ಟರ್‌ನ ಪ್ರಥಮ ಪತ್ರಿಕೆಯಲ್ಲಿ ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯವನ್ನು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಜನಪದ ಪ್ರದರ್ಶನ ಕಲೆಯ ಸಾಹಿತ್ಯವೊಂದನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.

೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೦೫ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರೀಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೫, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೫ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

ಪಠ್ಯಕ್ರಮ

೧. ಅಲಂಕಾರ ಮತ್ತು ಕನ್ನಡ ಭಂದಸ್ಸು –(೬೦ ಅಂಕಗಳು) ೬೦ ಗಂಟೆಗಳ ಪಾಠ

    ಎ. ಕನ್ನಡ ಜಾನಪದ ಕಾವ್ಯಗಳನ್ನು ಕುರಿತು ಒಳನೋಟಗಳು (ಹತ್ತು ಅಂಕಗಳು)

    ಬಿ. ಜಾನಪದ ಸಾಹಿತ್ಯದ ಪ್ರಕಾರಗಳು – ಸೋಬಾನೆ, ಗರತಿಯ ಹಾಡು, ರಿವಾಯತ್ ಪದಗಳು, ಚೌಡಕಿ ಪದಗಳು, ಗಾದೆ, ಒಡಮೆ, ಒಗಟು, ಕತೆ (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)

    ಸಿ. ಕನ್ನಡ ಜಾನಪದ ಪ್ರದರ್ಶಕ ಕಲೆಗಳನ್ನು ಕುರಿತು ಸ್ಥೂಲ ಪರಿಚಯ (ಹತ್ತು ಅಂಕಗಳು)

    ಡಿ. ಕನ್ನಡ ಜಾನಪದ ಪ್ರದರ್ಶಕ ಕಲೆಗಳು – ಬಯಲಾಟ, ಶ್ರೀಕೃಷ್ಣ ಪಾರಿಜಾತ, ಪಾರಿಜಾತ, ಆಟ, ಸಣ್ಣಾಟ, ದೊಡ್ಡಾಟ, ಯಕ್ಷಗಾನ (ತೆಂಕತಿಟ್ಟು–ಬಡಗತಿಟ್ಟು) ಗೋಂದಲಿಗರಾಟ, ತೊಗಲು ಬೊಂಬೆಯಾಟ (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)

೨. ಯಯಾತಿ –(೨೦ ಅಂಕಗಳು) (೨೦ಗಂಟೆಗಳ ಪಾಠ)

    ಎ. ಯಯಾತಿ ಯಕ್ಷಗಾನ ಸನ್ನಿವೇಶ (ಇಪ್ಪತ್ತು ಅಂಕಗಳು)

ಪರಮಾರ್ಶನ ಗ್ರಂಥಗಳು

    ೧. ಕನ್ನಡ ಜಾನಪದ : (ಸಂ) ಕುವೆಂಪು

    ೨. ಕನ್ನಡ ಜಾನಪದ ಪರಿಭಾಷಾ ಕೋಶ :

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

ಪ್ರಶ್ನೆ –೧ ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯದ ಒಳನೋಟಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ – ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ – ೨ (ಅ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ – ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
    (ಆ) ಕನ್ನಡ ಜನಪದ ಸಾಹಿತ್ಯ ಪ್ರಕಾರಗಳಿಗೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಟಿಪ್ಪಣೆ ಬರೆಯಿರಿ – ೦೫ ಅಂಕಗಳು
    (ಎರಡು ಟಿಪ್ಪಣೆ ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ –೩ (ಅ) ಕನ್ನಡ ಜನಪದ ರಂಗಭೂಮಿಯ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ –೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
    (ಆ) ಜನಪದ ಪ್ರದರ್ಶಕ ಕಲೆಗಳ ಕುರಿತು ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ –೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
    (ಇ) ಜನಪದ ಪ್ರದರ್ಶಕ ಕಲೆಗಳ ಕುರಿತು ಒಂದು ಟಿಪ್ಪಣೆ ಬರೆಯುವುದು – ೦೫ ಅಂಕಗಳು
    (ಆರು ಟಿಪ್ಪಣೆ ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸುವುದು)

ಪ್ರಶ್ನೆ – ೪ ಅ) ಯಯಾತಿ ಯಕ್ಷಗಾನಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಪ್ರಬಂಧ ರೂಪದ ಪ್ರಶ್ನೆ – ೧೦ ಅಂಕಗಳು (ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು)
    ಆ) ಯಯಾತಿ ಯಕ್ಷಗಾನಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಒಂದಕ್ಕೆ ಟಿಪ್ಪಣೆ ಬರೆಯುವುದು – ೦೫ ಅಂಕಗಳು
    (ಎರಡು ಟಿಪ್ಪಣೆ ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ –೫ ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸಲು ಹೇಳುವುದು ೦೫ ಅಂಕಗಳು
(ಮೊದಲ ಭಾಗದಿಂದ ಹತ್ತು ಪ್ರಶ್ನೆ ಬಿ ವಿಭಾಗದಿಂದ ಐದು ಮತ್ತು ಸಿ, ಡಿ ವಿಭಾಗದಿಂದ ಐದು ಹಾಗೂ ಎರಡನೇ ವಿಭಾಗದಿಂದ ಐದು ಪ್ರಶ್ನೆಗಳು)

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Or

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಐದನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1E2) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

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೧. ಐದನೆಯ ಸೆಮಿಸ್ಟರ್‌ನ ಪ್ರಥಮ ಪತ್ರಿಕೆಯಲ್ಲಿ ಕನ್ನಡ ವ್ಯಾಕರಣವನ್ನು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಜನಪದ ಪ್ರದರ್ಶನ ಕಲೆಯ ಸಾಹಿತ್ಯವೊಂದನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.

೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೬, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೪ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

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ಪಠ್ಯಕ್ರಮ

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೧. ಕನ್ನಡ ವ್ಯಾಕರಣ ಪರಂಪರೆ ಮತ್ತು ಭಾಷಾ ವಿಜ್ಞಾನ – (೬೦ ಅಂಕಗಳು) ೬೦ ಗಂಟೆಗಳ ಪಾಠ

    ಎ. ಶಬ್ದ ಸ್ಮೃತಿ, ಶಬ್ದ ಮಣಿ ದರ್ಪಣ ಹಾಗೂ ಶಬ್ದಾನುಶಾಸನ (ಹತ್ತು ಅಂಕಗಳು)

    ಬಿ. ಶಬ್ದಮಣಿ ದರ್ಪಣ – ಶುದ್ಧಗೆಗಳು, ಸಂಧಿ, ಸಮಾಸ, ಲಿಂಗ, ವಿಭಕ್ತಿ, ವಚನ ಹಾಗೂ ಕನ್ನಡದ ಅಸಾಧಾರಣ ಲಕ್ಷಣಗಳು (ಮುವತ್ತು ಅಂಕಗಳು)

    ಸಿ. ಭಾಷಾ ವಿಜ್ಞಾನ : ಭಾಷೆ ಎಂದರೇನು? ಭಾಷೆಯ ಸ್ವರೂಪ ಹಾಗೂ ಭಾಷೆಯ ವರ್ಗೀಕರಣ(ಹತ್ತು ಅಂಕಗಳು)

    ಡಿ. ಕನ್ನಡ ಭಾಷೆ : ಧ್ವನಿ, ಧ್ವನ್ಯಂಗಗಳು, ಕನ್ನಡ ಧ್ವನಿಮಾ, ಕನ್ನಡ ಆಕೃತಿಮಾ, ಕನ್ನಡ ಮತ್ತು ಸಂಸ್ಕೃತ, ಕನ್ನಡ ಮತ್ತು ಇಂಗ್ಲೀಷ್ (ಮುವತ್ತು ಅಂಕಗಳು)

ಪರಮಾರ್ಶನ ಗ್ರಂಥಗಳು

    ೧. ಶಬ್ದಮಣಿ ದರ್ಪಣ ವಿಲಾಸ : ಡಾ. ಶಿವಾನಂದ ವಿರಕ್ತಮಠ

    ೨. ಶಬ್ದಮಣಿ ದರ್ಪಣ : (ಸಂ) ಡಿ ಎಲ್ ನರಸಿಂಹಾಚಾರ್

    ೩. ಕನ್ನಡ ಭಾಷಾ ವ್ಯಾಸಂಗ : ಸಂಗಮೇಶ ಸವದತ್ತಿಮಠ

    ೪. ದ್ರಾವಿಡ ಭಾಷಾ ವ್ಯಾಸಂಗ : ಸಂಗಮೇಶ ಸವದತ್ತಿಮಠ

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ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ

</div>

ಪ್ರಶ್ನೆ – ೧ ಕನ್ನಡ ವ್ಯಾಕರಣ ಪರಂಪರೆಗೆ ಸಂಬಂಧಿಸಿದ ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ – ೨. ಅ) ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)
    ಆ) ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಬೇಕಾದ ಎರಡಕ್ಕೆ ಟಿಪ್ಪಣೆ ಬರೆಯುವುದು. ೧೦ ಅಂಕಗಳು
    (ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಎರಡಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ – ೩. ಭಾಷೆಗೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ – ೪. ಅ) ಕನ್ನಡ ಭಾಷೆಗೆ ಸಂಬಂಧಿಸಿದ ಒಂದು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ೧೦ ಅಂಕಗಳು
    (ಎರಡು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಒಂದಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)
    ಆ) ಕನ್ನಡ ಭಾಷೆಗೆ ಸಂಬಂಧಿಸಿದಂತೆ ಬೇಕಾದ ಮೂರಕ್ಕೆ ಟಿಪ್ಪಣೆ ಬರೆಯುವುದು ೧೫ ಅಂಕಗಳು
    (ಐದು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೊಟ್ಟು ಮೂರಕ್ಕೆ ಉತ್ತರಿಸಲು ಹೇಳುವುದು)

ಪ್ರಶ್ನೆ – ೫. ಒಂದೇ ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸುವುದು ೧೫ ಅಂಕಗಳು
    (ಕನ್ನಡ ವ್ಯಾಕರಣಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಹತ್ತು ಪ್ರಶ್ನೆಗಳು ಹಾಗೂ ಭಾಷಾ ವಿಜ್ಞಾನಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಐದು ಪ್ರಶ್ನೆಗಳು)

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ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ

ಆರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1F1) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

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೧. ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಅಲಂಕಾರ ಮತ್ತು ಛಂದಸ್ಸನ್ನು ಕುರಿತು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಹತ್ತು ಭಾವಗೀತೆಗಳನ್ನು ಹಾಗೂ ಭಾವಗೀತೆ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.

೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೧೨ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೨, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೩ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

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ಪಠ್ಯಕ್ರಮ

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೧. ಸಂಸ್ಕೃತಿ

ಎ. ಸಂಸ್ಕೃತಿ :ಹಾಗೆಂದರೇನು? (ಲೇಖನ) ರಹಮತ್ ತರಿಕೆರೆ

ಬಿ. ಕನ್ನಡ ಸಂಸ್ಕೃತಿ ನಮ್ಮ ಹೆಮ್ಮೆ (ಲೇಖನ) : ಡಾ. ಎಂ. ಚಿದಾನಂದ ಮೂರ್ತಿ

೨. ಸಂಶೋಧನೆ

ಎ. ಸಂಶೋಧನೆ : ಅರ್ಥ, ಸ್ವರೂಪ, ವಿನ್ಯಾಸ ಮತ್ತು ಪ್ರಕಾರಗಳು : (ಲೇಖನ) ಡಾ. ಸಂಗಮೇಶ ಸವದತ್ತಿಮಠ.

ಬಿ. ಪಂಪನ ಧರ್ಮಪುರ : ಕ್ಷೇತ್ರಕಾರ್ಯ (ಲೇಖನ) : ಡಾ. ಎಂ. ಎಂ. ಕಲಬುರ್ಗಿ

೩. ವಿಮರ್ಶೆ

ಎ. ವಿಮರ್ಶೆಯ ದಾರಿ (ಲೇಖನ) : ಡಾ. ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ

ಬಿ. ತತ್ತ್ವಪದಕಾರರ ತಾತ್ತ್ವಿಕತೆಯ ಸ್ವರೂಪ (ಲೇಖನ) : ಡಾ. ಎಸ್. ನಟರಾಜ ಬೂದಾಳು.

೪. ಸಂವಹನ

ಎ. ಸಂವಹನ : ಅರ್ಥ, ವ್ಯಾಪ್ತಿ (ಲೇಖನ) : ಡಾ. ಡಿ. ವಿ. ಪರಮಶಿವಮೂರ್ತಿ.

ಬಿ. ಪತ್ರಿಕೋದ್ಯಮದ ಸಾಮ್ರಾಜ್ಞಿಯರು (ಲೇಖನ) : ಶ್ರೀಮತಿ. ಧರಣಿದೇವಿ ಮಾಲಗತ್ತಿ.

೫. ಆಕರಶಾಸ್ತ್ರ

ಎ. ಶಾಸನ ಎಂದರೇನು ? ಅದರ ಪ್ರಕಾರಗಳು (ಲೇಖನ) : ಡಾ. ಹು. ಕಾ. ಜಯದೇವ.

ಬಿ. ಹಸ್ತಪ್ರತಿಗಳ ಅರ್ಥ, ಪ್ರಕಾರ, ರಚನೆಯ ಸಾಮಗ್ರಿಗಳು (ಲೇಖನ) : ಡಾ. ಕೆ. ರವಿಂದ್ರನಾಥ.

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು 'ಸಾಹಿತ್ಯ ಅಧ್ಯಯನದ ಆಕರಗಳು' ಎನ್ನುವ ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

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Or

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ

ಆರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಐಚ್ಛಿಕ ಕನ್ನಡ (Discipline Specific Course 1F2) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

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೧. ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಅಲಂಕಾರ ಮತ್ತು ಛಂದಸ್ಸನ್ನು ಕುರಿತು ಸ್ಥೂಲವಾಗಿ ಪರಿಚಯಿಸುವುದು ಮತ್ತು ಹತ್ತು ಭಾವಗೀತೆಗಳನ್ನು ಹಾಗೂ ಭಾವಗೀತೆ ಪ್ರಕಾರದ ಸ್ವರೂಪ ಹುಟ್ಟು ಬೆಳವಣಿಗೆಯನ್ನು ಕುರಿತು ವಿಶೇಷವಾಗಿ ಅಧ್ಯಯಿನಿಸುವುದು.

೨. ಈ ಪತ್ರಿಕೆಗೆ ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳಾಗಿರುತ್ತವೆ. ವಾರಕ್ಕೆ ೧೨ ಗಂಟೆಗಳ ಬೋಧನೆಯನ್ನು ನಿಗದಿಪಡಿಸಲಾಗಿದೆ. ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರೀಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೨, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೩ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು.

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ಪಠ್ಯಕ್ರಮ

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೧. ಕನ್ನಡದ ಪ್ರಮುಖ ಪಠ್ಯಗಳು (೮೦ ಅಂಕಗಳು) ೮೦ ಗಂಟೆಗಳ ಪಾಠ

ಎ. ಚೋಮನದುಡಿ – ಶಿವರಾಮ ಕಾರಂತ (ಕಾದಂಬರಿ)

ಬಿ. ತದ್ರೂಪಿ – ಪ್ರಸನ್ನ (ನಾಟಕ)

ಸಿ. ಗಂಗೆಯ ಶಿಖರಗಳಲ್ಲಿ – ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ (ಪ್ರವಾಸ ಕಥನ)

ಡಿ. ಕಾಳಿದಾಸ ಮತ್ತು ಶೇಕ್ಸ್‌ಪೀಯರ್ – ಕೃಷ್ಣಮೂರ್ತಿ (ವಿಮರ್ಶೆ)

ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮಾದರಿ

೧. 'ಚೋಮನದುಡಿ' ಕಾದಂಬರಿಗೆ ಸಂಬಂಧಿಸಿದ ಎರಡು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು. – ೧೦ ಅಂಕಗಳು

೨. 'ತದ್ರೂಪಿ' ನಾಟಕಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಪ್ರಬಂಧ ಮಾದರಿ ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು. – ೧೦ ಅಂಕಗಳು

೩. 'ಗಂಗೆಯ ಶಿಖರಗಳಲ್ಲಿ' ಪ್ರವಾಸ ಕಥನಕ್ಕೆ ಸಂಬಂಧಿಸಿದ ಪ್ರಬಂಧ ಮಾದರಿ ಎರಡು ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು. – ೧೦ ಅಂಕಗಳು

೪ 'ಕಾಳಿದಾಸ ಮತ್ತು ಶೇಕ್ಸ್‌ಪೀಯರ್' ವಿಮರ್ಶೆಗೆ ಸಂಬಂಧಿಸಿದ ಎರಡು ಪ್ರಬಂಧ ಮಾದರಿ ಪ್ರಶ್ನೆ ಕೇಳಿ ಒಂದಕ್ಕೆ ಉತ್ತರ ಬರೆಯಲು ಹೇಳುವುದು. – ೧೦ ಅಂಕಗಳು

೫. ಬೇಕಾದ ಎರಡಕ್ಕೆ ಟಿಪ್ಪಣಿ ಬರೆಯುವುದು (ಪ್ರತಿಯೊಂದು ಪಠ್ಯದಿಂದ ಒಂದು ಟಿಪ್ಪಣಿ) – ೧೦ ಅಂಕಗಳು

೬. ಬೇಕಾದ ಮೂರಕ್ಕೆ ಸಂದರ್ಭದೊಡನೆ ಸ್ಪಷ್ಟೀಕರಿಸುವುದು (ಪ್ರತಿಯೊಂದು ಪಠ್ಯದಿಂದ ಕನಿಷ್ಠ ಒಂದು R.C) – ೧೦ ಅಂಕಗಳು

೭. ಒಂದು ವಾಕ್ಯದಲ್ಲಿ ಉತ್ತರಿಸುವುದು (ಹದಿನಯದು ಪ್ರಶ್ನೆಗಳು ಪ್ರತಿಯೊಂದು ಗದ್ಯದಿಂದ ಕನಿಷ್ಠ ಮೂರು ಗರಿಷ್ಠ ನಾಲ್ಕು ಪ್ರಶ್ನೆಗಳು)

ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಕನ್ನಡ (SKILL ENHANCEMENT COURSE) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಸ್ಪರ್ಧಾತ್ಮಕ ಕನ್ನಡವನ್ನು ಕುರಿತು ತಿಳಿಸುವುದು.

೨. ಕರ್ನಾಟಕದ ಸಾಮಾನ್ಯ ಜ್ಞಾನವನ್ನು ಪಠ್ಯಕ್ರಮವನ್ನಾಗಿಸುವುದು.

೩.

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

1) ಬಹುಆಯ್ಕೆ ಮಾದರಿಯ ಸ್ಪರ್ಧಾತ್ಮಕ ಕನ್ನಡವನ್ನು ಕುರಿತು ನೂರು ಪ್ರಶ್ನೆ

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಕನ್ನಡ (SKILL ENHANCEMENT COURSE) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಕೌಶಲ್ಯ ಕನ್ನಡವನ್ನು ಕುರಿತು ತಿಳಿಸುವುದು.

೨. ಕನ್ನಡದ ಭಾಷೆ ಮತ್ತು ವ್ಯಾಕರಣವನ್ನು ಕುರಿತು ಕನ್ನಡದ ಜ್ಞಾನವನ್ನು ಪಠ್ಯಕ್ರಮವನ್ನಾಗಿಸುವುದು.

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

2) ಬಹುಆಯ್ಕೆ ಮಾದರಿಯ ಕೌಶಲ್ಯ ಕನ್ನಡವನ್ನು ಕುರಿತು ನೂರು ಪ್ರಶ್ನೆಗಳು

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಐದನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಕನ್ನಡ (SKILL ENHANCEMENT COURSE) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಐದನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಭಾಷಾಂತರ ಕೌಶಲ್ಯವನ್ನು ಕುರಿತು ತಿಳಿಸುವುದು.

೨. ಕನ್ನಡದಿಂದ ಇಂಗ್ಲೀಷ ಮತ್ತು ಇಂಗ್ಲೀಷನಿಂದ ಕನ್ನಡಕ್ಕೆ ತಲಾ ಹತ್ತು ಭಾಷಾಂತರ ಮಾದರಿಗಳನ್ನು ನೀಡಿ ಭಾಷಾಂತರ ಕೌಶಲ್ಯವನ್ನು ಬೆಳೆಸುವುದು.

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

3) ಹತ್ತು ಸಾಲಿನ ಹತ್ತು ಪ್ಯಾರಾಗಳ ಕನ್ನಡ ಬರವಣಿಗೆಯನ್ನು ಇಂಗ್ಲೀಷಗೆ ಭಾಷಾಂತರಿಸುವುದು. ಹಾಗೇಯೇ ಇಂಗ್ಲೀಷನ ಹತ್ತು ಪ್ಯಾರಾಗಳ ಬರವಣಿಗೆಯನ್ನು ಕನ್ನಡಕ್ಕೆ ಭಾಷಾಂತರಿಸುವುದು. ಹತ್ತನ್ನು ಕೇಳಿ ಐದನ್ನು ಬರೆಯಲು ತಿಳಿಸುವುದು.

ಬಿ.ಎ. ಐಚ್ಛಿಕ ಕನ್ನಡ ತರಗತಿಗಳಿಗೆ
ಆರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಕನ್ನಡ (SKILL ENHANCEMENT COURSE) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

೧. ಆರನೆಯ ಸೆಮಿಸ್ಟರ್‌ನಲ್ಲಿ ಪತ್ರ ಬರವಣಿಗೆ, ಪ್ರಬಂಧ ರಚನೆ, ವರದಿಗಾರಿಕೆ ಮತ್ತು ಸಂಪಾದನಾ ಕೌಶಲ್ಯವನ್ನು ಕುರಿತು ತಿಳಿಸುವುದು.

೨. ತಲಾ ಹತ್ತು ಮಾದರಿಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.

ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ ಮತ್ತು ಅಂಕಗಳ ವಿವರ

1 ಪ್ರತಿ ವಿಷಯಗಳಿಗೆ ಮೂರು ಪ್ರಶ್ನೆಗಳನ್ನು ಕೇಳಿ ಒಟ್ಟು ಐದು ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಲು ಕೇಳುವುದು.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

POLITICAL SCIENCE

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

INTRODUCTION TO THE BA CHOICE BASED CREDIT SYSTEM

(SEMESTER SCHEME)

B.A Political Science Course is a Choice Based Credit System (Semester Scheme) spread over six semesters. The objective of the course is to provide a firm grounding in the subject, imbibe analytical skills and to develop a realistic and pragmatic perspective on the local, national, regional and international issues that figure in the syllabus.

The syllabus has been updated by offering many new and innovative papers keeping in view the changing times and the societal needs. The titles and detailed contents of the papers are mentioned below. All the Papers in the syllabus are provided with an extensive Reading list.

The goals and objectives of the B.A Political Science Course are as follows:

- To impart quality education to those seeking admission to the B.A Political Science course.

- To equip the students to prepare themselves for careers in teaching and research, the Union and State Civil Services, and the non-governmental sector.

- To increase awareness among students on local, national and international issues, and strengthen their analytical skills and capabilities.

- To train students to be good citizens and understand the framework of Indian constitution.

Political Science BA   Optional Syllabus - Course structure

SL.No.	Semester	Papers	Th. Marks
1.	1st semester	Paper-I: Introduction to Political Theory	80 Marks
2.	2nd semester	Paper-II: Western Political Thought	80 Marks
3.	3rd semester	Paper-III: Indian Political Thought	80 Marks
		Political Reporting (*Skill Enhancement Courses (SEC)*	50 Marks
4.	4th semester	Paper-IV: International Relations and Organizations	80 Marks
		Dimension of Politics (*Skill Enhancement Courses (SEC)*	50 Marks
5.	5th semester PAPER 5.1 PAPER 5.2	Paper-V (compulsory) Public Administration	80 Marks
		Paper-V (A) Optional- Public Policy Making in India Or	80 Marks

		Paper-V (B) Optional E-Governance	
	5th semester	Governance in India (*Skill Enhancement Courses (SEC)*)	50 Marks
6.	6th semester PAPER 6.1 PAPER 6.2	Paper-VI (compulsory) Indian Government and Politics	80 Marks
		Paper-VI (A) Optional- Local Government in India Or Paper-VI (B) Optional Foreign Policy of India	80 Marks
	6th semester	A Course on Research Methodology (*Skill Enhancement Courses (SEC)*)	50 Marks

QUESTION PAPER PATTERN

BA CHOICE BASED CREDIT SYSTEM (SEMESTER SCHEME)

W.e.f 2020-2021

Total Marks: 80   Time: 3 hours

NOTE: Read Instructions carefully. All parts are compulsory except for their internal options.

PART – A

Instructions: Answer any **Four** from the following in 100 words each. All questions

carry equal marks.   4x5 = 20 marks

           1)

           2)

           3)

           4)

           5)

           6)

PART – B

Instructions: Answer any **Three** from the following in 300 words each. All questions

carry equal marks.   3x10 = 30 marks

           1)

           2)

           3)

           4)

           5)

PART – C

1)

2)

3)

4)

COURSE PATTERN, SCHEME OF EXAMINATION AND CREDITS BA (Political Science) CHOICE BASED CREDIT SYSTEM

(SEMESTER SCHEME) 2020-21

I, II, III, IV, V, VI SEMESTERS (CBCS) course structure

Subject	Papers	Instruction hrs/week	Duration of Exam (hrs)	Marks			Credits
				IA	Exam	Total	
Paper-1 Semester-I	Introduction to Political Theory	1x5	1x3	1x20	1x80	1x100	1x3=3
Paper-2 Semester-II	Western Political Thought	1x5	1x3	1x20	1x80	1x100	1x3=3
Paper-3 Semester-III	Indian Political Thought	1x5	1x3	1x20	1x80	1x100	1x3=3
	A Course on Reading Writing Skills (*Skill Enhancement Course (SEC)*)	1X2	1x2	1x10	1x40	1x50	1x2=2
Paper-4 Semester-IV	International Relations and Organization	1x5	1x3	1x20	1x80	1x100	1x3=3
	Dimension of Politics (*Skill Enhancement Course (SEC)*)	1X2	1x2	1x10	1x40	1x50	1x2=2
Paper – 5 V SEMESTER	Public Administration(Comp)	1x5	1x3	1x20	1x80	1x100	1x4=4
optional Paper - 5.1 Paper - 5.2	Public Policy Making in India OR E-Governance	1x5	1x3	1x20	1x80	1x100	1x4=4
	Governance in India (*Skill Enhancement Course (SEC)*)	1X2	1x2	1x10	1x40	1x50	1x2=2
Paper - 6 VI SEMESTER	Indian Government and Politics(Comp)	1x5	1x3	1x20	1x80	1x100	1x4=4

optional **Paper - 6.1** **Paper - 6.2**	Local Government in India OR Foreign Policy of India	1x5	1x3	1x20	1x80	1x100	1x4=4
	A Course on Research Methodology (*Skill Enhancement Course (SEC)*)	1X2	1x2	1x10	1x40	1x50	1x2=2

BREAK UP OF INTERNAL ASSESSMENT MARKS

Tests	10 marks (2 test each test 5 Marks)
Assignment & Seminar	05 marks
TOTAL	20 MARKS

Declaration of Results

a) Minimum for a pass in each paper shall be 40% of the total 100 marks including both the IA and the semester end examination. However a candidate should obtain at-least 40% marks in the semester end examination which will be for 80 marks. There are no minimum marks for the Internal Assessment. However after adding the IA marks and the semester end examination marks, the candidates should score a minimum of 40% of the maximum marks per paper. Candidate shall secure a minimum of 50 percent in aggregate in all the papers of a programme in each semester to successfully complete the programme.

b) The improvement of the performance is permitted as per the rules and regulations of the University.

Sl. No	Percentage of Marks	GPA/CGPA	Grade
1	75 and above	7.50 to 10.00	A
2	60 and above but less than 75	6.00 to 07.49	B
3	50 and above but less than 60	5.00 to 05.99	C
4	40 and above but less than 50	4.00 to 4.99	D
5	Less than 40.00%	Less than 4.00	F

Grading

The Grade Point Average (GPA) shall be given to each candidate based on his/her performance during the semester which includes both the IA and the semester end examination. The GPA of each semester should be carried to next semester as Cumulative Grade Point Average CGPA.

Grade Points (Format)

Semester GPA = Total Credit Points in all papers

Credit hours

Cumulative Grade Point Average = (GPA of all Semesters)

Credits of All Semesters

Political Science BA   Optional Syllabus - Course structure

Semester	Papers	Th. Marks
1st semester	**Paper-I: Introduction to Political Theory**	80 Marks
2nd semester	**Paper-II: Western Political Thought**	80 Marks
3rd semester	**Paper-III: Indian Political Thought**	80 Marks
3rd semester	**Political Reporting** (*Skill Enhancement Courses (SEC)*)	50 Marks
4th semester	**Paper-IV: International Relations and Organizations**	80 Marks
4th semester	**Dimension of Politics** (*Skill Enhancement Courses (SEC)*)	50 Marks
5th semester	**Paper-V (compulsory) Public Administration**	80 Marks
	Paper-V (A) Optional- Public Policy Making in India Or Paper-V (B) Optional E-Governance	80 Marks
5th semester	**Governance in India** (*Skill Enhancement Courses (SEC)*)	50 Marks
6th semester	**Paper-VI (compulsory) Indian Government and Politics**	80 Marks
	Paper-VI (A) Optional- Local Government in India Or Paper-VI (B) Optional Foreign Policy of India	80 Marks
6th semester	**A Course on Research Methodology** (*Skill Enhancement Courses (SEC)*)	50 Marks

Political Science Optional

B.A. Semester – I
Paper-I: Introduction to Political Theory
80 Marks   05 hrs per week

Course Rationale:
This is an introductory paper trying to expose students to some basic ideas and concepts in Political Science. Effort has been made to orient students to the methodological andideological traditions in political science.

Unit I – **Political Theory:**
Meaning, Nature, Scope and Importance.

Unit II - **Approaches to the Study of Political Theory**:
Normative, Historical andEmpirical.

Unit III – **Nomenclature and differences:**
Political Theory, Political Philosophy, Political Ideology.

Unit IV - **Political Traditions**:
Liberalism, Socialism, Marxism, Democracy.

Unit V- **Concepts:**
Power, Authority, Liberty, Justice, Rights and Duties.

Books Reference

1. S.Ramaswamy Political Theory: Ideas and Concepts, Macmillan Publications,New Delhi, 2002.
2. O.P.Gauba An introduction to political theory, Macmillan India Pvt. Ltd.,Delhi, Chennai, Mumbai, 2004.
3. A.C.Kapur Principles of Political Science, S. Chand and Co., New Delhi,1977.
4. A.AppaduraiSubstance of Politics, Oxford University Press, London, 1986.
5. E.Baker Principles of Social and Political Theory, Oxford University Press, London, 1976.
6. S.P.Verma Modern Political Theory, Vikas Publications, New Delhi, 1983.
7. David Held Political Theory today, Stanford University Press, Stanford,California, 1991.
8. G H Sabine History of Political Theory, Oxford and IBH, New Delhi, 1973
9. Roger Tatwell,Anthony WrightContemporary Political Ideologies, Rawat Publications, Jaipurand New Delhi, 2003.
10. Steven J Hood Political Development and Democratic Theory (RethinkingComparative Politics), Prentice Hall of India, New Delhi, 2004.
11. Robert E Goodie A New Handbook of Political Science, Oxford University Press,London, 1998.
12. Mac Donald Western Political Theory 19 & 20 Century, HBJ Publications,New York, 1968.
13. James G. KellarThe Politics of Nationalism and Ethnicity, St. Martins Press,New York, 1991.
14. Bhargava, R. and Acharya, A. (eds.) Political Theory: An Introduction.New Delhi: Pearson Longman, 2008
15. McKinnon, C. (ed.) Issues in Political Theory, New York: Oxford University Press, 2008
16. Andrew Heywood – Political Ideologies: An Introduction
17. ಎಂ.ಎಸ್. ಪಾಟೀಲ ರಾಜಕೀಯ ಸಿದ್ಧಾಂತ, ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ, ತಾಳಿಕೋಟಿ.
18. ಎನ್.ಬಿ. ಪಾಟೀಲ & ಜಿ.ಬಿ. ಶೀಲವಂತರ ರಾಜಕೀಯ ಸಿದ್ಧಾಂತ ಅರುಣ ಪ್ರಕಾಶನ ವಿಜಾಪೂರ.
19. ಕೆ.ಜಿ. ಸುರೇಶ್, ರಾಜಕೀಯ ಸಿದ್ಧಾಂತ.

Political Science Optional
B.A. Semester – II

Paper-II: Western Political Thought

80 Marks   05 hrs per week

Course Rationale:
This paper studies the classical tradition in political theory from Plato to Marx with the view to understand how the great Masters explained and analyzed political events and problems of their time and prescribed solutions. The legacy of the thinkers is explained with the view to establishing the continuity and change within the Western political tradition.

Unit I – **History of Western Political Thought**,
Plato and Aristotle - Philosophy and Writings.

Unit II – **Medieval Political Thought**:
Features, Thomas Aquinas and Machiavelli – Philosophy and writings.

Unit III – **Modern Western Political Thought**:Features, Social Contractualists,Thomas Hobbes and Locke – Philosophy and writings.

Unit IV – **Modern Western Political Thought: Utilitarian's and Idealist's** – Jeremy Bentham and Thomas Hill Green.

Unit V – **Modern Western Political Thought: Scientific Theory** – Features, Karl Marx and Lenin.

Books Reference

1. C L Wayper Political Thought, B.I. Publications, Bombay, 1983.
2. Mukherjee &Ramaswamy History of Political Thought Plato to Marx, Prentice-Hall India, New Delhi, 1999.
3. E Barker The Political thought of Plato Aristotle, Dover Publications, New York, 1959.
4. W Ebenstein Great Political Thinkers, Oxford and IBH, New Delhi, 1969.
5. D R Bhandari History of European Political Philosophy, Bangalore Printing & Publishing Co. Ltd., Bangalore, 1990.
6. Urmila Sharma & S.K. Sharma- Western Political Thought
7. J P Suda -Modern political thought
8. O P Gauba -Western Political Thought
9. Boucher, D. and Kelly, P. (eds.) Political Thinkers: From Socrates to the Present, New York: Oxford University Press
10. ಎಂ.ಎಸ್. ಪಾಟೀಲ ರಾಜಕೀಯ ಸಿದ್ದಾಂತ, ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ, ತಾಳಿಕೋಟಿ.
11. ಎನ್.ಬಿ. ಪಾಟೀಲ ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಜಕೀಯಚಿಂತನೆಅರುಣ ಪ್ರಕಾಶನ ವಿಜಾಪೂರ.
12. ಗುರುರಾಜ ನಾ. ಜೋಶಿ ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಜಕೀಯಚಿಂತನೆರೂಪಾ ಪ್ರಕಾಶನಧಾರವಾಡ 2010
13. ಎಂ.ಪಿ. ಭುವನೇಶ್ವರ ಪ್ರಸಾದ್ – ಆಧುನಿಕ ರಾಜಕೀಯ ಚಿಂತಕರು
14. ಕೆ.ಜೆ.ಸುರೇಶ್ – ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಜಕೀಯ ಚಿಂತಕರು

Political Science Optional

B.A. Semester – III

Paper-III: Indian Political Thought
80 Marks   05 hrs per week

Course Rationale:
This paper attempts to introduce students to the entire gamut of political thinking in India from the beginning to the present. It focuses on key thinkers from ancient to modern times tounderstand their seminal contribution to the evolution of political theorizing in India. Itemphasizes on the distinctive contribution of Indian thinkers to political theorizing and therelative autonomy of Indian political thought.

Unit I – **Ancient Indian Political Thought** – Nature, Features, Significance, Scope and Relevance.

Unit II - **Political Thought of Kautilya and Manu**: Their writings and Political Philosophy.

Unit III – **Medieval Indian Political Thought**: Features, Theories of Kingship, Governance and Role of Religion in Society.

Unit IV – **Modern Indian Political Thought**: Features, Colonialism and Indian National Movement.

Unit V – Modern Indian Political Thought: Leadership, Role and Philosophy of M K Gandhi, Dr. B.R. Ambedkar.

Books Reference

1. N. Jayapalan, Indian Political Thinkers: Modern Indian Political Thought
2. Urmila Sharma& S.K. Sharma, Indian Political Thought
3. V.P. Varma-Modern Indian political Thought
4. K. S. Padhy- Indian Political Thought
5. V.P. Varma- Ancient and Medieval Indian political Thought
6. Sherwin Haroon Khan, Muslim Political Thought & Administration, Delhi, 1991
7. Mehta, V. R. *Foundations of Indian Political Thought.* New Delhi: Manohar Publishers, 1992
8. Panthan, Th. & Deutsch, K. L. (eds.) *Political Thought in Modern India.* New Delhi 1986
9. Singh, M.P. and Roy, H. (eds.) *Indian Political Thought:Themes and Thinkers,* New Delhi: Pearson. 2001
10. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಭಾರತೀಯರಾಜಕೀಯಚಿಂತನೆ, ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ, ತಾಳಿಕೋಟ
11. ಎನ್.ಬಿ. ಪಾಟೀಲ ಭಾರತೀಯರಾಜಕೀಯಚಿಂತನೆಅರುಣ ಪ್ರಕಾಶನ ವಿಜಾಪೂರ.
12. ಎಂ.ಪಿ. ಭುವನೇಶ್ವರ ಪ್ರಸಾದ್ – ಪ್ರಾಚೀನ ಭಾರತದ ರಾಜಕೀಯ ತಾತ್ವಿಕರು
13. ಕೆ.ಜೆ.ಸುರೇಶ್ – ಪಾಶ್ಚಿಮಾತ್ಯ ರಾಜಕೀಯ ಚಿಂತಕರು,

THIRD SEMESTER

Paper: Political Reporting
(Skill Enhancement Courses (SEC)
50 MARKS   0 2 HOURS

Rationale

This course teaches students the fundamentals of covering political world (between 37 to 60 percent of political news is covered by the media on an average per day) in reporting it professionally. This course is designed to provide a broad overview of the nuances of interpreting the political phenomena starting from the grassroots to the parliament. The idea is to help students develop insights and enlarge their job opportunity by enhancing their skills in a professional manner by giving deeper knowledge of the reporting activity in the age of mass media and new social media. This will thus help students to develop skills of reporting and make it as a career by adding value to their master's degree.

Unit I- Nature of Politics

1. Meaning and Nature of State, Defining Politics and Measuring Political Developments
2. Defining the role of Mass Media-Press, Radio and TV in India

Unit II- Political Action and Media

1. Defining Political News, Nature of Political News and Forms of Political News
2. Defining the limits of Political Reporting and working of Lobbies and Pressure Groups

Unit III- Assessment and Political Reporting
1. Central, State, Local Governments and Judiciary - an assessment of their working
2. Writing Reports - background information, criteria for evaluation (parameters), drawing conclusions

Unit IV- Journalistic Communication

1. Journalistic writing skills, Dead Lines and Interview Reporting
2. Writing Blogs, Punctuation, and Grammar needs.

References

1. Sharon Hartin Iorio, *Qualitative Research In Journalism*, London: Erlbaum Associates, 2004
2. Davis Merritt, *Public Journalism And Public Life, Erlbaum Associates*, London: 2004
3. Raymond Kuhn, *Political Journalism New Challenges*, New York: New Practices, Rutledge, 2003
4. Gail Sedorkin And Judy MCgregor, *Interviewing – A Guide For Journalist And Writers,* Crow's Nest, N.S.W.: Allen and Unwin, 2002
5. R.T.Jangam, (etal) *Political Analysis*, New Delhi: Oxford and IBH Publication, 1997
6. J.C.Johari, *Comparative Politics*, New Delhi : Sterling Publishers, 1982
7. Robert A. Dahl, *Modern Political Analysis*, New Delhi: Prentice Hall of India, 1981

Political Science Optional

B.A. Semester – IV

Paper-IV: International Relations and Organization
80 Marks   05 hrs per week

Course Rationale:
This paper deals with concepts and dimensions of international relations and The Concept of theories of power and different aspects ofbalance of power are included. The student is expected to study International Politics andIndia's Foreign Policy from a pro-active and futuristic perspective.

Unit I **- Introduction:** Meaning, Nature, Scope and Importance, Growth of International Relations as a discipline.

Unit II – **Theoretical Approaches to the study of International Relations**- Traditional, Normative and Behavioural Approaches

Unit III – Concepts in International Relations: National and State, Empire, Non-State Actors, Foreign Policy, Political System, Nationalism, Globalization, Security,Power,Diplomacy International law, Sovereignty

Unit IV - **Contemporary Challenges to International Relations**: International terrorism, Climate Change, Human Rights and Migration

Unit V – **International and Regional Organizations**:UN, WTO, BRICKS, EU ASEAN, African Union and Arab League.

Books Reference

1. Palmer and Perkins International Relations The World Community in Transition, Scientific Book Agency, Latest Edition.
2. Michael G. Roskin I.R. the New World of International Relations, Prentice Hall of India, New Delhi, 2002
3. Peter Calvocoressi World Politics 1945-2000, Pearson Publications, New Delhi, 2004
4. Vinay Kumar Malhotra International Relations, Anmol Publications, New Delhi, 2004
5. Joshua S. Goldstein International Relations, pearson Publications, New Delhi, 2004
6. Vandana V. Theory of International Politics, Vikas Publishing House, New Delhi, 1996
7. Prakash Chandra International Politics, Vikas Publishing House Pvt, Ltd. New Delhi, 2001.
8. Robert Jackson and George Sorensen Introduction of International Relations, Oxford University, Press, 1999
9. H.J. Morgenthau, Politics among Nations
10. Mahendar Kumar, Theoretical Aspects of International Politics
11. JC Johari, International Relations and politics
12. Urmila Sharma, International Relations
13. ಎನ್.ಬಿ ಪಾಟೀಲ, ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು ಹಾಗೂ ಸಂಘಟನೆಗಳು, ಅರುಣ ಪ್ರಕಾಶನ, ವಿಜಯಪುರ
14. ಡಾ.ಎಂ.ಪಿ. ಭುವನೇಶ್ವರ ಪ್ರಸಾದ್– ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳ ಪರಿಕಲ್ಪನೆಗಳು
15. ಕೆ.ಜೆ.ಸುರೇಶ – ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು, ಚೇತನ ಬುಕ್ ಹೌಸ್
16. ಹಾಲಪ್ಪ – ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು, ವಿದ್ಯಾನಿಧಿ ಪ್ರಕಾಶನ

FOURTH SEMESTER

Paper: Dimension of Political
(*Skill Enhancement Courses (SEC)*)

50 MARKS   02 HOURS

Course Rationale: Has been framed with greater interest for effusing students with synoptically knowledge of the political science. It familiarizes students with essential components of Political Science, but also enhances the development of human personality. In nutshell it provides multiples avenues for students across the variegated disciplines.

Unit I – Essentials of democracy

National Integration, Political Parties, Pressure Groups and Interest groups.

Unit II - Debates on Current Issues

Debate on Reservation, Fundamental Duties, Media & Politics

Unit III – New Paradigms

Right to Information Act, Anti Defection Act, Public Interest Litigation

Unit IV – Socio- Political Thoughts

Dr.B.R. Ambedkar: Chairman of Drafting Committee,

Mahatma Gandhi – Non Violence,

Basavanna – Social Justice.

BOOKS REFERENCES

1. Granvile Austin, Working of a Democratic Constitution: The India Experience, New: Oxford University Press, 2000.
2. M. V. Pylee, our Constitutions, Government and Politics, New Delhi: Universal 2002.
3. Ajay Mehra, ed (2013) Party System in India: Emerging Trajectories, Lancer, New Delhi.
4. B.L. Shankar and Valerian Rodrigues (2011) The Indian Parliament, Oxford University Press, New Delhi.
5. Sandeep Shastri, K.C.Suri and Yogendra Yadav (2009) Electoral Politics in Indian States: Elections and Beyond, Oxford University Press, New Delhi
6. Rajeev Bhargava (2009) Politics and Ethics of the Indian Constitution, Oxford University Press
7. Mohanty, Biswaranjan. (2009). Constitution, Government and Politics in India – Evolution and Present Structure, New Century Publications, New Delhi.

Political Science Optional

B.A. –V Semester
Paper V – (Compulsory)
Public Administration

80 Marks   05 hrs per week

Course Rationale:
This paper is an introductory course in Public Administration. The effort is to introduce students to the basic principles, key administrative thinkers, and the main instrument-bureaucracy/civil service – of administration.

Unit I – **Introduction**: Public Administration: Evolution, Meaning, Scope and Significance, Difference between Public and Private Administration.

Unit II – **Approaches to the study of Public Administration:** Traditional – Historical and Analytical, Normative – Legal and Philosophical.

Unit III – **Administrative Thinkers and Theories:** Classical Theory- Henry Fayol, Scientific Management Theory- F.W.Taylor, Human Relations Theory-Elton Mayo

Unit IV – **Concepts in Public Administration and New Public Administration**: Hierarchy, Unity of Command, Span of Control, Authority, Centralization, Decentralization and Delegation, Line and Staff, features of New Public Administration.

Unit V – Basic Statistics–:Units of Analysis and Variables, Basic Idea of Central Tendency, Mean, Mode, Median, Basic Ideas of Distribution, Sampling Concepts, Hypothesis testing.

Books Reference

1. M.P.Sharma B.L. Sadana Public Administration in Theory and Practice, KitabMahal, New Delhi,2005.
2. Raymond W.Cox Susan J.BuckBettty N. Morgan Public Administration in Theoryand Practice, Pearoson Publication, New Delhi, 2004
3. Nicholas Henry Public Administration and Public Affairs, Prentice Hall of India,New Delhi, 2003
4. R.K. Arora C.V.Raghavulu values in Administration, Associated Publishing House,New Delhi, 1989
5. VishnooBhagwanVidyaBhushan Public Administration, S.Chand& Co., NewDelhi, 2005
6. Avasthi&Maheshwari Public Administration, Lakshmi NarainAgarwal, Agra,2004
7. Mohit Bhattacharya Public Administration : Structure, Process and Behaviour,World Press, Calcutta, 1987
8. Ram Avtar Sharma Public Administration Today, Shree Publishers & Distributers,New Delhi, 2005
9. Fadia&Fadia Public Administration Theries and Concepts, SahityaBhavanPublications, Agra, 2005
10. A.R. Tyagi Public Administration, Principles & Practice, Atma Ram &Sons, Delhi, 2001
11. C.P. Bhambhri Public Administration, Jai PrakashNath& co., Meerut, 2000
12. Rumki Basu-Public Administration concepts and Theories
13. G.H. Frederickson: New Public Administration.
14. ಎನ್.ಬಿ. ಪಾಟೀಲ ಸಾರ್ವಜನಿಕ ಆಡಳಿತ ಅರುಣ ಪ್ರಕಾಶನ ವಿಜಯಪುರ
15. ಕೆ.ಜೆ.ಸುರೇಶ್ – ಸಾರ್ವಜನಿಕ ಆಡಳಿತ,
16. ಮಾಲಿಮದ್ದಣ್ಣ – ಸಾರ್ವಜನಿಕ ಆಡಳಿತ,
17. ಹೆಚ್. ಟಿ. ರಾಮಕೃಷ್ಣ – ಸಾರ್ವಜನಿಕ ಆಡಳಿತ, ಲಲಿತ ಪ್ರಕಾಶನ
18. ಹಾಲಪ್ಪ– ಸಾರ್ವಜನಿಕ ಆಡಳಿತ.
19. Kothari, Research Methodology: Methods and Techniques, New Delhi, new Age International, 2014.
20. Gupta. S.C and Kapoor V.K. Fundamentals of Mathematical Statistics, Sultan Chand and sons, (2001)
21. Freund J.E., Mathematical Statistics, Prentice hall, (2001)

Political Science Optional

B.A. –V Semester
Paper V (A)– (Optional)

Public Policy Making in India
80 Marks   05 hrs per week

Course Rationale: This paper introduces to the students of 21stcentury development of policy technology – in its rational, institutional and behavioural dimensions.

Unit I - **Public Policy**: Introduction, Concepts of Public and Policy -Nature, Scope and Significance of Public Policy, Definition .

Unit II - **Evolution of Public Policy Studies, Types of Public Policy**: Regulatory, Welfare, Distributive and Re-distributive, Models of Public Policy Systems Model, Herbert Simon.

Unit III - **Policy Making in India**: Constitutional framework for Policy Making, Institutional Factors: Legislature, Executive, Judiciary, Planning Commission and National Development Council.

Unit IV – **Factors that influence Policy making:** Public Opinion, Political parties, Pressure groups, Media and Professional Bodies -External Influencing Agencies- UN, ILO, World Bank and IMF.

Unit V – **PolicyMonitoring and Evaluation**:Approaches and Techniques, Policy Monitoring and Evaluation, Types of Evaluation

Books Reference

1. Dror, Y. Public Policy Making Reexamined. Oxford: Transaction Publication, 1983
2. Dye, T.R. Understanding Public Policy. New Jersey: Prentice Hall 1975
3. R.V. Vaidyanatha Ayyar, Public Policy Making In India, Pearson.
4. Noorjahan Bava, Development Policies and Administration in India.
5. A.Celestine: How to Read the Union Budget PRS, Centre for Policy Research, New Delhi, Availableat http://www.prsindia.org/ parliamenttrack/ primers/ how-to-read-the-union-budget-1023/
6. B. Chakrabarty and P. Chand: Public Policy: Concepts, Theory and Practice
7. Zoya Hasan (ed.),Politics and the State in India, New Delhi
8. Kaushiki Sanyal and Rajesh Chakrabarti, Public policy in India 2017
9. Kuldeep Mathur, Public Policy and Politics in India: How Institutions Matter, 2013
10. Prabir Kumar De, Public Policy and Systems

Political Science Optional

B.A. –V Semester
Paper V (B) – (Optional)

E-Governance
80 Marks   05 hrs per week

Course Rationale: This paper gives introduction to good governance and how can be achieved by information system and E- governance.

Unit I - **E-Governance**Meaning, Nature, Definition and Scope and Significance of E-Governance, Domains of E-Governance, Current Status of Indian E-Governance efforts.

Unit II - **E-governance at Union and State level**, National E-Governance Plan –Central Mission Mode Projects, State Mission Mode Projects.

Unit III - **Major E-governance Projects**: Gyandoot, Warna, E-choupal, E-Bhoomi, E-Governance in Nioda City, Raj Nidhi, Raksha Bhoomi.

Unit IV – **Governance**- Meaning and significance, Citizen Centric Governance, -E-Government Services, Public Private Partnership and Expansion of E-Governance.

Unit V - **E-Governance -Transparency and Accountability at Grassroots Level.   Issues and Challenges of E-governance:**Digital Divide, Capacity Building, Cyber Security.

Books Reference

1. M.J.Moon, The Evolution of Electronic Government Among Municipalities: Rhetoric or Reality, American Society For Public Administration, Public Administration Review, Vol 62, Issue 4, July – August 2002

2. Vasu Deva, E-Governance In India : A Reality, Commonwealth Publishers,2005

3. Pankaj Sharma, E-Governance: The New Age Governance, APH Publishers,2004

4. Pippa Norris, Digital Divide: Civic Engagement, Information Poverty and the Internet in Democratic Societies, Cambridge: Cambridge University Press, 2001

5. Anil Dutta Mishra, Good Governance a Conceptual Analysis, in AlkaDhameja, 2010

6. Zhiyuan Fang, E-Government in Digital Era: Concept, Practice, and Development, International Journal of The Computer, The Internet and Management, Vol. 10, No.2, 2002

7. MahapatraR, and Perumal S. 2006. "e-governance in India : a strategic framework", International Journal for Infonomics: Special issue on measuring e-business for development. January

8. Signore O., Chesi F. and Pallotti M. 2005, "E-Government: challenges and opportunities", CMG Italy - XIX annual conference, June7-9.

9. Henrik Paul Bang, (Ed.) Governance as Social and Political Communication, Manchester University Press, New York 2003

10. Malick M H and Murthy A V K, the Challenge of E-Governance, The Indian Journal of Public Administration, Vol.47, IIPA, New Delhi, 2001

FIFTH SEMESTER

Paper: Governance in India
(*Skill Enhancement Courses (SEC)*)

50 MARKS   0 2 HOURS

Course Rationale: The paper-Governance in India throws light upon the over-all political fabric of India. Focuses it's also on the nation's socio-communal structure, ingredients of good governance and important national commissions. By doing so this paper acquaints the students to essential strands of socio-political principles and mechanisms of good governance thus making is students being equipped with necessary potentials required for leading a secured life.

Unit -1 Constitution of India

Characteristics of Indian Constitution, Preamble, Secularism and Communalism.

Unit-2 Democracy

Issues and Challenges to Democracy, Electoral System, NOTA

Unit-3 Governance

E-Governance, Good Governance, Local Self Government

Unit-4 Commissions in India

National Commission for SC & ST, National Commission Women. NITI Ayoga

Books Reference

1. Bridge Kishore Sharama, Introduction to the Constitution of India, New Delhi, Prentice Hall of India : 2004
2. B.R. Ambedkar. The Untouchables: who were they and why they become untouchables? Bombay: Govt. of Maharashtra, 1990.
3. Granvile Austin, Working of a Democratic Constitution: The Indian Experience, New: Oxford University Press, 2000.
4. M.V. Pylee, our Constitutions, Government and Politics, New Delhi:Universal 2002.
5. Rajendra Sigh, Social Movement, Old and New A Post Modernist Critique, Delhi: Sage Publication, 2001.
6. S.C. Kashayap, Reforing the Constitution, New Delhi: UBSPD, 1992.
7. Ranani Kothari, Politics in India, New Delhi : Orient Longman, 2003.
8. B.L. Padi, Contemporary India Politics, Agra: Sahitya Bhavan, 1988.
9. C.P. Bhambri, Indian Politics since Independence New Delhi: Shipra, 1994.
10. J.C. Johari, Indian Politics, Jalundar: Vishal, 1990.
11. A.C. Kapoor, Indian Political System, New Delhi: S. Chand and Company, 1982.
12. P.B. Desai, Basaveshwara and His Time: Goa University Press Published in 1960.
13. Shri. Kumarswamijii, Belong of Humanity, 1994.
14. Prof. Jadi Musalayya, Basaveshwar Philosophy 1140 AD to 1196, New Delhi Current Publication, 1994.
15. R. H. Chandangoudar, Twelth century revaluation for equality and social justices, Bangolre Jagjyoti Trust, 2008.

Political Science Optional

B.A. –VI Semester
Paper VI – (Compulsory)

Indian Government and Politics

80 Marks   05 hrs per week

Course Rationale: This paper introduces students to the Constitution of India in its structural and functional aspect. It is expected that the knowledge acquired in the introductory political theory paper shall be juxtaposed in understanding the nitty-gritty of this paper.

Unit I – **Introduction:** Constituent Assembly: Structure and Composition, Framing of the Indian Constitution- MajorDebates,Preamble, Citizenship and salientfeatures.

Unit II - Fundamental Rights,Directive Principles of State Policy, FundamentalDuties, Basic Structure of the Constitution and Ninth Schedule and its significance.

Unit III - **Union Government**: Executive: President, Election, Powers and Functions, Prime Minister and Council of Ministers Power and functions, RajyaSabha – its need and significance.

Unit IV – **State Governments**: Composition, Powers and Functions, Vidhana Parishat – Its need and Significance, Judiciary: High Court and Supreme Court composition powers and functions.

Unit V – **Party System**: Features and Trends, National and Regional Parties, Coalition Politics, Election Commission and NITI Ayog.

Books Reference

1. M.V.Pylee, An Introduction to the Constitution of India, New Delhi, Vikas, 2005.

2. Subhash C. Kashyap, Our Constitution: An Introduction to India's Constitution and constitutional Law, New Delhi, National Book Trust, 2000.

3. Durga Das Basu, Introduction to the Constitution of India, New Delhi, Prentice Hall of India, 2001.

4. D.C.Gupta, Indian Government and Politics, VIII Edition, New Delhi, Vikas, 1994.

5. J.C.Johari, Indian Government and Politics, Delhi, Sterling Publishers, 2004.

6. V.D.Mahajan, Constitutional Development and National Movement in India, New Delhi, S. Chand and Co., latest edition.

7. Constituent Assembly Debates, New Delhi, LokSabha Secretariat, 1989.

8. Granville Austin, Working of a Democratic Constitution : The Indian Experience, New Delhi, Oxford University Press, 1999.

9. A.P.Avasthi, Indian Government and Politics, Agra, Naveen Agarwal, 2004.

10. Dr .B.L.Fadia. Indian Government and Politics.

11. Dr. Prakash Chandra, Indian Government and Politics

12. ಎನ್.ಬಿ. ಪಾಟೀಲ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ ಅರುಣ ಪ್ರಕಾಶನ ವಿಜಯಪುರ

13. ಡಾ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತದ ಸಂವಿಧಾನ ಮತ್ತು ರಾಜಕೀಯ, ಕಿರಣ್ ಪ್ರಕಾಶನ, ಮೈಸೂರು

14. ಪ್ರೊ. ಎನ್. ಹಾಲಪ್ಪ , ರಾಜ್ಯಶಾಸ್ತ್ರ, ಚೇತನ ಬುಕ್ ಹೌಸ್, ಮೈಸೂರು

15. ಕೆ.ಜಿ.ಸುರೇಶ್–ಭಾರತ ಸಂವಿಧಾನ

Political Science Optional

B.A. –VI Semester
Paper VI(A)– (Optional)

Local Government in India
80 Marks   05   hrs per week

Course Rationale: This paper structures multi-dimensional and inter-sectorial knowledge-base for strengthening Local Government Institutions in India. The curriculum enables the youth to analyses the dynamics of decentralized governance and to equip them with the requisite skills towards realizing local economic development and social justice.

Unit I – **Empowerment**: Definition, Meaning, Significance, Empowering People and Local Governments: Need, Relevance, Decentralization and Powerto the People.

Unit II – **Approaches to the study of Local Governments**: Constitutional – Legal Political, Administrative, Economic and Developmental Approach.

Unit III–**Committees to strengthen Panchayats in India:** BalawantaRai Mehta Committtee, Ashok Mehta Committee, Singvi Committee – theirrecommendations

Unit IV - **Constitutional and Political Empowerment**: Division of Powers between Centre and States, Urban and Rural Local Governments: 73rdand 74th Amendment,

Unit V - **Administrative Empowerment**: Decision Making Powers of the LocalGovernments, Karnataka Panchayat Raj Act 1993 and Karnataka municipal Corporation Act 1976 - Structure, functions and Powers

Books Reference

1. Maheshwari S R, Local Government in India, New Delhi, Orient Longman, New Delhi, latest edition.
2. R.P Joshi & G.S. Narwani, Panchayati Raj in India: Emerging Trends, Rawat Publications, Jaipur, 2002
3. A History of Local Self Government in Rural Karnataka- -Dr. M. Umapathi
4. M.A. Muttalib and MA Khan, Theory of Local Government, Sterling Publishers Pvt. Ltd. New Delhi.
5. Mohit Bhattacharya, Management of Urban Government in India, Uppal Book Store, New Delhi
6. Mishra, S.N., Dreams and Realities: Expectation from Panchayati Raj, New Delhi, IIPA, 1996
7. 73rd and 74th Constitutional Amendment Act, 1992
8. S.N. Jha and P.C. Mathur, Decentralization and Local Politics, New Delhi, Sage, 1999
9. S.R. Maheswari, Local Government in India, Lakshmi Narain Agarwal, Agra, 2003
10. S. Singh and P. Sharma: Decentralization: Institutions and Politics in Rural India
11. Anil Jana ed.: Decentralizing Rural Governance and Development
12. ಕರ್ನಾಟಕ ಪಂಚಾಯತ್ ರಾಜ್ ಅಧಿನಿಯಮ 1992

Political Science Optional

B.A. –VI Semester
Paper VI(B)– (Optional)

Foreign Policy of India

80 Marks   05   hrs per week

Course Rationale
The course seeks to acquaint students with the illusion of India's foreign policy since independence. Particular emphasis is laid on the foundation aspects of foreign policy as alsoshedding light on the mechanics and dynamics of foreign policy making and implementation.Emerging aspects embodying India's interface with global and regional players and multilateralorganizations and forums shall also be dealt with.

Unit I – **Foundations**: Nehru's Legacy Non-Alignment and Panchasheel and Post-Nehruvian Innovations in India's Foreign Policy: Transformation of International Politics Post Cold War: Implications for India

Unit II - **Dealing with Major Powers**: India's Foreign Policy towards -USA and European Union, Russia, China

Unit III - **Changing Contours of Indian Foreign Policy**: Look South and South-East, Neighbour First Policy under Modi, Foreign Policy during the Coalition Era

Unit IV - **Economic Dimensions of Foreign Policy**: Globalisation, International Trade, Multinational Corporation and Regional Cooperation

Unit V - **India's Approach to Major Global Issues and Institutions:** UN, WTO, Disarmament and Arms Race, Cross Border Terrorism and Human Rights, Global Environment.

Books Reference

1. The Clash of Civilizations and the Remaking of World Order (Paperback)
   bySamuel P. Huntington
2. India's Foreign Policy: Retrospect and Prospect Paperback– by SumitGanguly
3. Global Politics Andrew Heywood
4. Foreign Policy of IndiaProf. N.Jayapalan
5. Foreign Policy of IndiaDr. SubhashShukla
6. Foreign Policy of india and Asia-PacificK.Raja Reddy
7. New Horizons of Indian Foreign PolicyDr. M.R.Biju
8. Engaging the World Indian Foreign Policy since 1947SumitGanguly
9. The Making of India's Foreign Policy, New Delhi: Allied Publishers, J. Bandhopadhyaya,
10. S. Mehrotra, (1990) 'Indo-Soviet Economic Relations: Geopolitical and Ideological Factors', in India and the Soviet Union: Trade and Technology Transfer, Cambridge University Press: Cambridge
11. ಡಾ.ಪಿ.ಎಸ್.ಜಯರಾಮು – ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
12. ಹೆಚ್ . ಟಿ. ರಾಮಕೃಷ್ಣ– ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು
13. ಪ್ರೊ. ಎನ್. ಹಾಲಪ್ಪ , ಅಂತರರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು, ಚೇತನ ಬುಕ್ ಹೌಸ್, ಮೈಸೂರು
14. ಎನ್. ಬಿ ಪಾಟೀಲ, ಅಂತರಾಷ್ಟ್ರೀಯ ಸಂಬಂಧಗಳು ಹಾಗೂ ಸಂಘಟನೆಗಳು, ಅರುಣ ಪ್ರಕಾಶನ, ವಿಜಯಪುರ

SIXTH SEMESTER

Paper: A Course on Research Methodology
(*Skill Enhancement Courses (SEC)*)

50 MARKS   0 2 HOURS

Course rationale: This course will help the students to understand the significance of research in political science and social sciences and equips them with deeper understanding about the problems of our society. (*For last unit topic shall be chosen by the students under the guidance of political science teacher within the broad area of the discipline.* ***NOTE: Project work is for 50 marks***.

Unit-1 Introduction
Meaning, nature and significance of social sciences research. Need for research: its history and utility.

Unit-2 Methods in political science research:
Types of Research: Fundamental and applied. Traditional and Scientific methods Research design: types, formulation of problem, literature survey, hypotheses and its types.

Unit-3 Introduction to Field Study:
Types of Data collection and Techniques. Survey Research. Use of information technology and its application.

Unit-4 Data Analysis and Report Writing:
Processing of data, computer application for data analysis. Structure and content of research report and Project Work.

Books Reference

1. Varma, Basic research in Political science, Rawat publication, Jaipur, 1989.
2. Jayapalan. N., Research Methods in Political Science, New delhi, Atlanta, 2000.
3. Simon J, Basic research in methods in social sciences, New York, Random House, 1969.
4. Kothari & others, Research Methodology: methods and techniques, New Age international, New Delhi, 2014.
5. Johnson & Joslin, Political science research methods, Prentice hall of India, New Delhi, 1989.
6. Greenstein and Polsby, Strategies of Inquiry, Handbook of political science, California Addison, Wesley, 1975.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

SOCIOLOGY

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

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Board of Studies in Sociology (UG)

Date: 20-12-2019

Sl. No.	Name of the Members	Designation
1	**Prof. Chandrika K.B.** Dept. Of Sociology Rani Channamma University Belagavi	Chairperson
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3	**Dr. M. M. Hiremath** BVVS Basaveshvar Arts College, Bagalkot	Member

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B.A. Sociology (Optional)
CBCS Syllabus (UG)
(W.e.f. 2020-21 Onwards)

Semester	Code/ Course	Paper No	Title of the Paper	Teaching Hours/ Week	Credits	IA	Sem. End Exam	Total	Duration of Sem. End Exam
I	ASOCDSC 1	1	Principles of Sociology	5	3	20	80	100	3
II	BSOCDSC 2	2	Study of Indian Society	5	3	20	80	100	3
III	CSOCDSC 3	3.1	Indian Social Thinkers	5	3	20	80	100	3
	CSOCSEC 1	3.2	Personality Development and Communication Skills	2	2	10	40	50	2
IV	DSOCDSC 4	4.1	Study of Western Sociological Thought	5	3	20	80	100	3
	DSOCSEC 2	4.2	Health and Sanitation	2	2	10	40	50	2
V	ESOCDSC 5	5.1	Rural Development in India	4	4	20	80	100	3
	ESOCDSE 1	5.2(a)	Urban Society in India or	4	4	20	80	100	3
		5.2(b)	Social Demography						
	ESOCSEC 3	5.3	Sociology of Tourism	2	2	10	40	50	2
VI	FSOCDSC 6	6.1	Basics of Social Research	4	4	20	80	100	3
	FSOCDSE 2	6.2(a)	Current Social Problems or	4	4	20	80	100	3
		6.2(b)	Social Welfare in India						
	FSOCSEC 4	6.3	Society, Mass Media and Communication	2	2	10	40	50	2
				44	36				

DSC: **Discipline Specific Course**

DSE: **Discipline Specific Elective**

SEC: **Skill Enhancement Course**

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I - SEMESTER – DSC - 1
B. A. SOCIOLOGY
PRINCIPLES OF SOCIOLOGY

Objectives:

It is an Introductory Paper, which intends to:
→ Make the students to acquaint with the Basic Concepts and Principles of Sociology.
→ To understand the Dynamics of Sociology
→ To study the Human Interactions and Relationships

Unit-I   Introduction
1. Meaning, Definitions and Characteristics of Sociology
2. Origin and Development of Society
3. Significance of Sociology
4. Sociological Perspectives

Unit-II   Basic Concepts of Sociology
1. Society and Community: Meaning and Characteristics, Elements of Community
2. Social Groups- Definition, Features and Types
3. Status and Role- Meaning and Types
4. Social Institution and Association: Meaning, Characteristics and Types

Unit-III   Social Interaction and Process
1. Meaning and Characteristics of Social Interaction
2. Types of Social Process: Cooperation, Competition, Conflict, Accommodation, Assimilation, Isolation
3. Difference Between Competition and Conflict
4. The Role of Social Process in Social Life

Unit-IV   Culture and Socialization
1. Culture - Meaning, Characteristics and Elements of Culture.
2. Cultural Process: Cultural Lag, Cultural Shock, Cultural Diffusion, Ethnocentric Culture, Xenophobia.
3. Socialization- Meaning, Characteristics, Stages of Socialization, Agencies of Socialization and Its Importance
4. Social Stratification and Mobility: Meaning, Characteristics, Forms of Stratification - Caste and Class

4

Unit-V   Social Change and Social Control
1. Social Change: Meaning, Definitions and Characteristics
2. Factors of Social Change: Geographical, Biological, Cultural and Technological Factors
3. Social Control: Meaning, Definitions and Characteristics
4. Agencies of Social Control (Formal and Informal)

References:

*   Abraham Francis (2006): Contemporary Sociology, Oxford University Press, New Delhi.
*   Bottomore, T.B.: Sociology: A Guide to Problems and Literature. George Allen and Unwin, Bombay, India.
*   Davis Kingsley (1982): Human Society, Surfeit Publications, New Delhi.
*   Giddens Anthony (2001): Sociology (4th Ed.), Blackwell Publishers, Cambridge, UK.
*   Gisbert Pascual (1983): Fundamentals of Sociology, Orient Longmans, Bombay.
*   Green A.W. (1964): Sociology– Analysis of Life in Modern Society (4th Edition)
*   Ian Robertson (1980): Sociology, Worth Publishers, INC, New York 1980
*   Jayaram, N. (1988): Introduction to Sociology, MacMilan, India, Madras.
*   Johnson Harry M. (1995): Sociology: A Systematic Introduction, New Delhi : Allied Publishers
*   Ogburn and Nimkoff (1964): A Handbook of Sociology, Publishing House, Pvt. Ltd, Ram Nagar, New Delhi.
*   Ram Ahuja (2001): Research Methods. Rawat Publication, Jaipur.
*   Samuel Koenig (1960): Sociology- An Introduction to the Science of Society. Barnes and Noble, INC, New York
*   Shankar Rao (2004): Sociology. S. Chand & Co. New Delhi.
*   Sharma R. N. (1976): Principles of Sociology. Media Publishers and Promoters Ltd, Bombay.
*   Mulugund, I. C. (2008): Readings in General Sociology, Shrusti Prakashan, Dharwad.

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II - SEMESTER – DSC - 2
B. A. SOCIOLOGY
STUDY OF INDIAN SOCIETY

Objectives:

→ To understand the Diversities and Unity in Indian Society.

→ To know the major segments in Society, the Traditions, Continuities and Changes taking place in Indian Society.

→ The Sociological Perspective on Indian society, presented in this paper will enable students to gain a better understanding of their own situation and region.

Unit- I   Introduction
1. Features of Indian Society
2. Philosophical Base: Dharma, Purusharthas and Samskaras
3. Unity in Diversity
4. Factors of Continuity and Change

Unit- II   Marriage, Family and Kinship
1. Meaning and Definitions of Marriage Family and Kinship
2. Marriage among Hindus, Muslims, and Christians
3. Types of Family: Joint Family, Nuclear family, Matriarchal and Patriarchal Family
4. Recent Trends in Marriage and Family, Legislations

Unit III Caste System in India
1. Meaning and Features of Caste System
2. Functions of Caste System
3. Role of Caste in Modern India- Merits and Demerits
4. Changing Aspects of Caste, Causes for Changes

Unit IV Other Backward Classes and Minority
1. Meaning and Characteristics of OBC's
2. Backward Class Movements
3. Constitutional Measures and Welfare Programmers of OBC's
4. Religious Minority: Muslims and Christians

Unit V Scheduled Castes and Scheduled Tribes
1. Meaning and Nature of SC's and ST's
2. Problems and Challenges of SC's
3. Problems and Challenges of ST's
4. Constitutional Measures and Welfare Programmes for SC's and ST's

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References:

- Ahuja ram (1993): Indian Social System, Rawat pub. Jaipur.
- Ambedkhar B.R Annihilation of Caste
- Berreman, G.D. (1979): Caste and Other Inequalities: Essays
- Beteille Andre (1992): Backward Classes in Contemporary India, New Delhi: OUP
- Bose, N.K. (1967): Culture and Society in India .Bombay: Asia Publishing House.
- Chaudhuri Buddhadeb (1991): Tribal Development in India. New Delhi: Inter India Publications.
- Dube, S.C. (1977): Tribal Heritage of India. New Delhi: Vikas Publication.
- Dube. S.C (1990): Indian Society, nation book trust, New Delhi. Inequality. Meerut: Folklore Institute.
- Ghurye.G.S (1969) : Caste and Race in India, Popular Prakashan, Bombay.
- Hasnain, N. (1983): Tribes in India. Harman Publications, New Delhi.
- Indene Ronald (1990): Imaging India. Oxford: Brasil Blackward.
- Karve, Irawati. (1961): Hindu Society: An Interpretation. Poona: Deccan College.
- Kothari Rajani (Ed.) (1973) : Caste in Indian Politics
- Mandelbaum (1970): Society in India Bombay. Popular Prakashan.
- Mulugund, I C. (2008): Readings in Indian Sociology.Shrusti Prakashan, Dharwad.
- Satya Murthy T.V. (1996): Religion, Caste, Gender, and Culture Contemporary India. New Delhi: OUP

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III - SEMESTER – DSC - 3
B. A. SOCIOLOGY
INDIAN SOCIAL THINKERS

Objectives:

→ To understand the nature of Development of Social Thought.

→ To get awareness about the Indian Thinkers, Sociologists and their Contributions.

→ To make the students to understand the Social Ethics of Indian Social Thought.

Unit- I Introduction

1. Meaning Definitions and Nature of Social Thought
2. Development of Social Thought
3. Importance of Social Thought

Unit- IV Pioneers of Social Thought

1. Rajaram Mohan Roy: Views of Brahma Samaj and Social Reforms
2. Education as a Means of Social Development
3. Jyotibha Pule: Welfare of Weaker Sections
4. Swami Vivekananda: Upliftment of Youths and Poor

Unit- II Mohandas Karamchand Gandhi

1. Gandhi's Concept of Sarvodaya
2. Gandhi's views on Man Kind
3. Truth and Non-Violence
4. Gandhian concept of Rural Reconstruction, Khadi and Village Industries

Unit- III Dr. Babasaheb Ambedkar

1. Brief sketch of Dr. B. R. Ambedkar
2. Views on Caste in India
3. Untouchability and Eradication
4. Ambedkar's Contribution to the Constitution of India

Unit- V Pioneers of Indian Sociology

1. G. S. Ghurey: Caste and Race, Rural - Urban Community
2. A. R. Desai: Marxist Approach to Sociology
3. M. N. Srinivas: Sanskritization, Dominant Caste
4. Irawati Karve: Kinship Organization

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References:

- Ambedkar B.R.: Complete Works of Dr. B.R. Ambedkar Vol. I, Govt. of Maharashtra, Bombay. (Also Available in Kannada)
- Barnes, H.E. (1959): Introduction to the History of Sociology. Chicago: The University of Chicago Press.Bombay.
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III - SEMESTER – SEC - 1
B. A. SOCIOLOGY
PERSONALITY DEVELOPMENT AND COMMUNICATION SKILLS

Objectives:
→ To help the students in building Interpersonal and Communication Skills
→ To enhance team building and time management Skills
→ Make use of techniques for Self-Awareness and Self-Development.

Unit-I   Personality Development
1. Meaning and Definition of Personality
2. Determinants of Personality: Physical, Intellectual Emotional, Social and Cultural, Heredity and Environment
3. Importance of Personality Development

Unit-II   Skills of Personality Development
1. "Self"- Identity and Socialization, Emotional Intelligence Importance and its Application in Social Relationships.
2. Leadership: Meaning, Characteristics, Types and Leadership skills
3. Career Planning in Personality Development

Unit- III   Communication Skills
1. Process of Communication: Verbal, Non-Verbal, Public Speaking.
2. Importance of Effective Communication, Barriers of Communication, Overcoming the Barriers
3. Facing Personal Interview, Group Discussion, Public Speaking, Presentation Skills

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IV - SEMESTER - DSC- 4
B. A. SOCIOLOGY
STUDY OF WESTERN SOCIOLOGICAL THOUGHT

Objectives:
→ To understand the basics of Western Sociological Theories
→ To aware about Western Sociological Thinkers and their Contributions
→ To make the students to understand the Methodology of Social Sciences

Unit- I   Auguste Comte
1. Positivism and Hierarchy of Sciences
2. Law of Three Stages of Human Development
3. Social Statistics and Social Dynamics
4. Religion of Humanity

Unit- II Emile Durkheim
1. Social Facts
2. Division of Labor in Society
3. Rules of Sociological Methods
4. Theory of Suicide

Unit- III   Herbert Spencer
1. Theory of Social Evolution
2. Organic Analogy
3. Types of Society
4. Social Darwinism

Unit- IV Max Weber
1. Bureaucracy and Authority
2. Protestant Ethics and Spirit of Capitalism
3. Social Action and Types
4. Ideal Types

Unit- V   Other Thinkers
1. Karl Marx   : Class Struggle
2. Lewis A. Coser: Conflicts and Social Change
3. Charles H. Cooley : The Theory of looking Glass Self
4. George H. Mead: Self and Significant Others

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IV - SEMESTER – SEC - 2
B. A. SOCIOLOGY
HEALTH AND SANITATION

Objectives:
→ To Sensitize the students to Health related Issues and Sanitation
→ To make the students aware of Sanitation conditions in India
→ To understand the Social aspects of Health and Sanitation

Unit-I   Health as a Social System
1. Concept of Health and Wellbeing
2. Scope and Significance of Sociology of Health and Sanitation
3. Socio-Cultural Determinants of Health

Unit-II   Health and Diseases
1. Diseases: Chronic and Other Diseases
2. Health Policies In India
3. Measures to Control Diseases

Unit-III   Health and Sanitation in India
1. Social Construction of Hygiene and Sanitation
2. Problems and Challenges of Environmental Sanitation in India
3. Sulabh Sanitation Movement, Sanitation Policies and Programmes, Swach Bharat Mission (Abhiyan)

Activity: Field Visits and Activities related to Environmental Issues

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V - SEMESTER – DSC - 5
B. A. SOCIOLOGY
RURAL DEVELOPMENT IN INDIA

Objectives:
→ To understand the nature of Rural Development in India.
→ To understand the changing nature of Land Tenure System and Land Reforms.
→ To Understand the Panchayat Raj System in India
→ To understand the nature of Rural Development Programmes.

Unit- I   Introduction
1. Meaning, Nature and Significance of Rural Development
2. Objectives of Rural Development in India
3. Land Tenure, Agrarian Relations Land Reforms, and Social Changes
4. Green Revolution , White Revolution , Red Revolution, Yellow Revolution, Blue Revolution: Objectives and Achievements

Unit- II Rural Community
1. Characteristics of Rural Community
2. Rural Problems: Rural Poverty, Rural Unemployment,
3. Rural Health and Sanitation
4. Indebtedness: Causes and Effects, Farmer's Suicide

Unit- III Peasant Movements in India
1. Meaning and Nature of Peasant Movements
2. Bardoli Satyagraha, Telangana Movement and Naxabari Movement
3. Peasant Movements in Karnataka: Mahadayi, Naragunda Bandaya, Kaveri
4. Impact of Peasant Movement.

Unit- IV   Panchayat Raj System and Rural Development
1. Constitution of Gram Panchayat,Taluk Panachayat, and Zilla Panchayat
2. Panchayat Raj: Objectives, Functions and Its Duties
3. People's Participation and Women's Participation in Governance
4. Role of Personnel in Rural Development-Village Level Worker(VLW) Adyaksh and Upadyekshas, Grama Sevak(GS), Block Level Development Officers(BDO) and District Level Officers(CEO)

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Unit- V Rural Development Programmes

1. Agencies of Rural Development – Govt. and NGO's
2. Programs of Rural Development in India MGNREGA, Drinking Water and Sanitation, Swacha Bharat, SHG'S, Akshara Dasoha, National Rural Livelihood Mission
3. LPG, GATT, WTO
4. Impact of Globalization on Rural Society

Activity: Field Exposure to Villages and Conducting Surveys

References:

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V - SEMESTER – DSE - 1
B. A. SOCIOLOGY
URBAN SOCIETY IN INDIA

Objectives:

→ To Provide Sociological understanding of Urban Society in India.

→ To understand about the Evolution of Cities and Urban Communities.

→ To make the students aware of Urban Problems in India

→ To understand Urban Planning and Urban Development

Unit- I Introduction to Urban Society in India

1. Meaning and Characteristics of Urban Society
2. Significance of Study of Urban Life
3. Types of Cities
4. Urban Development in Ancient and Medieval Periods

Unit- II Cities in India

1. History and Growth of Cities in India
2. Factors for the Growth of Cites
3. Metropolitan and Mega Cities: Meaning and Characteristics
4. Growth of Metropolitan and Mega Cities in India

Unit- III Urbanization in Modern India

1. Meaning and Nature of Urbanization
2. Rural-Urban Migration
3. Factors Responsible for Rapid Urbanization
4. Consequences of Over Urbanization and its Measures

Unit- IV Urban Problems in India

1. Problems of Housing, Slums and Sanitation
2. Urban Crimes, Drug Addiction
3. Water Supply and Transportation
4. Environmental Problems: Pollution and its Effects, Remedies for Environmental Problems

Unit- V Urban Planning and Development

1. Urban Development and Its Objectives
2. Urban Policy and Urban Development Programmes
3. Urban Governance and its Role
4. Challenges of Urban Management

- **Activity**: Field Visits to study the structure, Planning and Development of various Cities

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References:
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V - SEMESTER – DSE - 2
B. A. SOCIOLOGY
SOCIAL DEMOGRAPHY

Objectives:
→ To understand about the Nature and Scope of Demographic Studies
→ To know about the Changing Trends of Indian Population
→ To know about the Family Welfare Programmes and Schemes in India

Unit- I Introduction
1. Origin and Development of Demography
2. Meaning, Nature and Scope
3. Importance of Social Demography

Unit- II Components of Population Growth
1. Fertility
2. Mortality
3. Migration

Unit- III Theories of Population Growth
1. Malthusian Theory
2. Optimum theory
3. Theory of Demographic Transition

Unit- IV Population Growth
1. Trends of World Population Growth
2. Trends and Patterns of Population Growth in India
3. Causes and Consequence of Population Growth in India

Unit- V Population Control
1. History of Family Planning Programmes
2. Family Welfare Programmes
3. Population Policy- 2000

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References:

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V - SEMESTER – SEC - 3
B. A. SOCIOLOGY
SOCIOLOGY OF TOURISM

Objectives:
→ To provide the basic understanding of Tourism and its Social Dimensions.
→ To Study the impact of Tourism on Society and Culture.
→ To Provide knowledge of Tourism, Social aspects of Tourism and its Social Dimensions
→ Understanding Tourism as a Socio-Cultural and Economic force in Social Development
→ Motivation to choose a career in Tourism Management

Unit- I   Introduction
1. Tourism; Meaning and Definitions
2. Sociological Perspectives of Tourism,
3. Significance of Sociological Tourism

Unit-II   Tourism Industry in India
1. Types of Tourism; Eco Tourism, Health Tourism, Religious Tourism, Educational Tourism.
2. Tourism in India- Opportunities
3. Policies of Tourism in India

Unit-III   Tourism and Social Change
1. Socio-Cultural Impact of Tourism on Society
2. Tourism and Cultural Exchange
3. Development of Tourism, Sociological factor in Tourist Motivation, Motivating Locals for Tourism

Activity: Visiting Historical places and Preparing Report

References:

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VI - SEMESTER – DSC - 6
B. A. SOCIOLOGY
BASICS OF SOCIAL RESEARCH

Objectives:
→ To understand the Importance of Social Research in Social Science
→ To know about the Research Procedure
→ Make the students to understand, Report Writing and Application of Basic Statistics
→ To understand the Application of Computers in Social Research

Unit- I Introduction
1. Social Research : Meaning and Definition
2. Importance of Research in Social Sciences
3. Qualities of Researcher
4. Relationship between Theory and Research

Unit- II Research Procedure
1. Stages of Social Research
2. Research Design
3. Report Writing
4. Reference and Bibliography

Unit- III Data Collection
1. Primary Data: Questionnaire, Interview
2. Secondary Data
3. Qualitative and Quantitative Data

Unit- IV Use of Statistics in Social Research
1. Meaning and Definitions of Statistics
2. Classification and Tabulation,
3. Graphical Presentation of Data (Graphs and Diagrams)
4. Measures of Central Tendency : Mean, Median, Mode

Unit- V Computer Application in Social Research
1. Characteristics of Computers
2. Use of Computers in Social Research
3. Microsoft Office: Word, Excel and Power Point Presentation (PPT)
4. Need of Internet : e-Library, Websites and Web Browsers

Activity: Preparing field Survey Report Making Small Presentations.

References:

- Agarwal, Y. P. (1995). *Statistical Methods: Concepts, Applications and Computation*. Sterling Publishers, New Delhi.

- Baily Kenneth (1998): Methods of Social Research. John Wiley & Sons, New York
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VI - SEMESTER – DSE - 2
B. A. SOCIOLOGY
CURRENT SOCIAL PROBLEMS

Objectives:
→ To understand about the Nature of Social Problems.
→ To understand the Nature and Causes of Changing trends of Crimes in India.
→ To understand the Nature of Vulnerable Problems of Life.

Unit- I Introduction
1. Meaning, Definition and Nature of Social Problems
2. Causes and Consequences of Social Problems
3. Social Organization and Disorganization
4. Characteristics of Social Disorganization

Unit- II Social Disorganization Issues and Problems
1. Crime and Delinquency- Meaning, Causes and Consequences
2. Types of Crime
3. Changing Aspects of Crime and Criminals: White Collar Crime, Criminalization of Politics and Communalism
4. Measures to Control Crime

Unit- III Youths, Children and Aged
1. Youth Unrest, Youth and Drug Addiction
2. Juvenile Delinquency
3. Child Abuse and Child Labour
4. Problems of Aged

Unit- IV Corruption, Terrorism
1. Corruption: Meaning and Types
2. Causes and Consequences of Corruption
3. Terrorism: Meaning, Causes and Effects
4. Measures to Control Corruption and Terrorism

Unit- V Problems of Women and Dalits
1. Domestic Violence, Dowry
2. Rape and Sexual Abuse
3. Female Foeticide and Infanticide
4. Atrocities on Untouchables

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References:

- Ahuja Ram (1998): Social Problems in India. Rawat Publication, Jaipur.
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VI - SEMESTER – DSE - 2
B. A. SOCIOLOGY
SOCIAL WELFARE AND SOCIAL POLICY IN INDIA

Objectives:

→ To understand the Basic Concepts in Social Welfare

→ To study the different Welfare Programmes and Policies in India

→ To understand the process of Social Change and Development through Social Welfare.

Unit -I Introduction

1. Meaning, Definition and Importance of Social Welfare
2. Concepts - Welfare State, Re-distribution, Democracy, Accountability and Transparency
3. Social Welfare Needs: Compulsory Primary Education; Full-employment; Health Care

Unit –II Welfare of Disadvantage Groups

1. Welfare of Scheduled Castes
2. Welfare of Scheduled Tribe
3. Welfare of Other Backward Classes
4. Welfare of Minorities

Unit – III Women and Child Welfare

1. National Health Policy and Programmes for Women
2. Family Welfare Programmes
3. National Policy for Children
4. Welfare Policy for Elderly

Unit –IV Youth and Labour Welfare

1. National Youth Policy
2. Youth Welfare Programmes; Youth and Sports
3. Youth Empowerment and Employability
4. Labour Welfare Programmes

Unit –V Social Welfare and Development

1. Social Welfare and Social Legislations
2. Barriers to Social Welfare in India; Civil Society
3. Agencies of Social Welfare – Role of Government and Non-government Organizations in Social Welfare
4. Central Social Welfare Board and State Social Welfare Board

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References:

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VI - SEMESTER – SEC - 4
B. A. SOCIOLOGY
SOCIETY, MASS MEDIA AND COMMUNICATION

Objectives:
→ To create interest among students to acquire knowledge about Mass Media and Communication.
→ To provide a Sociological Perspective on the role of Mass Media and Communication in Indian Society.
→ To develop the Communicative Ability of the students in Speaking, Reading and Writing Skills.
→ To know the role of Communication and Mass Media in the Development of Society.

Unit – I
Introduction
1. Mass Media: Concept, Definition, Characteristics
2. News Paper, Magazines, Radio, Television and Cinema
3. Social Responsibility of Mass Media

Unit – II
Communication
1. Communication: Definition, Characteristics
2. Functions and Forms of Communication
3. Process of Communication, Barriers to Communication

Unit- III Mass Media, Communication and Social Change
1. Role of Mass Media in Social Change.
2. Information and Communication Technology (ICT), Computer, Internet
3. Role of ICT and Its Impact on Society

Activity: Preparing News Report of Various Functions in the College.

References:
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EXAMINATION PATTERN B. A. Sociology CBCS	
PAPERS	**QUESTION PAPER PATTERN**
Theory Paper – DSC and DSE 80 Marks	❖ Theory Paper has Three Parts. ➢ Part – A 4×5=20 ➢ Part – B 3×10=30 ➢ Part – C 2×15=30

Internal Assessment DSC and DSE 20 Marks	❖ Two (2) Internal Assessment Tests
	   ➢ 1st Test 04 Marks
	   ➢ 2nd Test 10 Marks

	❖ Attendance- 75 % Compulsory ➢ 90% & above: 3 marks ➢ 80% - 89%　　　: 2 marks ➢ 75% - 79%　　　: 1 marks
	❖ Assignments - One (1) ➢ 3 Marks
	❖ Surprise Tests, Seminars; Group Discussions, etc.
Theory Paper –SEC 40 Marks	❖ Theory Paper has Two Parts. ➢ Part – A 4×5=20 ➢ Part – B 2×10=20
Internal Assessment SEC 10 Marks	One Test for 10 Marks
Duration of the Theory Paper – DSC and DSE	❖ Three (03) Hours
Duration of the Theory Paper – SEC	❖ Two (02) Hours

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Question Paper Pattern for DSC and DSE
B. A. Examination Month / Year
(Scheme CBCS)
SOCIOLOGY
Title of the Paper

Time: 3 Hours   **Max. Marks: 80**

Instruction: 1) Answer All the Section

Part-A

Answer Any Four of the Following   **4×5=20**
    1. _____
    2. _____
    3. _____
    4. _____
    5. _____
    6. _____

Part-B

Answer Any Three of the Following   **3×10=30**
    7. _____
    8. _____
    9. _____
    10. _____
    11. _____

Part-C

Answer Any Two of the Following   **2×15=30**
    12. _____
    13. _____
    14. _____
    15. _____

Question Paper Pattern FOR SEC
B. A. Examination Month / Year
(Scheme CBCS)
SOCIOLOGY
Title of the Paper

Time: 2 Hours   **Max. Marks: 40**

Instruction: 1) Answer All Section

Part-A

Answer Any Four of the Following   **4×5=20**

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Part-B

Answer Any Two of the Following   **2×10=20**

7. _____
8. _____
9. _____

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF ARTS

URDU

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.A.

Courses

DSC: Discipline Specific Course
DSE: Discipline Specific Elective
SEC: Skill Enhancement Course

COURSE PATTERNS, SCHEME OF EXAMINATION AND CREDITS
B.A. / B.S.W

SEMESTER	COURSE	TITLE OF THE PAPER	PAPER	TEACHING Hrs per week	Duration of Exam (Hrs)	Marks			CR
						IA	TH	TOTAL	
I									
	DSC	Study of Masanavi & Drama	1 T	5 Hrs	3	20	80	100	3
II									
	DSC	Study of Urdu Novel & Fiction	1 T	5 Hrs	3	20	80	100	3
III									
	DSC	Special Studyof Meer, Galib&Iqbal	1 T	5 Hrs	3	20	80	100	3
	SEC	Study of Mass media in urdu	1 T	2 Hrs	2	10	40	50	2
IV									
	DSC	Study of Inshaiya &Tanzo mizah	1 T	5 Hrs	3	20	80	100	3
	SEC	Study of Translation	1 T	2 Hrs	2	10	40	50	2
V	DSE 1	Special Study of Marsiya Nigari &Classical prose(Dastan)	1 T*	4 Hrs	3	20	80	100	4
	DSE 2 A OR DSE 2 B	Special study of urdu Qaseeda nigari& Khaka nigari **OR**Urdu Tahqeeq &adabi tanqeed	1 T	4 Hrs	3	20	80	100	4
	SEC	Study of Stage Drama in urdu	1 T	2 Hrs	2	10	40	50	2
VI	DSE 1	Spl Study of History of urdu literature &Classical literature	1 T*	4 Hrs	3	20	80	100	4
	DSE2 C OR DSE2 D	Spl study of Jadeed Nazm &Linguistic, Rhetoric , ProsodyOR Study of Taraqqi pasand adabi tahreek/Ali	1 T	4 Hrs	3	20	80	100	4

		garhAdabi tahreek							
	SEC	Spl study of Urdu Sahafat	1T	2 Hrs	2	10	40	50	2

Question Paper Pattern and Distribution of Marks
Scheme of Examination:
Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all DSC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics (1 out of2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of2)   12x1=12

VII.Short notes question on Practical   (1 outof2)   10x1=10

     (Que No II to VII are with choice)

Question pattern for all DSE Papers

I. Multiple choice questions   (fromall Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics (1 out of 2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof 3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of 2)   12x1=12

VII.Short notes question on Author /character/style /art   (1 out of 2)   10x1=10

     (Que No II to VII are with choice)

Question pattern for all SEC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II.Summary/critical / Essay type question of the Prescribed topics (1 out of2)   10x1=10

III.Summary/critical / Essay type question of the Prescribed topics (1 out of2)   10x1=10

IV.Short notes question on Practical   (1out of2)   10x1=10

     (Que No II to IV are with choice

B.A. / B.S.W.SEMESTER I   SUBJECT: URDU

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

Unit:I Prose:Nasr1.Waqt

2.Sairpahledarvesh

3.Maulalanawahiduddeensalim

4.Gulbanu

5. Manzoor

Unit: II.Poetry: Nazm

1.Aye Khuda

2.Shahadat H ImamHusain(r) ka

3.Awara hona Gul Bakawali ka

4.Tazheek rozgaar

Unit: III. Poetry: Ghazal

1 Patta patta buta buta

2Dayam pada huwa

3Thani thi dil mein

4Khatir se ya lihaz se

5 Ab na kahin nigah hai

Unit: IV. Fiction

1 Mantar

2 Naya qanoon

3 Main ne aisa kyun kiya

4 Nazara darmiyan hai

Practical:

1. Story telling

2. Collect stories (minimumfive) of the same author

Prescribed Texts: 1**) Asrar -e –adab   Compiled by: Dr Khwaja Faraz Badami
Dr Md Iqbal I Jarman**

     2) Urdu ke dus Afsane   Compiled by: Mazjlis e Idarat

DSC (Discipline Specific Course)
TITLE OF THE PAPER: Study of Masanvi and Darama

Unit:I

    1. Urdu Masanavi ka Aagaz o irtiqa

    2.Masanavi ka fun

 3.Urdu me masanavi ki riwayat

    4.Masanavi Sehr ul Bayan (Matan ki tadrees)

    5.Meer hasan ki Masanavi nigari

Unit: II

1. Urdu Drama ka Aagaz o irtiqa

    2. Drama ka fun

    3. Urdu me Drama ki riwayat

    4. DRAMA 'ANAR KALI' (Matan ki tadrees)

    5.Imtiyaz Ali Taz ki Drama nigari

    Practical:

1.   Role play (pair work), Read the story given and write the script based on it.

2.   Read the passage given and write the dialogues based on it.

Prescribed Texts: **Sehrul Bayan By Meer Hasan**
                  Anar kali By Imtiyaz Ali taz

Reference Books:Urdu Masnavi ka irtiqa   Abdul Qadir Sarwari

          Masnavi sahrul bayan   Qmarul huda fareedi

          sahrul bayan naya aks naya aaina   Mehdi nazmi

Masanavi Sehrul bayanMuqaddama   Zaheer Ahmad Siddiqui

Tareekh adab urdu   Ram Babu Sexena

Tareek e masanaviyat urdu   Md Jalauddin

          Urdu ki teen masnaviyan   Khan Rasheed

      Urdu drama   tareekh o tanqeed   Isharat Rehmani

          Drama riwayat aur Fun   Atiya Nishat

Urdu drame ki tareekh o tanqeed Ali Abbas Husaini

          Aaj ka Urdu adab   Dr Abul ala Siddiqui

          Tareekh e adab Urdu   Dr jameel Jalibi

 Urdu nasr ka fanni irtiqua Dr farman fatepuri

        Urdu Shayeri ka fanni irtiqua Dr farman fatepuri

B. A. / B. S. W.SEMESTER II.   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose:Mazameen
1. Sinema ka ishq
2. Chatari
3. Char paai
4. Internet aur Urdu
5. Gesu-e-urdu gessu daraz

UNIT: II Poetry: Nazm
1.Muflisi
2.Sher se Khitab
3.Shuwa e ummeed
4.Chand taron ka ban

UNIT: III Poetry:Ghazal
1.Husn be parwa
2.Bana bana ke
3.Dil mei ab yun tere
4.Safar mein dhoop to hogi
5.Dhund Chatati jayegi

UNIT: IV Fiction
1.Addu
2.Wo jo kho gaye
3.Bajooka
4.Overcoat

Practical: 1. Read the given poem and find out the difficult words and make 'Farhang'
2.Write an Essay on a current issues and give an appropriate title.

Prescribed Texts: **1) Asrar -e–adab   Compiled by: Dr Khwaja Faraz Badami Dr Md Iqbal I Jarman**
     2) Urdu ke dus afsane   Compiled by: Mazjlis e Idarat

DSC (Discipline Specific Course)
TITLE OF THE PAPER: Study of Urdu Novel and Fiction

UNIT: I   1. Urdu Novel ka Aagaz o irtiqa
2.Navel ka fun
3.Urdu me Novel ki riwayat
4. Novel Godan by Munshi Prem Chand (Matan ki tadrees)
5.Munshi Prem Chand ki Navel nigari

UNIT:II   1.Urdu afsane ka Aagaz o irtiqa
2.Afsane ka fun
3 Urdu me Afsane ki riwayat
4.'Apne dukh muje de do' (Matan ki tadrees) by Rajendra singh bedi
5. Lajwanti (Matan ki tadrees)
6 Lambi ladki (Matan ki tadrees)
Practical:1. Collect stories (jadeed) writers of Urdu.
2.Write a short storyand give an appropriate title.

Prescribed Texts: **Novel Godan   Munshi Prem Chand**
Apne dukh muje de do   Rajendra singh bedi

Reference Books: Bisawin sadi me urdu navel   Yusuf Sarmast
Urdu ke pandrah Novel   Usloob ahmad ansari
Prem chand fun aur tabeer e fun   Zafar raza
Prem chand Kahani ka rehnuma   Zafar raza
Novel ki tanqeedi tareekh   Md Ahsan Faruqi
Urdu Novel ki tareekh o tanqeed   Ali Abbas Husaini
Novel ka fan   Abul kalam qasami
Novel kya hai   Md Ahsan Faruqui
Urdu Fiction   Aal ahmad sarwar
Dastan se afsane tak   Waqar Azeem
Fan e Afsana nigari   Waqar Azeem
Urdu afsana riwayat aur masail   Gopi Chand narang
Aaj ka Urdu adab   Dr Abul ala Siddiqui
Urdu afsane ka tajziyati mutaliya   Dr sahib ali
Urdu fiction tanqeed o tajaziya   Dr Sageer afraheem
Urdu ke mukhtasar afsane   Dr Sageer afraheem
Rajendra singh bediki apsananigari   Wahab ashrafi
Rajendra singh bedi ek mutaliya   Waris alvi
Rajendra singh bediaur unke apsane   Athar parvez
Rajendra singh bediShaksiyat awr fun Jagdish Chandra
Rajendra singh bediShaksiyat awr fun Dr nisar mustafa

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT : I Prose:Nasr
1 Urdu Abzad ka saktiyati tajziya
2 Insan kisi hal me khush nahi rehta
3 Naya kanoon
4 Jeene ka Saleeqa
5 Garam coat
 UNIT : II Poetry: Nazm
1 Surat taqweer
2 Mukafat e amal
3 Gujre zamane ki yad
4 Mahajan awr mufliss
UNIT: III Poetry: Ghazal
1 Hamare aage ter jab kisi ne
2 Gada dast e ahle karam
3 Asar usko zara nahin hota
4 Aah ko chahiye
5 Gamza nahi hota ke
UNIT: IV Fiction
1 Amawas ki rat
2 Aazmaish
3 Naya qanoon
4 Kalu bhangi
Practical:1. Vocabulary: Homonyms, Homographs, Homophones.
2. Note taking and note making

Prescribed Books:
1) Kaynat -e –adab   Compiled by: Prof. M N Saeed
 2) Numainda Mukhtasar Afsane   Compiled by: Md Tahir farooqi

DSC (Discipline Specific Course)
TITLE OF THE PAPER: Special Study of Meer,Galib &Iqbal

UNIT: I
1. Urdu Gazal ka   Aagaz o irtiqa
2. Meer ka sheri usloob
3. Urdu Gazal me Meer ki Infiradiyat
4. Deewan e awwal Shuru ki Dus gazlein (Matan ki tadrees)

UNIT: II
1. Urdu Gazal ka   Aagaz o irtiqa
2. Galib ka sheri usloob
3. Urdu Gazal me Galib ki Infiradiyat
4. Aadmi ko Bhi mayyassar Nahi, Agar awr jeete rahte,Dard minnat kas(Matan ki tadrees)
5. Ishrat be qatra hai, Aah ko chahiy, Ki wafa ham se, Koi ummeed bar (Matan ki tadrees)
6. Hazaroun khwayisheen,Dil hi to hai,Ye na thi hamari kismat, Khak aisi (Matan ki tadrees)

UNIT: III
1. Urdu Nazm ka Aagaz o irtiqa
2. Iqbal ki nazm goi
3. Urdu me Nazm nigari
4. Khizr e Rah, Tulu e islam, Khitab jawanae islam (Matan ki tadrees)
5. Mohabbat, Ek aarzoo,Tasweer e dard (Matan ki tadrees)

Practical:

1. Discussion of multiple facets of a Gazal and Urdu poems. Pair work
2. Creating, presenting an argument, expressing a point of view. Pair work

Prescribed Texts: **Intekhab Gazliyat e meer   BY Hamadi Kashmeeri**
Deewan e Galib   By Mirza Galib
Bang e dira   By Allama Iqbal

Reference Books: Meer Taqi Meer   Dr Ibadat braelavi
Meer Taqi Meer Ki jamaliyat   Shakeelurrehman
Meer Taqi Meer Hayat aur   ShayeriKhwaja ahmad faruqui
Int e khab e kuliyat e Meer   Muqaddamma Abdul haque
Yadgar e Galib   Altaf husain Hali
Zikr e Galib   Malik Ram
Muhasin e Kalam e Galib   Abdurrehman bijnoori
Urdu shairi ka fanni irtiqa   Dr Farman fatehpuri
Tafheem e Galib   Shamsurrahman Farooqui
Aaj ka Urdu adab   Dr Abul ala Siddiqui
Tareekh e adab Urdu   Dr jameel Jalibi
Sharh e bange dira   Yusuf Salim chisti
Iqbal fun aur falsafa   Noorul hasan naqavi
Iqbal ki terah nazme   Usloob ahmad Ansari
Iqbal Shayar o mufaqqir   Noorul hasan naqvi
Fikr e iqbal   Khaleefa abdulhakeem
Zikr e Iqbql   Abdul mazeed salik

SEC (Skill Enhancement Course)
TITLE OF THE PAPER: Study of Mass media in urdu

UNIT: I

    1)Mass media ki tareef

    2)Mass media ke aqsam

    3)Mass media ki zeban

    4) Mass media ki samaji manuviyat

UNIT: II

    1) Media ki azadi

    2) Print media

    3) Electronic media

    4) Social media

Practical:1. Making News item, News reading

    2.Report writing, reporting oral, Interview.

    Prescribed books: **Urdu mass media**   **Fazlul haque**

    Recommended Books:

        Iblagiyat   Md shahid husain

        Jadeed iblag   Mehdi hasan

        Awwami tarseel   Devendra isr

        Tareekh e sahafat   Imdad sabri

        Urdu media   Dr Khwaza Ikramuddin

        Media Urdu aur jaded Ruzhanaat   Suhail Anjum

B. A./ B.S.W.   **SEMESTER IV.**   **SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose:Nasr

     1 Saheb e alam

2.Bhagwan ki aamad

3 Khuda ki hasti

    4 Moulavi Abdul haq

    5 Ulti ho gayin sab tadbire

UNIT: II Poetry: Nazm

    1Chand taron ka bun

    2 Mai gotam nahi hoon

    3 Subah e aazadi

    4 Ukhde khemon ka dard

 UNIT: III Poetry:Ghazal

    1 Agar kaj ro hain

    2 Nigah e naaz jise

    3 Dunya ke sitam yaad

    4 Bahut pahle se un kadmon ki

    5 Dil me ek lehr si

UNIT: IV Fiction

    1 Athara aane

    2 Sirf ek aana

    3 Garhan

    4 Chouthi ka joda

Practical:1. Making Albumof famous Urdu poets

2. Making Albumof famous Urdu Prose writer

Prescribed Books:

1) Kaynat -e –adab   **Compiled by: Prof. M N Saeed**

 2) Numainda Mukhtasar Afsane   **Compiled by: Md Tahir farooqi**

DSC (Discipline Specific Course)
TITLE OF THE PAPER: Special Study of Urdu Inshaiya &Tanz o mizah

UNIT: I

1 Urdu Inshaiye ka Aagaz o ibtidayi naqush

2 Inshaiye mafhoom awr ahmiyat

3 Inshaiye ka usloob

4 Inshaiye nigar

5 jhengar ka janaza, arhar ka kheth, (Matan ki tadrees)

6 aaine me, chaini aish tray, kursi (Matan ki tadrees)

UNIT: II

1 Urdu Tanz o mizah ka   Aagaz o irtiqa

2 Tanz o mizah mafhoom awr ahmiyat

3 Putras ki mizah nigari

4 Hostel me padna,sawere kal jo aankh meri khuli, murid pur ka peer (Matan ki tadrees)

5 lahor ka jugraiya, urdu ki aakhri kitab (Matan ki tadrees)

Practical:1. List out Essays on satire of same Author give an opinion your own.

2. Precis writing, read passage and Re-write it in your own words.

Prescribed Texts: **Insha aur Inshaiye**   **Prof Md Husnain**

Putras ke mazameen   Putras bukhari

Reference Books: Inshaiye ke khad o khal   Wazeer Aaga

Inshaieyat   Dr Abid husain

Urdu me tanz o mizah   Furakat kakoravi

Urdu adab me tanz o mizah   Wazeer Aaga

Putras ke mazameen Muqaddama   Shamsurrahman faruqui

SEC (Skill Enhancement Course)
TITLE OF THE PAPER: Study of Translation

UNIT: I

1) Tarzume ka fan

2) Urdu me tarzumeki riwayat

3) Tarzume ke aqsam

4) Tarjume ka tareeeqa e kar

UNIT: II

1) Urdu me tarjuma nigari Ah d ba ahd irtiqua

2)Urdu se English Tarzuma

3)English se urdu tarjuma

4)Tarjume ke Masail

Practical:1. Read passage (English) and Translate to Urdu.

2. Read passage (Urdu.) and Translate to English.

Prescribed Books: **Tarjume ka fan aur riwayat   Qamar raees**

Recommended   Books: Fan e tarjuma nigari   Khaleeq anjum

Fan e tarjuma nigari   Zahuruddeen

Wajah e istilahatWahiduddeen salim

Tarjume aur uske Masail   Qamar Rais

B. A./B.S.W. **SEMESTER V.** **SUBJECT: URDU**

DSE 1 (Discipline Specific Elective)
TITLE OF THE PAPER: Special Study of Marsiya Nigari & Classical prose (Dastan)
UNIT: I
      1 Urdu marsiye ka aagaz o irtiqua
      2 Marsiye ka fun
      3 Meer Babar Ali Anees ki marsiya goyi
      4 Mirza Dabeer ki marsiya goyi
      5 "Ba Khuda farise maidanetahur tha Hur''(Tadrees)
      6 'Kis sher ki aamad hai ke ran kampta hai'' (Tadrees)
UNIT: II
      1 Urdu Nasr ka Aagaz o ibtidayi naqush
      2 Dakan me urdu nasr ka irtiqa
      3 Bag o bahar ka usloob
      4 "Bagh o bahar" by Meer Amman Dahlavi (Matan ki tadrees)
      5 Urdu ki Nasri Dastane
Practical: 1. Choose another Nasri Dastan and Review it your own.
2. Paraphrasing: convert poetry into prose.

      Prescribed Books: **Intekha b e murasi Anees o Dabeer   Rasheed hasan khan**
      Bagh o bahar   **Meer Amman Dahlavi**

      Reference Books:
      Tareeq e adab e urdu   Noorul Hasan naqvi
Tareekh adab urdu   Ram babu saxena
      Anees ki marsiya nigari   J A Khan Asar
      Uadu marsiya   Dr Sharib roudalvi
Mawazana e Anees o Dabeer   Dr fazl imam
      Mawazana e Anees o Dabeer   ShuNoumanibli
      Muqaddama tareekh zuban e Urdu   Masood Hasan khan
Tareekh adab urdu   Ram babu saxena
      Urdu ki nasri dastanen   Gyan chand jain
      Dastan se afsane tak   Waqar azeem
      Dastan aur Novel   Salim Akhtar
      Dastan ka fun   Dr athar parvez
      Nasri dastanoun ka safar   DrSageer afraheem
      Urdu dastan tahqeeq o tanqeed   Qamarul huda fareedi
      FortWilliam college ki nasri dastane   Dr Iffat zarreen
Dakkan me urdu   Nasiruddin Hashmi

DSE 2 A (Discipline Specific Elective)
TITLE OF THE PAPER: Special study of urdu Qaseeda nigari & Khaka nigari

UNIT: I

1 Qaseede ka fun

    2 Urdu Qaseede ka Aagaz o irtoqua

3 Souda ki qaseeda nigari

    4 'Ab samane mere jo koi peer o jawan hai' (Tadrees)

    5 Zauq ki qaseeda nigari

    6 'zah e nishat agar kijiye use tahreer' (Tadrees)

    7Galib ki qaseeda nigari

    8 'Han mah na sunein ham uska nam'(Tadrees)

UNIT: II

1 Chand ham asar ka Jayeza

    2 Maulavi Abdul haque ki Khaka nigari

    3 Waheeduddeen salim (Tadrees)

    4 Gadadi ka lal (Tadrees)

    5 Urdu me khaka nigari

Practical: 1. Write a sketch in your own style.

2. Use library and website collect modern poems and prose (five each)

Texts/Prescribed Books:

Intekhab qasaid urdu   Dr Abu Muhammad Sahar

Chand Ham asar   Abdul Haque

Reference Books: Urdu me Khakanigari   Sabira Sayeed

        Urdu me qaseeda nigari   Dr Abu Muhammad Sahar

    Urdu me qaseeda nigari ka Tanqeedi jaija   Dr Muhamud Ilahi

OR

DSE 2 B (Discipline Specific Elective)
TITLE OF THE PAPER: Special study of Urdu Tahqeeq &adabi tanqeed

UNIT: I

1 Tahqeeq ka fun

    2 Urdu Tahqeeq ka Aagaz o irtoqua

    3 Tahqeeq ki Ahmiyat o afadiyat

    4 Urdu ke muhqiqeen Adul haq, Malik ram, Rasheed hasan khan, Shamsurrehman

    5 Urdu tehqeeq ka ahd e zarreen

UNIT: II

1 Tanqeed Mafhoom awr ahmiyat

    2 Adabi tanqeed ke asool

    3 Tanqeed ke dabistan:Tassurati tanqeed, Jamaliyati tanqeed,

Scientific tanqeed,Nafsiyati tanqeed

4 Urdu Tanqeed Ke awwaleen namune

5 Tazkaroun ki tanqeedi ahmiyat

6 Tanqeed nigar Shibali, Abdul haque, Aal Ahmad suroorKaleemuddin Ahmad,
Ahtesham Husain

Practical:1. Write article on criticismusing internet, blogs and webs.

2. Write a synopsis of a given chapters.

Prescribed books: **Tahqeeq ka fun**   **Gyan chand jain**

Fan e tanqeed awr urdu Tanqeed nigari   **By Noorul Hasan Naqvi**

Reference Books: Tahqeeq o tanqeed   Dr Yusuf sarmast

             Tahqeeq o tanqeed   DrFarman fatepuri

             Tahqeeq o tanqeed   Akhtar awrenavi

             Tahqeeq o tanqeed   Javed nihal

             Urdu tehqeeq ka ahd e zarreen   Md akmal

             Urdu me tahqeeq   Malik ram

             Tadveen, Tehqeeq riwayat   Rasheed hasan khan

Urdu Tanqeed ka Irtiqa   Dr Ibadat breilavi

             Shoura e urdu ke Tazakare   Syed Abdullah

             Farog e Tanqeed   Abdul mugni

             Urdu tanqeed par ek nazar   Kaleemuddeen ahmad

             Tanqeed kya hai   Aal ahmad suroor

             Urdu tanqeed ka Irtiqua   Dr Ibadat brelavi

             Tanqeed aur jaded Urdu tanqeed   Dr wazeer Aaga

SEC (Skill Enhancement Course)

TITLE OF THE PAPER: Study of Stage Drama in urdu

UNIT: I

     1) Stage Drama ki tareef

     2) Stage Drama Ahd b ahd irtiqa

     3) Stage Drama ki aqsam

UNIT: II

     1)Drame ke liye Zaruri Ashya

     2) Drame ke ajzay e tarqeebi

     3) Drama fun aur riwayat

     Practical:1. Story writng, plot.

               2. Dialogue writing, script writing.

Prescribed Books: **Azadi ke baad Urdu stage drame**   **Zubair razvi**

Reference Books: Drama fan aur riwayat   Md shahid husain

                    Urdu drame ki Tareekh   Urdu theater (Four Valume)

                    Lakhnou ka Shahi stage   Masood Adeeb

        Urdu ke stage dramounka Fanni aur tanqeedi mutaliya Dr Zainuddin haidar

B. A./ B.S.W. PROGRAMME   SEMESTER VISUBJECT: URDU

DSE 1 (Discipline Specific Elective)
TITLE OF THE PAPER: Spl Study of History of urdu literature &Classical literature
UNIT: I

 1 Dakan me urdu shairy

 2 Dakan me urdu Nasr

 3"Sab ras" ka khususi mutaliya

 3Ahd e meer o sauda (Meer, Sauda, Dard)

 4Urdu shairy ka ahd e zarreen (Naseer, Zauq, Galib, Momin)

 5 Nazeer akbar abadi

 6 daur e mutawasteen

 7 Dabistan e lakhnou aur Dehli

UNIT: II1 Urdu Nasr ka aagaz o irtiqua

 21857 ke bad Urdu sher o adab

 3Urdu shayeri me naye ruzhanat

 4 Urdu nasr ka ahde zarreen

 5 Fort Welliam college

Practical: 1. Book rewiev.
2. Project: Collect the poems and Gazals from various writer.

Prescribebed Books:	**Tareeq e adab e urdu**	**Noorul Hasan Naqvi**
	Sabras	**Mulla wazahi**
Reference Books:	Tareekh adab urdu	Ram babu saxena
	Urdu zuban ki tareekh	Mirza khaleel Ahmad beg
	Dakhni adab ki Tareekh	Muhuddeen zor
	Muqaddamma tareekh zubaneurdu	Masoodhusain khan
	Urdu Shayeri ka fanni irtiqua	Dr farman fatepuri

DSE 2C (Discipline Specific Elective)

TITLE OF THE PAPER: Spl Study of, Jadeed Nazm& Linguistic, Rhetoric, Urdu Prosody

UNIT: I 1 Jadeed urdu nazm ke fikri o fanni imtiyajat

 2 Jadeed urdu nazm ka aagaz o irtiqua

 3 "Dast e saba" ka khususi mutaliya

 4 Faiz ki Shayeri

UNIT: II1 Lisaniyat kya hai

 2 Urdu lisaniyat ek jaiza

 3 Hind aarayai Irtiqua

 4 Jadeed Hind Aaryai zubanen

UNIT: III

 1 Ilm e Bayan

     2 Sanay o baday: San'te tazzad, Aeham, Mirat un nazeer, Husn e taleel

3 Majaz, kinaya,Istiyara, Tashbiah

UNIT: IV

    1Ilm e arooz kya hai

     2 Bahren Zehaf awr awzaan

     3 Bahren: Mutkharib, Mutadarik, Hazaj, Rajaz,Ramal

Practical: 1. Taqtee Prosody work any five cuplet.

2. Rhetoric, linguistic work any five

Prescribed Books: **Dast e saba**   **Faiz ahmad Faiz**

Urdu ki lisani Tashkeel   **Khaleelullah beg**

Bayan haay Arooz   **Dr Khwaza Faraz Badami**

Aaena e balagat   **Mirza Hasan Askari**

Reference Books: Jadeed Urdu nazm nazriya o amal   Aqeel ahmad siddeeqi

           Jadeed nazm ki karwaten   Dr wazeer aaga

           Jadeed nazm Hali se Meeraji tak   Kausar mazahari

Zadeed shayeri   Ibadat brealavi

           Faiz ki shayeri ek mutaliya   Dr Nusarat choudari

           Faiz ki gazal tajziyati mutaliya   Naz begum

Urdu ki lisani Tashkeel   Khaleelullah beg

      Faiz ki shayri   Abdul mugani

      Lisani tanazur   Mirza Khaleelah beg

      Sukhan Hayy Arooz   Dr Khwaza Faraz Badami

      Dars e balagat   Qawmi Council Delhi

      Urdu ki lisani Tashkeel   Mirza Khaleelahmad beg

      Lisani mutaliya   Gyan chand jain

      Urdu Lisaniyat   Dr Shoukat sabjwari

      Lisaniyat kya hai   Naseer ahmad khan

      Lisaniyat ke buniyadi usool   Iqtedar husain

Hindustani Lisaniyat   Muhiyuddin qadri zor

OR

DSE 2 D (Discipline Specific Elective)

TITLE OF THE PAPER: **Study of Taraqqi pasand adabi tahreek & Ali garh Adabi tahreek**

UNIT: I

       1)Urdu adab taraqui pasand tehreek me

       2) Urdu afsana taraqui pasand tehreek me

       3)Urdu Shayeri taraqui pasand tehreek me

       4)Urdu Tanqeed taraqui pasand tehreek me

       5)Urdu Adabi Khidmattaraqui pasand tehreek me

    UNIT: II

       1) Urdu adab Aligarh tehreek me

2) Urdu Adabi Khidmat Aligarh tehreek me
3)Urdu Shayeri Aligarh tehreek me
4)Urdu Tanqeed Aligarh tehreek me
5)Sir syed aur unke rufqa

Practical:1. List out the poems and Gazals of taraqqui pasand tehreek.
2. List out the essays from aligarh adabi tehreek

Prescribed books: **Urdu me taraqqui pasand adabi tehreek   Khaleelurahman azmi**
Sir syed aur unke namwar rufqa Syed Abdullah
Reference books: Sir syed aur scientific society   Iftekhar aalam
Jadeed adabi tehrikat   Syed hamid husain
Aligarh tahreek   Naseem Qureshi
Jadeed adabi tehrikat   Syed hamid husain
Taraqqi pasand adab   Ali sardar jafery
Muqaddama tareekh zuban e Urdu   Masood Hasan khan
Taraqqi pasand Sheri o fikri raviye   Nafees banu
Urdu me taraqqui pasand adabi tehreek Khaleelurahma azami
Intekhab mazameen sir syed Anwar Siddiqui

SEC (Skill Enhancement Course)
TITLE OF THE PAPER: Special Study of Urdu Sahafat
UNIT: I
1)Sahafat ki tareef
2) Sahafat Ahd b ahd irtiqa
3)Sahafat ki zeban
4)Karnatak me sahafat

UNIT: II
1)Nama nigari
2) Qalam nigari
3) Marasala nigari
4)Idariya Nigari(editorial)

Practical:1. Making news item, coloum writing.
2. Create Advertisement, phamplets and leaflets.

Prescribed   Books: **Urdu sahafat   Anwar Ali dehlavi**

Reference Books:Iblagiyat   Md shahid husain
Jadeed iblag   Mehdi hasan
Awwami tarseel   Devendra isr

Urdu mass media   Fazlul haque
Tareekh e sahafat   Imdad sabri
Fan e Idarat   Maskeen Ali Hijazi
Khabar nigari   Shafiy qidwai
         Urdu sahafat Unniswein sadi me   Taheer Masood
         Urdu sahafat ka irtiqa   Masum muradabadi
Jadeed urdu sahafat   Taha naseem

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF BUSINESS ADMINISTRASTION

BASIC KANNADA

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 1: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/ Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	3	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	3	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	3	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	3	80	20	100	3 Hrs

<h1 align="center">ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.</h1>
<h1 align="center">ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ</h1>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

<h2 align="center">ಪದ್ಯಭಾಗ</h2>

೧. ಅರಿವಿನ ಮಹತ್ವ	– ಅಂಬಿಗರ ಚೌಡಯ್ಯ
೨. ಎರಡು ಕೀರ್ತನೆಗಳು	– ಕನಕದಾಸರು
೩. ಡಿಂಭದೊಳಗೆ ಒಂದು ಪ್ರಾಣ	– ಮುಪ್ಪಿನ ಷಡಕ್ಷರಿ
೪. ಚನ್ನಮ್ಮನ ವೀರವೃತ್ತಿ	– ಹುಲಕುಂದ ಭೀಮಕವಿ
೫. ಕಲ್ಕಿ	– ಕುವೆಂಪು
೬. ಕಣ್ಣಲು	– ಅಂಬಿಕಾತನಯದತ್ತ
೭. ಹೂ–ಬಿಸಿಲಿನಾಗ	– ಡಾ. ಸೋಮಶೇಖರ ಇಮ್ರಾಪೂರ
೮. ಹೂವು ಹೆಣ್ಣು ತಾರೆ	– ಚಂದ್ರಶೇಖರ ಪಾಟೀಲ
೯. ಹಾಸಿಗೆ	– ಶಿವಾನಂದ ಬೆಳಕೂಡ
೧೦. ತುತ್ತಿಗಾಗಿ ತೆತ್ತಜೀವ	– ಡಾ. ವೈ. ಎಂ. ಭಜಂತ್ರಿ

<h2 align="center">ಗದ್ಯಭಾಗ</h2>

೧೧. ಗೀಜುಗನ ಗೂಡು	– ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
೧೨. ಇನ್ನಷ್ಟು ಮಾನವೀಯವಾದ ಸಮಾಜ ಕಟ್ಟೋಣವೇ?	– ಅಜೀಂ ಪ್ರೇಮ್‌ಜಿ
೧೩. ಪಾರಿಜಾತ	– ಚಂದ್ರಕಾಂತ ಕುಸನೂರ
೧೪. ಕಪಿಲೆ	– ಕಲ್ಲೇಶ್ ಕುಂಬಾರ್
೧೫. ಇ–ಶಿಕ್ಷಣ–ಎಲ್ಲಿದೆ ಆ ಭಾವ, ಬಂಧ?	– ಗೀತಾವಸಂತ್ ಇಜಿಮಾನ್

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

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ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

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(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೫, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೫, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೫ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೫)

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ಪದ್ಯಭಾಗ

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೧. ಆಯ್ದ ವಚನಗಳು (ಆರು)	– ಅಲ್ಲಮಪ್ರಭು
೨. ಮಾನಹೀನರಿಗೆ ಅಭಿಮಾನವೇಕೆ?	– ಪುರಂದರದಾಸ
೩. ನೀವಲ್ಲವೇ	– ಕೆ. ಎಸ್. ನರಸಿಂಹ ಸ್ವಾಮಿ
೪. ಹೂಬಳ್ಳಿ	– ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
೫. ನಮ್ಮ ಮಾತು ಹೀಗಿರಲಿ ಗೆಳೆಯ	– ಬಿ. ಎ. ಸನದಿ
೬. ಬಕುಲದ ಹೂವುಗಳು	– ಸು. ರಂ. ಎಕ್ಕುಂಡಿ
೭. ಒಂದೇ ಒಂದು ಬಾರಿ ಹೊರಬನ್ನಿ	– ಬಿ. ಟಿ. ಲಲಿತಾ ನಾಯಕ
೮. ಜೀವ–ಜಡ (ಚೌಪದಿ)	– ಡಾ. ಲಿಂಗಣ್ಣ ಮುದನೂರ

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ಗದ್ಯಭಾಗ

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೯. ಮುದ್ದಣನ ರಸಗನ್ನಡ	– ಡಾ. ಸಿಂಪಿ ಲಿಂಗಣ್ಣ
೧೦. ಡಾ.ಎಂ.ಎಂ. ಕಲಬುರ್ಗಿ: ಪರಿಪೂರ್ಣ ಪ್ರಾಧ್ಯಾಪಕ	– ಡಾ. ಬಿ. ಎ. ಶಿರೂರ
೧೧. ಚಿಂತನೆಗಳು	– ಡಾ. ವೀರಣ್ಣ ರಾಜೂರ
೧೨. ಕೃತಕ ಜೀವಿಗಳ ಆಗಮನ	– ನಾಗೇಶ ಹೆಗಡೆ
೧೩. ದಿ ಗ್ರೇಟ್ ಇಂಡಿಯನ್ ಶಾಪಿಂಗ್ ಫೀಲ್	– ನೀತಾರಾವ್
೧೪. ಖಂಡವಿದೆ–ಮಾಂಸವಿದೆ	– ಡಾ. ವ್ಹಿ. ಬಿ. ಹಿರೇಮಠ
೧೫. ಶಾಮಣ್ಣ ಮಾಸ್ತರ	– ಗೀತಾ ಕುಲಕರ್ಣಿ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೭೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೭೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ
೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ
೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ
೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ
೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

<div align="center">

ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೫೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೧೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೫೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ

೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ

೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ

೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ

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೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF BUSINESS ADMINISTRASTION

BASIC ENGLISH

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

RANI CHANNAMMA UNIVERSITY, BELAGAVI
ENGLISH SYLLABI
For Undergraduate Programmes: BA, BSC, BCOM, BBA, BCA, and BSW.

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

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   IA & Theory Assessment Methods

   Question Paper Pattern

1. Board of Studies: English (UG)

01	**Prof. Vijay Nagannawar** Department of Studies in English, Rani Chanamma University, Belagavi.	Chairman
02	**Shri. M. C. Karabari** Department of English, BLDEA's College, Jamkhandi.	Member
03	**Shri. U. S. Aralimatti** Department of English, RPD College, Belagavi.	Member
04	**Shri. S. B. Khot** Department of English, MES College, Mudalagi.	Subject Expert
05	**Dr. M. M. Hurali** Department of English, KLE's B. K. College, Chikodi.	Subject Expert
06	**Dr. S. B. Biradar** Department of English, SVM College, Ilkal.	Subject Expert

2. Abbreviation Used

Part 1: AECC – Ability Enhancement Compulsory Course (Basic English)

3. Course Objectives for BAA

1) To acquaint the students with communication skills

2) To inculcate life skills and human values

3) To improve the language competency

4) To enhance listening and speaking skills

5) To improve reading and writing skills

6) To encourage to think creatively and critically

7) To expand emotional intelligence

8) To develop gender sensitivity

4. Course Outcomes for BAA

On successful completion of CBCS English courses, an undergraduate student will be able to:

1) Read, understand, and interpret a variety of written texts

2) Undertake guided and extended writing using appropriate vocabulary and correct grammar

3) Listen and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation

4) Become employable with requisite professional skills, ethics and values

BCOM/BBA Credit Structure

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Sem End Exam	IA	Total	Duration of Exam
I	AECC ENG121	English Stars I	4	3	80	20	100	3 Hrs
II	AECC ENG122	English Stars II	4	3	80	20	100	3 Hrs
III	AECC ENG123	Motivation	4	3	80	20	100	3 Hrs
IV	AECC ENG124	Functional English	4	3	80	20	100	3 Hrs

BCOM / BBA PROGRAMME
Part 1: AECC - Ability Enhancement Compulsory Course (English Language)

Semester I: AECCENG121 – English Stars I
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The Course brings in some of the most wonderful, instructive and enjoyable literary pieces to the students beginning their undergraduate course. The literary texts in the course provide powerful contexts to understand human situations in our world and show how they are expressed in English language.

The units of the Language Activity strengthen the students' English vocabulary and understanding of English sentence structure. Internal Assessment consist of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams; the one-mark, five-mark and ten-mark questions in the examination are designed to evaluate language comprehension and textual understanding.

Unit 1. Prose (1 hour / week; 25 Marks)
1. Bores – E. V. Lucas
2. Ritesh Agarwal - Karan
3. My Lost Doller – Stephen Leacock
4. Zero Budget Natural Farming - Shibu

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Unknown Citizen – W. H. Auden
2. World is too much with us - William Wordsworth
3. Night of the Scorpion – Nissim Ezkiel
4. The Road not taken - Robert Frost

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Word class (Nouns, Adjectives, Verbs, adverbs)
2. Articles
3. Prepositions (Place, Time, Position)
4. Affixes
5. Use of 'be, have, do'
6. Introducing: Self Introduction and Introducing the chief-guest /principal/president/family member/relatives/friend

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: (1from Prose and 1 from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester II: AECCENG122 - English Stars II

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Prose (1 hour / week; 25 Marks)
1. A Room 10X8 – K. S. Duggal
2. Spoken English and Broken English – G. B. Shaw
3. Forgetting - Robert Lynd
4. My Greatest Olympic Prize – Jesse Owens

Unit 2. Poetry (1 hour / week; 25 Marks)
1. The Chimney Sweeper – William Blake
2. Dover Beach – Matthew Arnold
3. Lady Clare – Lord Tennyson
4. The Vagabond – R. L. Stevenson

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Use of Possessive Adjectives and Pronouns
2. Correction of sentences
3. Use of Negatives
4. Framing Questions (with 'Wh-' words & yes/no questions)
5. Welcome address and vote of thanks
6. Report Writing (Tour, Student Activities, News)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I. 10 objective questions 5 from Prose and 5 from Poetry 10x01= 10
II. 02 annotations out of 4: (1from Prose and 1 from Poetry 02x05=10
III. 01 essay type question out of 2 from Prose 01x10=10
IV. 01 essay type question out of 2 from Poetry 01x10=10
V. 02 short notes out of 4: One from Prose and one from Poetry 02x05=10
VI. Language Activity on each topic 06x05=30
Total 80

Semester III: AECCENG123 – Motivation
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Who Moved My Cheeese – Spencer Johnson (2 hours / week; 50 Marks):

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)

1. One-word Substitutes (based on the text)
2. Active and Passive Voice
3. Notice writing
4. Paragraph writing
5. Publication Tips: Revising and rewriting – proof reading – editing
6. Review writing (short films/plays)

IA   **: 20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern

I.	10 comprehension questions from the novel	10x1=10
II.	04 short notes out of 6 on minor characters/incidents from the novel	4x05=20
III.	02 essay type questions out of 4 from the novel	2x10=20
IV.	Language Activity:	6x05=30
		80

Semester IV: AECCENG124 – Functional English
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I:

i. Making enquiries, requests: At least 6 situations: at a hotel, medical shop, railway station, bookshop, bank and college office. (Use of primary and modal auxiliary verbs: be, have, can you please, will you please, can I, if I may, may I, shall we, etc.)

ii. Giving direction/instructions/information: a) Giving directions: (Use of prepositions – in the corner, near, next to, between, opposite to, behind, beyond, along, past, across, down, up, towards, etc.)

Unit II

i. Giving instructions: Being polite, using helping verbs- preparing coffee/tea/recipe, preparing a word file/PPT, conducting a program/campaign, preparing for trech/travel

ii. Telephone conversation (formal and informal): Etiquette, common phrases for beginning and closing conversation etc.

Unit III

i. Academic writing skills: Interpreting and analyzing graphs, tables, diagrams, maps, family/organisation tree, etc.

ii. Fixing an appointment (with doctor, with Bank Manager, with a friend for going to a movie, with
 a colleague, etc.)

Unit IV

i. Group Discussion, Public Speaking (short speeches) and Facing an Interview (leadership qualities, positive attitude, etc.)

ii. Short descriptions of people and places (Expressing facts and opinion, use of adjectives)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern

I.	2 questions each on i and ii of Unit I	4X5=20
II.	2 questions each on i and ii of Unit II	4X5=20
III.	2 questions each on i and ii of Unit III	4X5=20
IV.	2 questions each on i and ii of Unit IV	4X5=20
Total		80

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RANI CHANNAMMA UNIVERSITY BELAGAVI

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BACHELOR OF BUSINESS ADMINISTRASTION

BASIC URDU

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.Com. is applicable to B.B.A.

Courses

AECC: Ability Enhancement Compulsory Course

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS

B. Com. / B. B. A.

I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
IV	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3

Question Paper Pattern and Distribution of Marks

Scheme of Examination:

Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks   will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all AECC Papers

I. Multiple choice questions   (from all text)   1x10=10

II.Essay type question on prose   (1out of3)   12x1=12

III.Summary of the poem   (1 out of3)   12x1=12

IV.Appreciation of verses from Ghazals   (4 out of 6)   03x4=12

V.R C   (4 out of6)   03x4=12

VI.Summary Essay type question on text   (1 out of3)   12x1=12

VII.Short note questions on practical   (1 out of2)   10x1=10

      (Que No II to VII are with choice)

 (1out of2)   10x1=10

      (Que No II to IV are with choice

B. Com. / B. B. A.SEMESTER I   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr
 1 Hali aur insaniyat
2 Hatim ki sakhawat
3 Khutoot e Galib
4 Faiz Ahamad Faiz
 5 Samjota

UNIT: II Poetry/Nazm
 1 Surat Fatiya
2 H Hurr ki shahadat
 3 Shahzade ka gayab ho jana
4 Subah e dam

UNIT: III Poetry:Ghazal
1 Mir darya hai
2 Hajaron khwahishen aisi
3 Na kisi ki ankh ka noor
4 Duniya ke sitam yaad
5 Dhundoge agar mulkon mulkon

UNIT: IV Aaina eSahafat
1 Tarseel ki ahmiyat o salahiyat
2 Khabroun ki ahmiyat o tarteeb
3 Press conference
4 Mulakat nigari

Practical: 1. Making a catalogue, Making a resume.
2. letter writing, job application.

BOOKS: 1) **Afkar -e –adab**   **Compiled by: Dr Md Iqbal I Jarman**
    Dr Syed Tajulhuda Khateeb

    2) **Aaina-e –sahafat**   **Compiled by: Dr Syed Alimula Husaini**
    Dr Syed Tajulhuda M Khatib

B Com / B B A SEMESTER II　　　　　　　　**SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

 UNIT: I Prose/Nasr
> 1 Zevar ka chakkar
> 2 Talash
> 3 Jheengar
> 4 Adab aur tahzeeb
> 5 Safar e Mysore

UNIT: II Poetry: Nazm
> 1 Banjara nama
> 2 Zamana
> 3Chaaragar
> 4 Albeli subah

UNIT: III Poetry: Ghazal
> 1 Duniya ke sitam yaad
> 2 Dil me ab yun tere
> 3 Sar mein sauda bhi nahi
> 4 Hamara dil savera ka
> 5 Chura ke mere taq se kitab

UNIT: IV Aaina-e –sahafat
> 1 Interview ki ahmiyat o takneek
> 2 Urdu akhbarat me Kartoon nigari
> 3Internet aur urdu
> 4 Online media ka tassaur aur urdu

Practical: 1. Interview someone, coloum writing.
2. Create Advertisement, phamplets and leaflets.

BOOKS:　　　1) **Afkar -e –adab**　　　　　　**Compiled by:Dr Md Iqbal I Jarman**
　　　Dr Syed Tajulhuda M Khatib

 2) Aaina-e –sahafat　　　　　**Compiled by: Dr Syed Aleemula Husaini**
　　　Dr Syed Tajulhuda M Khatib

B. Com. / B.B.A.SEMESTER III   SUBJECT: URDU

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr:
      1 Dar madh akl 'Sabras'
      2 Sair pahle darvesh ki
      3 Lakhnou ki raisana zindagi
      4 Khatoot e Galib
      5 Apni madad aaap

UNIT: II Poetry: Nazm
      1 Bazm e anjum
      2 Badli ka chand
      3 Qaid khane ki rat
      4 Joban awr chandni rat

UNIT: III Poetry:Ghazal
      1 Wali Ghazal no 1
      2 wali Ghazal no 2
      3 Mir Ghazal no 1
      4 Mir Ghazal no 2
      5 Galib Ghazal no 1

UNIT: IV Sahafat o Tijarat
      1 Sahafat kise kahte hain
      2 Khabar kise kahte hain
      3 Hidustan me urdu sahafat ka irtiqa
      4 Idaraya navesi
Practical:1. Making News item, News reading
          2.Report writing, reporting oral.

Prescribed Books: **1) Miyar -e –adab**   Compiled by: Prof. Suryya Hussain
           2) Sahafat o Tijarat   **Compiled by: Dr Syed Khalil Ahmad**

B. Com. / B.B.ASEMESTER IV   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr:
       1 Bahaduron ke karname
       2 Ek khat
       3 Nazeer ahmad ki kahani
       4 Acchi kitab
       5 Hali
UNIT: II Poetry: Nazm
       1 Perahn e sharar
       2 Jo do hazar baras awr bhi jiye hote
       3 Han me khoshin

UNIT: III Poetry:Ghazal
       1 GalibGhazal no 2
       2 Galib Ghazal no3
       3 Momin Ghazal no 1
       4 Momin Ghazal no 2
       5 Momin Ghazal no3

UNIT: I Sahafat o Tijarat
       Unit: 1 Kar o bar ki mubadiyat
       Unit: 2 Karobari aadami ka nizane amal
       Unit: 3 Kharidari ki jimmedari
       Unit: 4 Tajir ki imandari
Practical:1. Business report including all the vital points.
              2.Business Report writing, expenditure incurred during the year.

Prescribed Books: **1) Miyar -e –adab**   Compiled by: Prof. Suryya Hussain
                   2) Sahafat o Tijarat   Compiled by: Dr Syed Khalil Ahmad

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w.e.f.

Academic Year 2020-21 and Onwards

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CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.A. is applicable to B.S.W.

Courses

AECC: Ability Enhancement Compulsory Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks
Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks
Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks
Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks
Q-5 Others : 28 Marks

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
BBA

BASIC HINDI –AECC 2020-21 & 2021-22 On words

COURSE PATTERNS, SCHEME OF EXAMINATION AND CREDITS
B.Com/B.B.A. Subject : HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Exam	Total	Credits
I	AECC	1) गद्य चयन 2) हिंदी भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
II	AECC	1) काव्य वैभव (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
III	AECC	1) ताजमहल का टेंडर (नाटक) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूलक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1)सपनों की होम डिलिबरी (उपन्यास) 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40	50	2

2020-21 & onwords

B.Com/B.B.A. Programme
Subject : HINDI
Semester I

AECC : Ability Enhancement Compulsory Course

1) गद्य चयन (गद्य संकलन)
2) हिंदी भाषा के विविध रूप : बोलचाल की भाषा, परिनिष्ठित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा
3) स्वर तथा व्यंजन – सामान्य परिचय
4) अनुवाद (पारिभाषिक शब्दावली)
प्रात्याक्षिक : कथाकारिता, शब्दों का योग्य उच्चारण, शब्दों का अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) (कविता संकलन)
2) व्याकरण–संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
3) पत्रलेखन–पारिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र
काव्य वैभव : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

B.Com/B.B.A. Programme
Subject : HINDI
Semester III

AECC : Ability Enhancement Compulsory Course

1) ताजमहल का टेंडर (नाटक) : अजय शुक्ला, राजकमल प्रकाशन, नई दिल्ली
2) भाषा संप्रेषण–परिभाषा, प्रकार, चरण
3) मुहावरें और लोकोक्तियाँ
4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द
प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग बताना

Semester IV

AECC : Ability Enhancement Compulsory Course

1) सपनों की होम डिलिवरी (उपन्यास) : ममता कालिया, लोकभारती प्रकाशन, इलाहबाद
2) पल्लवन तथा संक्षेपण –
पल्लवन अथवा कल्पना विस्तार के लिए विषय –
जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है, मन के जीते जात,
 मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय
परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला
3) अनुवाद (परिच्छेद)
प्रात्यक्षिक : पल्लवन तथा अनुवाद का अभ्यास

Rani Channamma University
Vidya Sangama, National Highway
Belagavi - 591156

BBA (CBCS)

Syllabus (2020 – 2021)

P G Department of Business Administration
Rani Channamma University
Belagavi - 591156

BBA Course Structure and Syllabus As per CBCS Guidelines with Effect from 2020 - 2021

SEMESTER – I

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
ELS 1	English -1	4	80 E + 20 I	3 Hrs.	3
MIL 1	Kannada / MIL – 1	4	80 E + 20 I	3 Hrs.	3
AECC 1	Environmental Science / IC	2	40 E + 10 I	2 Hrs.	2
DSC 101	Principles of Management	4	80 E + 20 I	3 Hrs.	3
DSC 102	Principles of Marketing	4	80 E + 20 I	3 Hrs.	3
DSC 103	Elements of Cost & Market Analysis	4	80 E + 20 I	3 Hrs.	3
DSC 104	Financial Accounting	4	80 E + 20 I	3 Hrs.	3
Part – 2	Practical on Computer Science	2	40 E + 10 I	2 Hrs	1
CC/EA 1			50 I		1
	Total Semester Credits				**22**

SEMESTER – II

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
ELS 2	English – 2	4	80 E + 20 I	3 Hrs.	3
MIL 2	MIL – 2	4	80 E + 20 I	3 Hrs.	3
AECC 2	Indian Constitution / ES	2	40 E + 10 I	2 Hrs.	2
DSC 201	Corporate Accounting	4	80 E + 20 I	3 Hrs.	3
DSC 202	Human Resources Management	4	80 E + 20 I	3 Hrs.	3
DSC 203	Marketing Management	4	80 E + 20 I	3 Hrs.	3
DSC 204	Quantitative Analysis for Business Decisions	4	80 E + 20 I	3 Hrs.	3
Part – 2	Practical on Computer Science	2	40 E + 10 I	2 Hrs	1
CC/EA 2			50 I		1
	Total Semester Credits				**22**

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SEMESTER – III

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
ELS 3	English – 3	4	80 E + 20 I	3 Hrs.	3
MIL 3	MIL – 3	4	80 E + 20 I	3 Hrs.	3
DSC 301	Corporate Communication	4	80 E + 20 I	3 Hrs.	3
DSC 302	Quantitative Techniques	4	80 E + 20 I	3 Hrs.	3
DSC 303	Entrepreneurship Development	4	80 E + 20 I	3 Hrs.	3
DSC 304	Computer Applications	4	80 E + 20 I	3 Hrs.	3
DSC 305	Computer Lab	2	40 E + 10 I	2 Hrs	1
SEC 1	Business Policy and Strategy	2	40 E + 10 I	2 Hrs.	2
CC/EA 3			50 I		1
	Total Semester Credits				**22**

SEMESTER – IV

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
ELS 4	English (First Language) - 4	4	80 E + 20 I	3 Hrs.	3
MIL 4	MIL – 4	4	80 E + 20 I	3 Hrs.	3
DSC 401	Organization Behavior	4	80 E + 20 I	3 Hrs.	3
DSC 402	Market Research	4	80 E + 20 I	3 Hrs.	3
DSC 403	Cost Accounting	4	80 E + 20 I	3 Hrs.	3
DSC 404	Goods and Service Tax	4	80 E + 20 I	3 Hrs.	3
DSC 405	Talley Lab	2	40 E + 10 I	2 Hrs.	1
SEC 2	Start Up Management	2	40 E + 10 I	2 Hrs.	2
CC/EA 4			50 I		1
	Total Semester Credits				**22**

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SEMESTER – V

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
DSE 501	Legal Aspect of Business	4	80 E + 20 I	3 Hrs.	4
DSE 502	Income Tax	4	80 E + 20 I	3 Hrs.	4
DSE 503	Elective Paper I	4	80 E + 20 I	3 Hrs.	4
DSE 504	Elective Paper II	4	80 E + 20 I	3 Hrs.	4
DSE 505	Elective Paper III	4	80 E + 20 I	3 Hrs.	4
DSE 506	Elective Paper IV	4	80 E + 20 I	3 Hrs.	4
SEC 3	Personality Development I	3	40 E + 10 I	3 Hrs.	2
	Total Semester Credits				**26**

SEMESTER – VI

Course Code	Course Title	Teaching Hrs/week	Marks	Exam Hrs.	Credits
DSE 601	Summer Implant Project		100*		4
DSE 602	Production and Operation Management	4	80 E + 20 I	3 Hrs.	4
DSE 603	Elective Paper V	4	80 E + 20 I	3 Hrs.	4
DSE 604	Elective Paper VI	4	80 E + 20 I	3 Hrs.	4
DSE 605	Elective Paper VII	4	80 E + 20 I	3 Hrs.	4
DSE 606	Elective Paper VIII	4	80 E + 20 I	3 Hrs.	4
SEC 4	Placement & Training	3	40 E + 10 I	3 Hrs.	2
	Total Semester Credits				**26**

* The Summer Implant Project shall be evaluated in the patten of 50 Marks Viva Voce and 50 Marks Report total for 100 Marks.

During the end of the fifth semester, student should be assigned Summer Implant Project (SIP) and it shall be monitored by the guides from the college as Internal Guide and External by the Company Guide. SIP shall be

undertaken in any type of Tiny/ Micro / Small/ Medium/ Large, Manufacturing or Trading or Service Organization. The student allocation shall not be more than 15 per guide.

The Report shall consist of Organization Profile, Nature of Work undertaken by the student, learning experience from the SIP shall be complied in 50 pages. The SIP shall be for the period of 30 days as notified by the

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university from time to time after completion of the V semester examination. The SIP shall be submitted within 5 working days after the completion of the SIP. The related marks and credit will be awarded in the VI semester.

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Instruction to Student: Dual Elective System shall be followed. Students shall have to Opt any two elective groups (2 + 2 = 4 Papers)

Elective Groups for Fifth Semester

Finance	Marketing	Human Resources
Financial Institutions and Markets	Consumer Behavior	HRD: Systems and Strategies
Financial Management	Digital Marketing	Labour Law

Elective Groups for Sixth Semester

Finance	Marketing	Human Resources
International Finance	International Marketing	Performance and Compensation Management
Investment Analysis and Portfolio Management	Advertising and Brand Management	Leadership and Change Management

ELS: English Language Skill; SLS: Second Language Skill; AECC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Course; DSC: Discipline Specific Course; DSE: Discipline Specific Elective; GE: Generic Elective; T: Theory; P: Practical; I: Internal Exam; E: External University Exam; PR: Project Report; VV: Viva-Voce Examination; F: Finance; M: Marketing; HR: Human Resource Management.; CC: Co-curricular ; EA: Extracurricular Activities.

<u>*RANI CHANNAMMA UNIVERSITY*</u>
<u>*PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEMS (CBCS) IN*</u>
<u>*BBA (GENERAL) PROGRAMME*</u>

<u>*SUMMARY OF CREDITS*</u>

Sl. No.	Course Category	No. of Courses	Credits Per Course	Credits
1	English Language	4	3	12
2.	Kannada / MIL	4	3	12
3.	AECC	2	2	04
4.	SEC	4	2	04
5.	Project Report & Viva-voce	1	4	04
6.	DSC	16	2	48
7.	DSE	12	4	48
8.	CC/EA	4	1	04
9.	Part 2	04	1	04
	Total	**45**		**140**

<u>Note :</u>

1) IT lab will be evaluated through a practical exam.
2) At the beginning of the sixth semester there will be a comprehensive viva-voce on subjects & project undertaken during six semester and evaluation of project report.
3) Grade (A/B/CD) is awarded to both the project viva-voce and project report as per University Norms.

I - SEMESTER

PRINCIPLES OF MANAGEMENT

OBJECTIVE:
The general objective of this course is to provide a broad and integrative introduction to the theories and practice of management. In particular, the course focuses on the basic areas of the management process and functions from an organizational viewpoint. The course also attempts to enable students to understand the role, challenges, and opportunities of management in contributing to the successful operations and performance of organizations.

UNIT - I : INTRODUCTION TO MANAGEMENT :   12 Hrs
Meaning, definition, concept, scope and principles of management; Evolution of management thought - Management theories- classical, behaviour, system, contingency and contemporary perspectives on management. Management art or science and management as profession. Process and levels of Management. Introduction to Functions (POSDCORB) of Management.

UNIT - II : PLANNING – IMPORTANCE :   12 Hrs
Planning – Importance, objectives, process, policies and procedures, types of planning, Decision making - Process of decision making, Types of decision, Problems involved in decision making.

UNIT - III : ORGANIZING :   12 Hrs
Meaning, importance, principles of organizing, span of management, Patterns of organization – formal and informal organizations, Common organizational structures; departmentalization, Authority- delegation, centralization and decentralization, Responsibility – line and staff relationship;

UNIT - IV : STAFFING :   12 Hrs
Sources of recruitment, Selection process, Training, Directing, Controlling – Meaning and importance, Function, span of control, Process and types of Control, Motivation, Co-ordination – Need and types and techniques of co-ordination - Distinction between coordination and co-operation - Requisites for excellent co-ordination - Systems Approaches and co-ordination.

UNIT - V : EMERGING ISSUES IN MANAGEMENT :   12 Hrs
Total Quality management, Technology Management, Talent and Knowledge Management, Leadership, Organizational change and Development, Corporate Social responsibility

SUGGESTED BOOKS :
1. Jain/ Singhal (First Edition), Principles of Marketing, Cengage Publication India
2. Harold Koontz & Heinj Weihrich, (2018) Essentials of Management, 10th Edition, Tata McGraw-Hill Education, New Delhi.
3. T.Ramasamy (2018) Principles of Management, Himalaya Publishing House, Mumbai.
4. L.M. Prasad, Principle and Practice of Management, Sultan Chand and Sons, 6thedition.
5. Gupta, Sharma and Bhalla; Principles of Business Management; Kalyani Publications; 1st ed.
6. Singh, "Principles and Practices of Management and Organizational Behaviour, 2016 1st ed, Sage Publication.
7. P Subba Rao, "Principles of Management, (2018), HPH.

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PRINCIPLES OF MARKETING

OBJECTIVE:
To provide an exposure to the students pertaining to the nature and Scope of marketing, which they are expected to possess when they enter the industry as practitioners. To give them an understanding of the basic philosophies and tools of marketing management.

UNIT - I : INTRODUCTION OF MARKETING :   12 Hrs
Nature, Scope and Importance of Marketing, Evolution of Marketing; Core marketing concepts; Production concept, Product concept, Selling concept, Marketing concept. Marketing Environment: Micro and Macro Environment
Recent trends in Marketing (Meaning Only) –Introduction, E-business, Tele-marketing, M-Business, Green Marketing, Relationship Marketing, Retailing, Virtual Marketing

UNIT - II : MARKET SEGMENTATION :   12 Hrs
Target Market and Product Positioning: Levels of Market Segmentation, Bases for Segmenting Consumer Markets, Bases for Segmenting Industrial Markets. Target Market and Product Positioning Tools.

UNIT - III : NEW PRODUCT DEVELOPMENT :   12 Hrs
Introduction, Meaning of a New Product. Need and Limitations for Development of a New Product, Reasons for Failure of a New Product, Stages in New Product Development and Consumer Adoptions Process.

UNIT - IV : PRODUCT & PRICING DECISIONS :   12 Hrs
Concept of Product, Product Life Cycle (PLC), PLC marketing strategies, Product Classification, Product Line Decision, Product Mix Decision, Pricing Decisions: Concept of Price, Pricing Methods and Pricing Strategies

UNIT - V : PROMOTION MIX :   12 Hrs
Concept of Promotion Mix, Factors determining promotion mix, Promotional Tools –Types of Advertisement, Sales Promotion, Public Relations & Publicity and Personal Selling; Distribution: Designing Marketing Channels Channel functions, Types of Intermediaries.

SUGGESTED BOOKS :
1. Kotler Philip, Garyarmstrong, Prafullay. Agnihotri, EU Haque, "Principles of Marketing", 2018, 18th Ed, Pearson Education Prentice Hall of Indi.
2. Ganguly/ Bhadury, Principles of Management (First Edition), Cengage Publication India
3. Paul Baines, Chris Fill, Kelly page, "Marketing Management", 2018, 15 Ed., Oxford University Press.
4. Kotler, P., Armstrong, G., Agnihotri, P. Y., & Ul Haq, E.: Principles of Marketing: A South Asian Perspective, Pearson.
5. Dr. Sreeramulu, "Basics of Marketing, (2019), HPH
6. Ramaswamy, V.S. & Namakumari, S.: Marketing Management: Global Perspective-Indian, 2019 Sage Publishing
7. Context, Macmillan Publishers India Limited.4. Rajan Saxena, "Marketing Management", 2009, 4th Ed. Tata McGraw H
8. Roger J. best , "Market – Based Management", 2009, 1st Ed. PHI Learning Pvt. Ltd.

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<u>COURSE NO. DSC - 103</u>

<u>ELEMENTS OF COST & MARKET ANALYSIS</u>

OBJECTIVE:

The Purpose of this course is to apply micro economic concepts and tools for analyzing business problems and making accurate decision pertaining to the business firms. The emphasis is given to tools and techniques of micro economics

UNIT - I: INTRODUCTION TO MANAGERIAL ECONOMICS   12 Hrs

Meaning of Managerial Economics, nature, scope, characteristics and importance, Distinction between micro-economics and macro-economics, Relation with other sciences, Managerial Economist - Role and Responsibility

UNIT - II: DEMAND ANALYSIS AND UTILITY CONCEPT   12 Hrs

Concept of Demand, factors affecting on demand, determinants of Demand, types, law of demand, importance, Elasticity of demand – meaning, types, determinants, Problems of elasticity of demand, Concept of utility , cardinal and ordinal utility, law of diminishing marginal utility, Concept of supply, factors affecting on supply, determinants of Supply, law of supply

UNIT - III: COST AND REVENUE CONCEPTS   12 Hrs

Cost concepts – meaning, types (fixed, variable, marginal, implicit, explicit, opportunity, real, average and total cost), Relation between costs, problems on average and marginal costs, Average revenue, total and marginal revenue, Production function – meaning, factors of production, characteristics, Economies of scale, diseconomies of scale – internal and external

UNIT - IV: MARKET ANALYSIS   12 Hrs

Features of markets, Pure, perfect, monopoly, duopoly, oligopoly, monopolistic competition, Equilibrium of firm and industry under perfect competition, Price determination under monopoly Price and output determination under monopolistic competition

UNIT - V: THEORIES OF PROFIT   12 Hrs

Business cycle – meaning, stages, features and types, causes and control measures, Risk and Innovation Theory

<u>SUGGESTED BOOKS :</u>

1. Dominik Salvotore, (2015) Principles of Micro Economics (7th Edn) Oxford University Press.
2. Dr. D N Mithani, (2018) Managerial Economics Theory and Application, HPH
3. Varshiney & Maheswari, Managerial Economics, Juptan Publication, New Delhi
4. Lipsey and Crystal (2008) Economics International (15th Edn) Oxford University Press..
5. Kutosynnis (1979) Modern Micro Economics (5th Edn) Mc millan Publishers
6. Rubin field and Mehathe (Micro Economics (7th Edn) Pearson Publishers.

Objectives : To familiarize students with the mechanics of preparation of financial statements, understanding corporate financial statements their analysis and interpretation.

UNIT - I   12 Hrs

Introduction to financial accounting, accounting is an information system. Importance, Scope and Limitations. Users of accounting information, Generally accepted accounting principles. Basic terms used in Accountancy. The accounting equations. Nature of accounts and rules of debit and credit, recording transaction in Journal. Recording transaction in 3 – column cash book. An overview of subsidiary books - purchase book, purchases return book, sales book and sales return book, opening and closing entries. Prepartion of ledger accounts

UNIT-II   12 Hrs

Introduction to International Financial Reporting Standards (IFRS). Understanding accounting standards issued by the ICAI related to Disclosure of accounting policies. Depreciation accounting, And Revenue recognition methods of charging depreciation, straight line method and written down value method. Preparation of trial balance and Bank Reconciliation Statement

UNIT-III   12 Hrs

Preparation of Financial Statements: preparing trading account, Profit and Loss Account & balance sheet for sole proprietor. Understanding contents of Financial Statements of Joint Stock Company as per Companies Act 2013. Understanding the contents Corporate Annual Report

UNIT - IV   12 Hrs

Analyzing Financial Statements : Objectives of Financial Statements Analysis, Sources of Information, Standards of comparison, Techniques of Financial Statement Analysis, Horizontal Analysis, Vertical Analysis

UNIT -V   12 Hrs

Ratio Analysis : Meaning and Usefulness of Financial Ratios, Analysis of Financial Ratios from the perspective of different shareholders like investors, Lenders and Short –term Creditors, Profitability Ratio, Solvency Ratio, Liquidity Ratios & Turnover Ratios, Limitation of Ratio Analysis

SUGGESTED BOOKS :

1. Sah, (Second Edition), Concept Building Approach to Financial Accounting, Cengage Publication India
2. S. N. Maheswari, Sunil K. Maheshwari & Sharad K Maheshwari: An Introduction to Accountancy, Vikas Publishing House Pvt. Ltd.
3. R. Narayanswamy, Financial Accounting: A managerial Perspective, PHI Learning Pvt. Ltd.

<u>**COURSE NO. PART-2**</u>
<u>**BASIC COMPUTER SKILLS**</u>

Unit-I

Students shall gain familiarity of Windows 10/Windows 8 OS- Basics of Windows, basic components of windows, icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders. Control panel features, adding and removing software and hardware.

Unit-II

Students shall gain familiarity with word processing software such as MS Word/Open Office. Understand various editing and formatting features, mail-merge option, encrypting the document, and inserting clipart/shapes,/hyperlink/word art.
Students shall gain familiarity with spreadsheet software such as MS Excel/Open Office. Concepts of spreadsheet and other features such as, entering text, menus, insert rows/columns, formatting, formula, sort, filter. Advanced features such as graphs, library functions (Arithmetic, Date and Time, Financial, Logical, text and statistical)

<u>**SUGGESTED BOOKS :**</u>

1. Computer fundamentals, 2e, A.K.Sharma, University Press.
2. Introduction to computers , Tata Mc Graw Hill, Alexis Leon & Mathews Leon
3. Introduction to information technology, 2e, John Wiley & sons, Turban, Rainer, Potter
4. Computer fundamentals, Pearson, Anita Goel
5. Fundamentals of computers, Raja Raman, PHI
6. Basics of Computer Skills, Tulasi Ram, 2019, HPH

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II - SEMESTER

COURSE DSC- 201
CORPORATE ACCOUNTING

Objectives:

To introduce student the basic concept of Corporate Accounting as per the Companies Act-2013.

Outcome: The student will understand application of provision of companies Law in company accounts as per Companies Act – 2013

UNIT- I: -VALUATION OF GOODWILL AND SHARES   14 Hrs

Meaning of goodwill, features of goodwill, factors affecting the value of goodwill, types of goodwill, and methods of valuation of goodwill: - average profit method. Capitalisation of average profit and super profit method.

Meaning of shares, types of shares, need for valuation of shares, methods of valuation of shares: - net assets value method, yield method and fair value method.

UNIT - II: - ACCOUNTING FOR ISSUE OF SHARES   10 Hrs

Meaning of Joint Stock Company, features of Joint Stock Company, different phases of share capital, Journal entries on issue of shares at par, at premium and at discount. Forfeiture of shares and re-issue of shares at discount. Problems on over subscription and under subscription of share.

UNIT - III: - PROFIT PRIOR TO INCORPORATE AND AFTER INCORPORATION   12 Hrs

Meaning, need meaning of time ratio and sales ratio and procedure of preparing income statement in vertical form.

UNIT- IV: - RECONSTRUCTION   12 Hrs

Meaning and need of internal reconstruction, types of reconstruction, calculation of capital reduction and its utilization, journal entries and balance sheet after reconstruction.

UNIT- V: - COMPANY FINAL ACCOUNTS   12 Hrs

Meaning of financial statements, objective of financial statements Preparation of company final accounts in the prescribed format, out of given Trial balance andadjustments (vertical format of Balance sheet)

SUGGESTED BOOKS :

1. Concept Building Approach to Corporate Accounting (Second Edition), by Sah, Cengage Publication India
2. Corporate Accounting by Dr.HarshalTamhankar& G.V Joshi, RAH Publication
3. Indian Companies Act-2013 published by government of India
4. Advanced Accounting Volume I & II by S.N. Maheshwari, Vikas Publishing House

COURSE NO. DSC - 202
HUMAN RESOURCE MANAGEMENT

OBJECTIVE:
The aim of this course is to introduce to student the basic concepts related to Human Resource Management which can form foundation to understanding advanced concepts in managing human resources in an organization.

UNIT – I : INTRODUCTION TO HUMAN RESOURCE MANAGEMENT AND
ENVIRONMENT :   12 Hrs
Functions of Human Resource Management. Managerial and operative role of Human Resource Management. Personnel Management vs. Human Resource Management – Strategic Management Approach. The Role of Globalization in HR Policy and Practice.

UNIT – II : ACQUIRING HUMAN RESOURCES :   12 Hrs
Human Resource Planning and Alignment – Job Analysis and Design. Job Description, Job Specification and Job Evaluation, Job- Restructuring – Job Rotation, Job Enlargement and Job Enrichment. Recruitment and Selection – Placement – Induction and Orientation. Line and Staff.

UNIT – III : DEVELOPING HUMAN RESOURCES :   12 Hrs
Training and Development – Employee Training and Retraining – Assessing Training Needs and Designing Training Programmes. An overview on employee orientation: Career Planning and Development: Role and Significance of Career Planning – Impact of Career Planning on Productivity.

UNIT - IV: LABOUR MANAGEMENT :   12 Hrs
Industrial Relations and Industrial Disputes. Principles and guidelines for effective handling of Industrial Disputes and Industrial Relations – Standing Orders – Role and Contents of standing orders – Labour Relations and Collective Bargaining – Employee Health and Safety.

UNIT – V : REWARDING HUMAN RESOURCES :   12 Hrs
Performance Appraisal – Methods and needs for Performance Appraisal – Organization Climate and its impact on HRM. Components of Organization Culture. Quality of Work Life – Determinants of quality of work life. Impact of QWL on Organization Climate and Culture.

SUGGESTED BOOKS :
1. Human Resource Management, Rao (First Edition) by Cengage Publication India
2. Human Resources Management – David Lepak and Mary Gowan – Pearson
3. Human Resources Management – Decenzo and Robbins – John Willey
4. Human Resource Management. Texts and Cases. - TMH
5. Human Resource Management, P Subba Rao, HPH, 2009
6. Human Resource Management, Sen Gupta, 2018 1st Edition, Sage Publication

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COURSE DSC - 203
MARKETING MANAGEMENT

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Objectives

1. To familiarize and understand contemporary marketing management, issues, strategies and trends.
2. To highlight the importance of marketing**.**

Outcomes
1. Develop the understanding and knowledge of current marketing
2. To relate concepts and activities relating to consumer behavior towards products.

UNIT - I: MANAGEMENT INFORMATION SYSTEM   12 Hrs
Marketing Information System & Marketing Research.-Concept & components of a Marketing Information System – Marketing Research – Meaning & scope – marketing research procedure – Managements use of Marketing Research.

UNIT – II : DIGITAL AND GREEN MARKETING   10 Hrs
Digital Marketing: Meaning and definition of digital Marketing- benefits of digital marketing to sellers and consumers- digital vs. real marketing -digital marketing channels -problems of digital marketing in India.
Green marketing: Meaning- objectives, importance - fundamental requirement - problems of green marketing-case study on Implementation of Green marketing.

UNIT - III: BUYING BEHAVIOUR   14 Hrs
Consumer Market – Factors Affecting Consumer Buying Behavior Model of Consumer Behavior, Buyer Decision Process, Buyer Adoption Process, Types of Buying Decision Behavior. Industrial Market – Distinction From Consumer Market, Industrial Buying Process, Buying Situation, New Task, Modified Re-buy and Straight Re-buy, Buying Process,

UNIT – IV: CUSTOMER RELATIONSHIP MANAGEMENT   12 Hrs
Meaning, Types (Proactive, Operational, Collaborative & Analytical), Types of customers (Apostles, Terrorists/Defectors, Mercenaries, Hostages)
Role of IMC in marketing process, IMC planning model, Marketing and promotion process.

UNIT – V: GLOBAL MARKETING, RURAL MARKETING   12 Hrs
Meaning, Marketing Environment (Demographic, Physical, Social & Cultural, Political,
Economic and Economic Structure) Challenges in Rural Marketing – Affordability, Availability, Awareness and Acceptability. Rural Marketing Index (Thompson Rural Marketing Index), Global marketing environment, charactestics, entry mode

SUGGESTED BOOKS :

  1. Philip Kotler, Principles of Marketing,
  2. Ramaswami and Namakumari, Principles of Marketing

COURSE DSC - 204
QUANTITATIVE ANALYSIS FOR BUSINESS DECISIONS

Objective: To familiarize the students with various Statistical Data Analysis tools that can be used for effective decision making. Emphasis will be on the application of the concepts learnt.

Outcome: The student will understand simple statistical tools which are helpful in analyzing the data or information.

UNIT – I : STATISTICS :   12 Hrs
Definitions – Statistical methods – Importance and Scope – Limitations – Need for Data – Principals of Measurement. Tabulation and Presentation:

Classification of Data – Data Array – Frequency Distribution – Methods of data Classification – Types of Frequency Distributions / tabulation of Data – Objectives of Tabulation – Parts and Types of Tables – Graphical Presentation – Functions of Graphs – Advantages and limitations of Graphs.

UNIT – II : MEASURES OF CENTRAL TENDENCY :   12 Hrs
Introduction to Averages – Requisites for a Measure of Central Tendency, Mean - Combined mean – Weighted mean, Median – Partition values – Quartiles, Deciles and Percentiles, Relationship between Partition values–Mode– Relationship between Mean, Median and Mode.

UNIT – III: MEASURES OF DISPERSION: 12 Hrs
Introduction – Significance and Requisites of a Measure of dispersion, Range, QD, MD and SD-For Grouped and Ungrouped – Advantages and Disadvantages. Concept of Variation – Coefficient of Variation. **Skewness and Kurtosis (SK):**Introduction, Measures of SK, Relative measures of SK – Advantages and Disadvantages. Moments – concepts –Calculation – Kurtosis.

UNIT – IV : INDEX NUMBERS :   12 Hrs
Index Numbers - Introduction – Types – Characteristics – Construction weighted and unweighted index numbers – Price and Quantity/Volume index numbers – Tests – time reversal – Factor Reversal and Circular tests – Chain and Fixed base – Changing of base – Combining of two of more overlapping indices consumer price Index – Problems in Construction.

UNIT – V : CORRELATION ANALYSIS :   12 Hrs
Scatter diagram, Positive and negative correlation, limits for coefficient of correlation, Karl Pearson's coefficient of correlation, Spearman's Rank correlation.
Regression Analysis: Concept, least square fit of a linear regression, two lines of regression, properties of regression coefficients(Simple problems only)
Time Series Analysis: Components, Models of Time Series – Additive, Multiplicative and Mixed models; Trend analysis- Free hand curve, Semi averages, moving averages, Least Square methods(Simple problems only).

SUGGESTED BOOKS :

1. Panneerselvam/ Nagesh/ Senthilkumar (First Edition), Business Statistics & Analytics, Cengage Publication India
2. Gupta SC: "Fundamental of Statistics" 7th Ed, Himalaya Publishers House, 2019.
3. Sharma JK: "Business Statistics" 2nd Edition Pearson Education, 2007.
4. Arora, PN, Arora, Sumeet and Arora, Amit: "Managerial Statistics", S. Chand, Ist Ed., 2009.
5. Bharadwaj, RS: "Business Statistics" , Excel books, 2nd Ed, 2008.
6. J K Singh, Business Mathematics, 2018, HPH.

COURSE NO. SEC - 2
BASIC COMPUTER SKILLS

OBJECTIVE:
The objective of this courses to enable student to understand the basic computer concepts related to day to day office environment.

UNIT – I: INTRODUCTION TO COMPUTERS   15 Hrs
Introduction to Computation and Computers, components of computer CPU, Types of Memory, Types of computers – Software, Hardware Definition- Input devices (keyboard, MICR, OCR, OMR), Graphic input devices (Mouse, Graphic Tablet, Joystick), output devices (Printers -Impact & non-impact printer)- Introduction to Software, classification of software, Evolution of operating system, functions of operating system, Types of operating system.

UNIT - II: INTRODUCTION TO INFORMATION SYSTEM, WORD PROCESSING AND PRESENTATION: 15 Hrs
Data & information, System, types of System, information system, Types system information system – definition, Application of information system, ethical and social issues in information system.
Word Processing -Creating, editing and saving documents, formatting features of word processing, working with tables and graphs, preview & printing documents;
Presentation – Creating, Editing and Saving shade shows, Templates, Animations – Brelitin Customer made – Preparing slideshows.

SUGGESTED BOOKS :

7. Computer fundamentals, 2e, A.K.Sharma, University Press.
8. Introduction to computers , Tata Mc Graw Hill, Alexis Leon & Mathews Leon
9. Introduction to information technology, 2e, John Wiley & sons, Turban, Rainer, Potter
10. Computer fundamentals, Pearson, Anita Goel
11. Fundamentals of computers, Raja Raman, PHI
12. Basics of Computer Skills, Tulasi Ram, 2019, HPH

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

ENVIRONMENTAL SCIENCE

2ND Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES.   16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION.   16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
2. Biodiversity and its conservation in India. Indus Publishing Company, New Delhi Primack, Richard B 2006.
3. Essentials of conservation biology, 4th edition, Senaceer Associates, Sunderland, Mass.
4. Krishnamurthy K V 20014. An advanced text book of Biodiversity,
5. Principles and Practice. Oxford and IBH Publishing Co. Lvt. Ltd. Negi S S 1933.
6. Biodiversity in India (floristic aspects). Bishen Singh Mahendra Pal Singh, Dehradun.
7. Muller Dombois J. And Ellenberg, H. (1974) aims and methods of vegetation ecology,Wiley, new york.
8.Odum, E.P. 91971) fundamentals of Ecology, saunders, Philadelphia.
9. Kormondy, E. J. (1996) concepts of ecology, prentice hall, India, New Delhi.
10. Foin, T.C. (1976) ecological system and environment, Mifflin, boston.
11. Nobel B.J. and Wright, R.T. (1996) environmental science, prentice hall New Jersey.
12. Lillesand T.M. and Kiefer R.W. (1987) Remote sensing and image interpretation , John Wiley and sons, New York.
13. Agarwal, S.B. and Agarwal, M. (Ed.) (2000) environmental pollution and responses, CKC, press, London.
14. Koshoo, T. N. (1991) environmental concept and stragies ashish publ. House, new delhi.
15. Colinvaux P.C. (1993) ecology John Wiley and Sons, New york.
16.Indian Journal of Ecology by Indian Journal of Ecology
17.Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.

(Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2)   : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

b) Internal Assessment   :   10 Marks

c) Total   :   50 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

INDIAN CONSTITUTION

1ST Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	INDIAN CONSTITUTION	2	2	40	10	50	2 Hrs

The constitution of India aims to imbue students with the constitutional making process and its formulations. Further, it is done with the objective to acquaint / embolden students to have the basic understanding of the constitution of India.

Unit – 1 Constitution – Structure and Principles
1. Meaning and importance of Constitution.
2. Making of Indian Constitution – Sources
3. Salient features of Indian Constitution

Unit – 2 Fundamental Rights and Directive Priniples
1. Fundamental Rights.
2. Fundamental Duties.
3. Directive Principles.

Unit – 3 Government of Union
1. President of India – Electron and Powers.
2. Prime Minister and Council of Ministers.
3. Lok Sabha – Composition and Powers.
4. Rajya Sabha – Composition and Powers.

Reference :
1) Durga Das Basu, Introduction to the Constitution of India, Gurgaon; LexisNexis, 2018 (23rd edn.)
2) M. V. Pylee, India's Constitution, New Delhi; S. Chand Pub., 2017 (16th edn.)
3) J.N. Pandey, The Constitutional Law of India, Allahabad; Central Law Agency, 2018 (55th edn.)
4) Constitution of India (Full Text), India. Gov. in., National Portal of India, https://www.india.gov.in/sites/upload_files/npi/files/coi_part_full.pdf
5) Durga Das Basu, Bharatada Samvidhana Parichaya, Gurgaon; Lexis Nexis Butter worths Wadhawa, 2015.
6) Kb Merunandan, Bharatada Samvidhana Ondu Parichaya, Bangalore, Meragu Publications, 2015.
7) ಡಾ. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಪ್ರಾಚಾರ್ಯರು ಎಸ್.ಕೆ.ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ತಾಳಿಕೋಟಿ ಭಾರತದ ಸಂವಿಧಾನ ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ ತಾಳಿಕೋಟಿ.
8) ಪ್ರೊ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ.
9) ಎಸ್. ಪಿ. ಡಂಗಿ ಭಾರತ ಸಂವಿಧಾನ ಪರಮಲಕ್ಷ್ಮೀ ಪ್ರಕಾಶನ.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination. (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2) : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses:	**a) Examination**	:	**40 Marks**
	b) Internal Assessment	:	**10 Marks**
	c) Total	:	**50 Marks**

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMPUTER APPLICATION

BASIC KANNADA

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 1: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/ Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	3	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	3	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	3	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	3	80	20	100	3 Hrs

ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಅರಿವಿನ ಮಹತ್ವ	– ಅಂಬಿಗರ ಚೌಡಯ್ಯ
೨. ಎರಡು ಕೀರ್ತನೆಗಳು	– ಕನಕದಾಸರು
೩. ಡಿಂಭದೊಳಗೆ ಒಂದು ಪ್ರಾಣ	– ಮುಪ್ಪಿನ ಷಡಕ್ಷರಿ
೪. ಚನ್ನಮ್ಮನ ವೀರವೃತ್ತಿ	– ಹುಲಕುಂದ ಭೀಮಕವಿ
೫. ಕಲ್ಕಿ	– ಕುವೆಂಪು
೬. ಕಣ್ಣರಳು	– ಅಂಬಿಕಾತನಯದತ್ತ
೭. ಹೂ–ಬಿಸಿಲಿನಾಗ	– ಡಾ. ಸೋಮಶೇಖರ ಇಮ್ರಾಪೂರ
೮. ಹೂವು ಹೆಣ್ಣು ತಾರೆ	– ಚಂದ್ರಶೇಖರ ಪಾಟೀಲ
೯. ಹಾಸಿಗೆ	– ಶಿವಾನಂದ ಬೆಳಕೂಡ
೧೦. ತುತ್ತಿಗಾಗಿ ತೆತ್ತಜೀವ	– ಡಾ. ವೈ. ಎಂ. ಭಜಂತ್ರಿ

ಗದ್ಯಭಾಗ

೧೧. ಗೀಜುಗನ ಗೂಡು	– ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
೧೨. ಇನ್ನಷ್ಟು ಮಾನವೀಯವಾದ ಸಮಾಜ ಕಟ್ಟೋಣವೇ?	– ಅಜೀಂ ಪ್ರೇಮ್‌ಜಿ
೧೩. ಪಾರಿಜಾತ	– ಚಂದ್ರಕಾಂತ ಕುಸನೂರ
೧೪. ಕಪಿಲೆ	– ಕಲ್ಲೇಶ್ ಕುಂಬಾರ್
೧೫. ಇ–ಶಿಕ್ಷಣ–ಎಲ್ಲಿದೆ ಆ ಭಾವ, ಬಂಧ?	– ಗೀತಾವಸಂತ್ ಇಜಿಮಾನ್

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

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ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೬೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

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ಪದ್ಯಭಾಗ

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೧. ಆಯ್ದ ವಚನಗಳು (ಆರು)	– ಅಲ್ಲಮಪ್ರಭು
೨. ಮಾನಹೀನರಿಗೆ ಅಭಿಮಾನವೇಕೆ?	– ಪುರಂದರದಾಸ
೩. ನೀವಲ್ಲವೇ	– ಕೆ. ಎಸ್. ನರಸಿಂಹ ಸ್ವಾಮಿ
೪. ಹೂಬಳ್ಳಿ	– ಜಿ. ಎಸ್. ಶಿವರುದ್ರಪ್ಪ
೫. ನಮ್ಮ ಮಾತು ಹೀಗಿರಲಿ ಗೆಳೆಯ	– ಬಿ. ಎ. ಸನದಿ
೬. ಬಕುಲದ ಹೂವುಗಳು	– ಸು. ರಂ. ಎಕ್ಕುಂಡಿ
೭. ಒಂದೇ ಒಂದು ಬಾರಿ ಹೊರಬನ್ನಿ	– ಬಿ. ಟಿ. ಲಲಿತಾ ನಾಯಕ
೮. ಜೀವ–ಜಡ (ಚೌಪದಿ)	– ಡಾ. ಲಿಂಗಣ್ಣ ಮುದನೂರ

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ಗದ್ಯಭಾಗ

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೯. ಮುದ್ದಣ್ಣನ ರಸಗನ್ನಡ	– ಡಾ. ಸಿಂಪಿ ಲಿಂಗಣ್ಣ
೧೦. ಡಾ.ಎಂ.ಎಂ. ಕಲಬುರ್ಗಿ: ಪರಿಪೂರ್ಣ ಪ್ರಾಧ್ಯಾಪಕ	– ಡಾ. ಬಿ. ವಿ. ಶಿರೂರ
೧೧. ಚಿಂತನೆಗಳು	– ಡಾ. ವೀರಣ್ಣ ರಾಜೂರ
೧೨. ಕೃತಕ ಜೀವಿಗಳ ಆಗಮನ	– ನಾಗೇಶ ಹೆಗಡೆ
೧೩. ದಿ ಗ್ರೇಟ್ ಇಂಡಿಯನ್ ಶಾಪಿಂಗ್ ಫೀಲ್	– ನೀತಾರಾವ್
೧೪. ಖಂಡವಿದೆ–ಮಾಂಸವಿದೆ	– ಡಾ. ವ್ಹಿ. ಬಿ. ಹಿರೇಮಠ
೧೫. ಶಾಮಣ್ಣ ಮಾಸ್ತರ	– ಗೀತಾ ಕುಲಕರ್ಣಿ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೫೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೧೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೫ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೫೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್ಗಳು ೦೫)

೧. ಕಾವ್ಯ ಭಾಗ
೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ
೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ
೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ
೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

<div align="center">

ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೭೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ

೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ

೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನಪದ ಭಾಗ

೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ

೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMPUTER APPLICATION

BASIC ENGLISH

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

ENGLISH SYLLABI
For Undergraduate Programmes: BA, BSC, BCOM, BBA, BCA, and BSW.

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

BSC/BCA Credit Structure

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Sem End Exam	IA	Total	Duration of Exam
I	AECC ENG117	English Gems I	4	3	80	20	100	3 Hrs
II	AECC ENG118	English Gems II	4	3	80	20	100	3 Hrs
III	AECC ENG119	English Language Skills I	4	3	80	20	100	3 Hrs
IV	AECC ENG120	English Language Skills II	4	3	80	20	100	3 Hrs

BSC/BCA PROGRAMME

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Semester I: AECCENG117 - English Gems I
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The Course brings in some of the most wonderful, instructive and enjoyable literary pieces to the students beginning their undergraduate course. The literary texts in the course provide powerful contexts to understand human situations in our world and show how they are expressed in English language.

The components of the Language Activity strengthen the students' English vocabulary and understanding of English sentence structure. Internal Assessment consist of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams; the one-mark, five-mark and ten-mark questions in the examination are designed to evaluate language comprehension and textual understanding.

Unit 1. Prose (1 hour / week; 25 Marks)

1. The Last Leaf - O Henry
2. The Challenge of Everest – H. P. S. Ahluwalia
3. Zero Budget Natural Farming - Shibu
4. The Kid – Charlie Chaplin

Unit 2. Poetry (1 hour / week; 25 Marks)
1. A Prayer for My Daughter – W. B. Yeats
2. The Road Not Taken – Robert Frost
3. Still I Rise - Maya Angelou
4.How did you Die? - Edmund Vance Cooke

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)

1. Word class (Nouns, Adjectives, Verbs, adverbs)
2. Articles
3. Prepositions (Place, Time, Position)
4. Synonyms
5. Antonyms
6. Introducing: Self Introduction and Introducing the chief-guest /principal/president/family member/relatives/friend

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: (1from Prose and 1 from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester II: AECCENG118 - English Gems -II

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Prose (1 hour / week; 25 Marks)

1. Spoken English and Broken English – G. B. Shaw
2. Tiger in the Tunnel - Ruskin Bond
3. Milka Singh: The Flying Sikh – Sonia Sanwalka
4. On Saying Please - A. G. Gardinar

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Once Upon a Time - Gabriel Okara
2. The Quality of Mercy – William Shakespeare
3. La Belle Dame Sans Merci – John Keats
4. Good-bye Party for Miss Pushpa T.S. – Nissim Ezekiel

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Use of Possessive Adjectives and Pronouns
2. Correction of Sentences
3. Use of Negatives
4. Framing Questions (with 'Wh-' words & yes/no questions)
5. Welcome address and vote of thanks
1. Report Writing (Tour, Student Activities, News)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern

I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: One from Prose and one from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester III: AECCENG119 - English Language Skills- I
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Novella (2 hours / week; 50 Marks): The Blue Umbrella - Ruskin Bond

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)
1. One-word Substitutes (based on the text)
2. Active and Passive Voice
3. Notice writing
4. Paragraph writing
5. Publication Tips: Revising and rewriting – proof reading – editing
6. Review writing (short films/plays)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	10 comprehension questions from the novel	10x1=10
II.	02 essay type questions out of 4 from the novel	2x10=20
III.	04 short notes out of 6 from the novel	4x05=20
IV.	Language Activity on each topic	6x05=30
Total		80

Semester IV: AECCENG120 - English Language Skills - II
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I:

i. Making enquiries, requests: At least 6 situations: at a hotel, medical shop, railway station, bookshop, bank and college office. (Use of primary and modal auxiliary verbs: be, have, can you please, will you please, can I, if I may, may I, shall we, etc.)

ii. Giving direction/instructions/information: a) Giving directions: (Use of prepositions – in the corner, near, next to, between, opposite to, behind, beyond, along, past, across, down, up, towards, etc.)

Unit II

i. Giving instructions: Being polite, using helping verbs- preparing coffee/tea/recipe, preparing a word file/PPT, conducting a program/campaign, preparing for trech/travel

ii. Telephone conversation (formal and informal): Etiquette, common phrases for beginning and closing conversation etc.

Unit III

i. Academic writing skills: Interpreting and analyzing graphs, tables, diagrams, maps, family/organisation tree, etc.

ii. Fixing an appointment (with doctor, with Bank Manager, with a friend for going to a movie, with
 a colleague, etc.)

Unit IV

i. Group Discussion, Public Speaking (short speeches) and Facing an Interview (leadership qualities, positive attitude, etc.)

ii. Short descriptions of people and places (Expressing facts and opinion, use of adjectives)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern

I.	2 questions each on i and ii of Unit I	4X5=20
II.	2 questions each on i and ii of Unit II	4X5=20
III.	2 questions each on i and ii of Unit III	4X5=20
IV.	2 questions each on i and ii of Unit IV	4X5=20
Total		80

RANI CHANNAMMA UNIVERSITY BELAGAVI

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BACHELOR OF COMPUTER APPLICATION

BASIC HINDI

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.S.C is applicable to B.C.A

Courses

AECC: Ability Enhancement Compulsory Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks

Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks

Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks

Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks

Q-5 Others : 28 Marks

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
BSC

BASIC HINDI –AECC 2020-21 & 2021-22 On words

B.Sc./B.C.A. Subject : HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Exam	Total	Credits
I	AECC	1) गद्य फुलवारी (गद्य संकलन) 2) हिंदी भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
II	AECC	1) काव्य कुसुम (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
III	AECC	1) कथा भारती (कहानी संकलन) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूलक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1) गिलिगडु (उपन्यास) 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40	50	2

2020-21 & onwords

B.Sc./B.C.A. Programme
Subject : HINDI
Semester I

AECC : Ability Enhancement Compulsory Course

1) गद्य फुलवारी (गद्य संकलन)
2) हिंदी भाषा के विविध रूप : बोलचाल की भाषा, परिनिष्ठित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा
3) स्वर तथा व्यंजन – सामान्य परिचय
4) अनुवाद (पारिभाषिक शब्दावली)
प्रात्यक्षिक : कथाकारिता, शब्दों का योग्य उच्चारण, शब्दों का अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) काव्य कुसुम (कविता संकलन)
2) व्याकरण–संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
3) पत्रलेखन–पारिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र
प्रात्यक्षिक : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

2021-22 & onwords

B.Sc./B.C.A. Programme
Subject : HINDI
Semester III

AECC : Ability Enhancement Compulsory Course

1) कथा भारती (कहानी संकलन)
2) भाषा सप्रेषण–परिभाषा, प्रकार, चरण
3) मुहावरें और लोकोक्तियाँ
4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द
प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग बताना

Semester IV

AECC : Ability Enhancement Compulsory Course

1) गिलिगडु (उपन्यास) – चित्रा मुदगल, सामयिक प्रकाशन, नई दिल्ली
2) पल्लवन तथा संक्षेपण –
 पल्लवन अथवा कल्पना विस्तार के लिए विषय –
 जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है, मन के जीते जात,
 मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय
 परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला
3) अनुवाद (परिच्छेद)
प्रात्याक्षिक : पल्लवन तथा अनुवाद का अभ्यास

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMPUTER APPLICATION

BASIC URDU

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

I.Syllabus Prescribed for B.Sc. is applicable to B.C.A.

Courses

AECC: Ability Enhancement Compulsory Course

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS

B. Sc./ B. C. A.

I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
IV	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3

*T- Theory

Question Paper Pattern and Distribution of Marks

Scheme of Examination:

Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks   will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all AECC Papers

I. Multiple choice questions   (from all text)   1x10=10

II.Essay type question on prose   (1out of3)   12x1=12

III.Summary of the poem   (1 out of3)   12x1=12

IV.Appreciation of verses from Ghazals   (4 out of 6)   03x4=12

V.R C   (4 out of6)   03x4=12

VI.Summary Essay type question on text   (1 out of3)   12x1=12

VII.Short note questions on practical   (1 out of2)   10x1=10

      (Que No II to VII are with choice)

Question pattern for all DSC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of2)   12x1=12

VII.Short notes question on Practical   (1 outof2)   10x1=10

      (Que No II to VII are with choice)

Question pattern for all DSE Papers

I. Multiple choice questions   (fromall Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof 3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of 2)   12x1=12

VII.Short notes question on Author /character/style /art   (1 out of 2)   10x1=10

      (Que No II to VII are with choice)

Question pattern for all SEC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II.Summary/critical / Essay type question of the Prescribed topics (1 out of2)   10x1=10

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   10x1=10

IV.Short notes question on Practical   (1out of2)   10x1=10

      (Que No II to IV are with choice

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr

      1.Urdu me lisani adab

      2.Hali ki seerat

      3.Bhola

      4.Ham huye tum huye ke meer huye

      5.Gul banu

UNIT: II Poetry / Nazm

      1) Samp

      2) Jugnu

      3) Qaid khane ki rat

      4) Tehzeeb ka urooj

      5) Ay shareef insano

UNIT: III Gazaliyat

      1)Dil me kisi ke raah

      2)Donu jahan teri mohabbat me

      3)Qatl Aashique

      4)Husn ma garcha hangam

      5)Hasti apni habab ki si

      6)Naye kapde badal kar

UNIT: IV Jadeed ilm e science

1)Science aur naaptol

2) Taqat aur harakat

3) Hawa, hawa ka dabaw aur barometer

Practical: 1. Write an article in your own style.

2. Use library and website collect modern poems and prose (five each)

Prescribed Books**:   1) Anwar -e –adab   Compiled by: Prof.Syed Dastgeer pasha
      Prof Mushtaque Ahmad Byakod**

                                      Dr Syed Alimullah Husaini

      2) Jadeed ilm e science   Compiled by Wazahat Husain

B. Sc./ B. C. A. PROGRAMMESEMESTER II SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr

1)Sahab baat room me hain
2)Sir sayyed marhoom aur Urdu literature
3)Mumtaz mufti ki yaad me
4)Haj e Akbar
5)Achchi kitab

UNIT: II Poetry / Nazm

1) Shuaa e ummeed
2) Raste ki mantak
3) Dawat e inqilab
4) Banjara nama
5) Dehli marhoom

UNIT: III Gazaliyat

1)Tamasha e der o haram
2)Dil mera jis se behalta
3)Asar usko zaranahi hota
4)Sar me sauda bhi nahi
5)Tere ishq ki inteha

UNIT: IV Jadeed ilm e science

1)Hararat
2) Roshani
3) Miqnatees

Practical: 1. Collect stories (minimumfive) of the same author
2. Precis writing, read passage and Re-write it in your own words.

Prescribed Books**:**   **1) Anwar -e –adab**   Compiled by: Prof.Syed Dastgeer pasha
                                                             Prof Mushtaque Ahmad Byakod
Dr Syed Alimullah Husaini

        2) Jadeed ilm e science   Compiled by Wazahat Husain

B. Sc./ B. C. A.   **SEMESTER III SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

 UNIT: I Prose/Nasr
1 Bint e bahadur shah
2 Khutut e Galib
3 Kafan
4 Faiz ahmad
5 Savere jo kal meri aankh khuli

UNIT: II Poetry/ Nazm
1) Qaid khane ki raat
2) Aata daal
3) Jadeed Taraqqiyat
4) Zamana

UNIT: III Gazaliyat
1 piya baaz
2 hasti apani
3 layi hayat
4 Badao
5 chup ke chuoke

UNIT: IV Jadeed ilm e science
1) Bijali
2) Mada aur uski khususiyat
3) Tabayi aur Kemiyai Tagayyur

Practical:
1. Discussion of multiple facets of a Gazal and Urdu poems. Pair work
2. Creating, presenting an argument, expressing a point of view. Pair work

Prescribed Books**:**   **1) Karwan-e –adab**   **Compiled by: Prof.Syed Sana ullah**
                              2) Jadeed ilm e science   Compiled by Wazahat Husain

B. Sc./ B. C. A.SEMESTER IVSUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I

    1 Umar e rafta

2 Mirza Galib ke akhlaq o aadat

3 Kahawatein aur muhaware

4 Mohle ki holi

5 Mumtaz shereen se abbas tabish ka interview

UNIT: II Poetry: Nazm

1Tazheek e rozgaar

2 Khak e Hind

3Taleem e niswan

4bol ari o dharti

UNIT: III Poetry:Ghazal

1 nagah chaman me

2 ye na thi hamari qismat

3lagta nahin

4 ham ne sun

5 Hum hain mata ekucha

UNIT: IV Jadeed ilm e science

1 Pani

2 Hydrozon,oxyzon,carbon dhyoxide

3 Tezab, Khad,aur namak

Practical: 1. Read the given poem and find out the difficult words and make 'Farhang'

2.Write an Essay on a current issues and give an appropriate title.

Prescribed Books: **1) Karwan -e –adab   Compiled by: Prof.Syed Sana ullah**

2) Jadeed ilm e science   Compiled by Wazahat Husain

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE AND SYLLABUS OF UNDERGRADUATE

B.C.A PROGRAMME

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM (CBCS)

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		

I Semester BCA w.e.f 2020-21 and onwards
CHOICE BASED CREDIT SYSTEM (CBCS)

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Duration Hrs	Theory /Practical	IA	Total	Credits
Part I AECC	BCAAEC1.1	MIL	4	-	3	80	20	100	3
	BCAAEC 1.2	English	4	-	3	80	20	100	3
Part II DSC	BCADSC1.3	C Programming	5	-	3	80	20	100	3
	BCADSC 1.4	Computer Fundamentals	5	-	3	80	20	100	3
	BCADSC 1.5	Financial Accounting / Mathematics-I	5	-	3	80	20	100	3
	BCADSC 1.6	C Programming Lab	-	3	2	40	10	50	1
	BCADSC 1.7	Computer Fundamentals Lab	-	3	2	40	10	50	1
	BCADSC 1.8	Office Automation lab	-	3	2	40	10	50	1
Part III AECC	BCAAEC 1.9	Indian Constitution	2	-	2	40	10	50	2
	BCAAEC 1.10	CC/EA	2	-	-	-	50	50	1
Total			27	9				750	21

II Semester BCA w.e.f 2020-21 and onwards
CHOICE BASED CREDIT SYSTEM (CBCS)

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Duration Hrs	Theory /Practical	IA	Total	Credits
Part I AECC	BCAAEC 2.1	MIL	4	-	3	80	20	100	3
	BCAAEC 2.2	English	4	-	3	80	20	100	3
Part II DSC	BCADSC 2.3	Data Structures	5	-	3	80	20	100	3
	BCADSC 2.4	Web Programming	5	-	3	80	20	100	3
	BCADSC 2.5	Numerical and Statistical Methods	5	-	3	80	20	100	3
	BCADSC 2.6	Data Structures Lab	-	3	2	40	10	50	1
	BCADSC 2.7	Web Programming Lab	-	3	2	40	10	50	1
	BCADSC 2.8	Numerical and Statistical Methods Lab	-	3	2	40	10	50	1
Part III AECC	BCAAEC 2.9	Human Rights and Environmental Studies	2	-	2	40	10	50	2
	BCAAEC 2.10	CC/EA	2	-	-	-	50	50	1
Total			27	9				750	21

		III Semester BCA w.e.f 2021-22 and onwards CHOICE BASED CREDIT SYSTEM (CBCS)								
Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		
Part I AECC	BCAAEC 3.1	MIL	4	-	3	80	20	100		3
	BCAAEC 3.2	English	4	-	3	80	20	100		3
Part II DSC	BCADSC 3.3	Java Programming	5	-	3	80	20	100		3
	BCADSC 3.4	Operating System	5	-	3	80	20	100		3
	BCADSC 3.5	Design and Analysis of Algorithms	5	-	3	80	20	100		3
	BCADSC 3.6	Java Programming Lab	-	3	2	40	10	50		1
	BCADSC 3.7	Operating Systems Lab	-	3	2	40	10	50		1
	BCADSC 3.8	Design and Analysis of Algorithms-Lab	-	3	2	40	10	50		1
Part III SEC	BCASEC 3.9	Data Communication	2	-	2	40	10	50		2
	BCAAEC3.10	CC/EA	2	-	-	-	50	50		1
Total			27	9				750		21

		IV Semester BCA w.e.f 2021-22 and onwards CHOICE BASED CREDIT SYSTEM (CBCS)								
Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		
Part I AECC	BCAAEC 4.1	MIL	4	-	3	80	20	100		3
	BCAAEC 4.2	English	4	-	3	80	20	100		3
Part II DSC	BCADSC 4.3	Software Engineering	5	-	3	80	20	100		3
	BCADSC 4.4	Database Management Systems	5	-	3	80	20	100		3
	BCADSC 4.5	Python Programming	5	-	3	80	20	100		3
	BCADSC 4.6	Database Management Systems Lab	-	3	2	40	10	50		1
	BCADSC 4.7	Python Programming Lab	-	3	2	40	10	50		1
	BCADSC 4.8	PL/SQL Lab	-	3	2	40	10	50		1
Part III SEC	BCASEC 4.9	Computer Networks	2	-	2	40	10	50		2
	BCAAEC 4.10	CC/EA	2	-	-	-	50	50		1
Total			27	9				750		21

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination Duration Hrs	Theory /Practical	IA	Total	Credits
		V Semester BCA w.e.f 2022-23 and onwards **CHOICE BASED CREDIT SYSTEM (CBCS)**							
Part I DSC/ DSE	BCADSC 5.1	Advanced java	5	-	3	80	20	100	4
	BCADSC 5.2	Data Warehousing and Mining	5	-	3	80	20	100	4
	BCADSC 5.3	Network Security	5	-	3	80	20	100	4
	BCADSE 5.4	**Elective I** a. .Net Using C# b. Android Programming	5	-	3	80	20	100	4
	BCADSE 5.5	**Elective II** a. PHP b. Gaming & animation	5	-	3	80	20	100	4
	BCADSE 5.6	**Elective Lab I** a. C# Lab b. Android Lab	-	4	3	80	20	100	2
	BCADSE 5.7	**Elective Lab II** a. PHP Lab b. Gaming & animation Lab	-	4	3	80	20	100	2
	BCADSE 5.8	Advanced java Lab	-	4	3	80	20	100	2
Part III SEC	BCASEC 5.9	Personality Development	2	-	2	40	10	50	2
Total			**27**	**12**				**850**	**28**

Note: Students have to choose any one subject from Elective-I and Elective-II along with respective labs of Elective-I and Elective-II

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination Duration Hrs	Theory /Practical	IA	Total	Credits
		VI Semester BCA w.e.f 2022-23 and onwards **CHOICE BASED CREDIT SYSTEM (CBCS)**							
Part I DSC/ DSE	BCADSC 6.1	Cyber Security	5	-	3	80	20	100	4
	BCADSC 6.2	Artificial Intelligence	5	-	3	80	20	100	4
	BCADSC 6.3	Software Testing	5	-	3	80	20	100	4
	BCADSE 6.4	**Elective-III** a. Cloud Computing b. Internet of Things	5	-	3	80	20	100	4
	BCADSE 6.5	**Elective-IV** a. Big Data Analytics b. Image Processing	5	-	3	80	20	100	4
	BCADSE 6.6	Software Testing lab	-	4	3	80	20	100	2
	BCADSE 6.7	Project Work	-	4	3	160	40	200	4
Part IIISEC	BCASEC 6.8	Communication Skills	2	-	2	40	10	50	2
Total			**27**	**8**				**850**	**28**

Note: Students have to choose any one subject from Elective-III and Elective-IV

		I Semester BCA w.e.f 2020-21 and onwards CHOICE BASED CREDIT SYSTEM (CBCS)							
Part	Subject Code	Subject Name	Teaching Hrs/ week	Practical Hrs/ week	Examination				Credits
					Duration Hrs	Marks			
						Theory /Practical	IA	Total	
Part I AECC	BCAAEC1.1	MIL	4	-	3	80	20	100	3
	BCAAEC 1.2	English	4	-	3	80	20	100	3
Part II DSC	BCADSC1.3	C Programming	5	-	3	80	20	100	3
	BCADSC 1.4	Computer Fundamentals	5	-	3	80	20	100	3
	BCADSC 1.5	Financial Accounting / Mathematics-I	5	-	3	80	20	100	3
	BCADSC 1.6	C Programming Lab	-	3	2	40	10	50	1
	BCADSC 1.7	Computer Fundamentals Lab	-	3	2	40	10	50	1
	BCADSC 1.8	Office Automation lab	-	3	2	40	10	50	1
Part III AECC	BCASEC 1.9	Indian Constitution	2	-	2	40	10	50	2
	BCAAEC 1.10	CC/EA	2	-	-	-	50	50	1
Total			27	9				750	21

Note:

1. For DSC 1.5, Mathematics-I for PUC-II (Commerce) students and Financial Accounting for PUC-II (Science) students is compulsory

2. For DSC 1.8, Mathematics-I Lab for PUC-II (Commerce) students and Financial Accounting Lab for PUC-II (Science) students is compulsory

Paper Cade: BCAAEC1.1	Paper Title: MIL	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCAAEC 1.2	Paper Title: English	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCADSC1.3	Paper Title: C Programming	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I
Programming Languages and its Classification, Compiler, Interpreter, Linker, Loader. Steps for Problem Solving, flowcharts, algorithms, Program Coding, Program Testing and Execution. Examples of flow charts and algorithms-Largest of three numbers, reversing the digits of an integer, GCD of two integers, generating prime numbers, computing nth Fibonacci numbers.   **12 Hrs**

UNIT II
Overview of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity, Library Functions: Standard Mathematical functions.   **12 Hrs**

UNIT III
Input/output Functions and Control Structures: Unformatted & formatted I/O function in C. Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement. Looping: For, while, and do-while loop, jumps in loops - break, continue statement, Nested loops.
                                                                                                                             12 Hrs

UNIT IV
Arrays and Strings : Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. String constant and variables, Declaration and initialization of string, Input/output of string data, String Handling: String Library Functions: strlen, strcat, strcmp, strcpy, strrev.   **12 Hrs**

UNIT V
 User defined functions: Definition, types of user defined functions, prototype, Local and global variables, passing parameters, recursion, Storage classes in C: auto, extern, register and static   storage class, their scope, storage, &lifetime . Structure & Union: Definition of Structure, declaring Structure, accessing Structure elements, array of Structure, Nesting of structure. Definition of Union, declaring and using Union, Difference between Structure & Union.
                                                                                                                             12 Hrs

References:
1. Balagurusamy E., Computing Fundamentals and C Programming, Tata McGrawHill.
2. YashawantKanetkar : ' Let us C'
3. Stephen G. Kochan, Programming in Ansi C, SamsPublishing
4. Kenneth. A., C problem solving and programming, PrenticeHall.
5. R.G. Dromey, How to Solve it by Computer, PearsonEducation

Additional reading:
1. Anil V. Chouduri, The Art of Programming through Flowchart and Algorithms, LaxmiPub.
2. Gottfried, Byron S., Programming with C, Tata McGrawHill.
3. E. Balaguruswamy, Programming in ANSI C,McGrawhill.
4. Ashok N. Kamthane, Programming in C, PearsonEducation.
5. www.cprogramming.com

Paper Cade: BCADSC 1.4	Paper Title: Computer Fundamentals	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I

Introduction: Computer, data processing, characteristic features of computers, computer evolution to present form, computer generation. Basic computer organization: Basic operations performed by computers, basic organization of computer system, input units and its functions, output units and its functions, commonly used input output (IO) devices.

12 Hrs

UNIT II

Number systems: non-positional number system, positional number system, decimal, binary, octal, and hexadecimal number systems. Conversion from decimal to binary and vice- versa. Computer Codes: Computer data, computer codes: representation of data in binary, commonly used computer codes, collating sequence. Computer arithmetic: Basic arithmetic operations using binary numbers.

12 Hrs

UNIT III

Processor and memory: Internal structure of processor, memory structure, typesofprocessors, main memory organization, random access memory, read only memory, cache memory. Secondary storage: secondary storage devices and their needs, commonly used secondary storage devices, sequential and direct access storage devices, basic principles of commonly used secondary storage devices (magnetic disk, optical disk, flash drives, memory card, disk array).

12 Hrs

UNIT IV

Software: Software and its relationship with hardware, types of software, system software, application software, firmware, middleware and steps involved in software development. Overview of operating system: Definition, functions of operating system, concept of multiprogramming, multitasking, multithreading, multiprocessing, time-sharing, real time, single-user & multi-user operating system. Application software case study: MS-Word: editing, formatting documents, use of mail merge. MS-Excel: Basic features of spreadsheet such as entering text, menus, insert rows/columns, formatting, sort, and filter. Advanced features such as graphs, library functions (Arithmetic, Date and Time, Financial, Logical, text and statistical) with simple problems.

12 Hrs

UNIT V

Windows OS: Basics of Windows, basic components of windows, icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders. Control panel – display properties, adding and removing software and hardware. Linux OS: Basics of Linux OS, features and architecture of Linux. Introduction to bash shell, Basic Commands (cal, date, bc, echo, who, ls, pwd, cd, mkdir, rmdir), Commands to work with file (cat, cp, rm, mv, file, wc, head, tail), vi (or vim) editor. File permissions and ownerships. Basics of shell scripting.

12 Hrs

References:
1. Computer Fundamentals, P. K. Sinha and Priti Sinha, Sixth Edition, BPB publications.
2. ReemaThareja, Fundamentals of Computers, Oxford Higher Education, Oxford University Press.
3. S. K. Basandra, Computers Today ,Galgotia Publications.
4. E. Balaguruswamy, Fundamentals of Computers, McGraw hill

Additional Reading:
1. Peter Norton, Introduction to Computers , 6th Edition, Tata McGraw Hill
2. Xavier C. , Introduction to Computers and Basic Programming, New age International,
3. Rajaraman, V., Adabala, Neeharika, Fundamentals of Computers, PHI
4. Computer Concepts and Applications : http://uwf.edu/clemley/cgs1570w/notes,
5. https://www.tutorialspoint.com/computer_fundamentals/index.htm
6. Computers in education: http://www.mhhe.com/peternorton

Paper Cade: BCADSC 1.5	Paper Title: Financial Accounting	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hr	Marks: Th-80+IA-20	Credits: 3

UNIT I
Basic accounting concepts: Background of book keeping, Accounting, Accountancy, introduction and scope of accounting, basic terms - Capital, Income, Drawing, Expenses, Assets, Liabilities and application of problems, concepts and conventions of accounting, accounting equation (simple problems) Double Entry system of accounting, distinction between Book Keeping and Accounting, types and classification of accounts, Rules of debit and credit under English system.   **12 Hrs**

UNIT II
Journal and Ledger- Journal and recording of entries in journal with narration; Ledger –Posting from Journal to respective ledger account, Preparations of personal account, Basic concepts of purchase book, sales book(simple problems) and cashbook. Trial Balance: Need and objectives; Application of Trial Balance; different types of errors escaped, trial Balance preparation.   **12 Hrs**

UNIT III
Final Accounts: Meaning and preparation of Trading Account, Profit and loss Account and Balance sheet with simple adjustments. Understanding of final accounts of Company.Important provisions of Companies Act, 2013 in respect of preparation of Final Accounts.   **12 Hrs**

UNIT IV
Bank Reconciliation Statement and Depreciation: Bank Reconciliation Statement- Meaning, reasons for difference between cashbook balance and pass book balance, problems on cash book balance and Pass book balance only. Depreciation: Meaning, features and causes of depreciation, Methods- Straight line Method and Reducing Balance Method only (simple problems).   **12 Hrs**

UNITV
Computerized Accounting: Application of Computers in Accounting, Accounting Software packages. An overview of computerized accounting system - Salient features, significance and demerits. Concept of grouping of accounts, Codification of accounts, maintaining the hierarchy of ledger, Generating Accounting Reports.   **12 Hrs**

References:
1. Dr. R.K. Mittal & M.R. Bansal, Financial Accounting, VK Publications.
2. Anil Chowdhry, Fundamentals of Accounting & Financial Analysis, Pearson Education.
3. Maheshwari&Maheshwari, An Introduction to Accountancy, 11th Edition, Vikas Publishing House.
4. Jane Reimers, Financial accounting, Pearson Education
5. RajniPreetiHiroSofat, Basic Accounting, PHI Additional Reading:
6. Accounting for management, Bhattacharya & Deaden, Paperback Edition, Vikas 1986
7. Financial Accounting (Part I and Part II), R.L Gupta & V.K Gupta
8. Maheshwari S.N., Principles of Management Accounting, Sultan Chand & Sons,
9. Accounting Principal, Antony & Reece, Sixth Edition.

Paper Cade: BCADSC 1.5	Paper Title: Mathematics-I	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT-I ALGEBRA

Partial fractions, Progressions: A.P.,G.P.,H.P, Theory of Equation: Solution of Quadratic, Cubic Equations, Matrices & Determinants: Solution of Linear Equations by Cramer's Rule & Matrix Method, Cayley-Hamilton Theorem, Scalars & Vector Product.   12 Hrs

UNIT-II TRIGNOMETRY

Trigonometric Ratio's, Trigonometric Functions of Standard Angles, Allied Angles Compound Angles, Multiple &SubMultiple Angles, Transformation Formula, Heights & Distance.   12 Hrs

UNIT-III GEOMETRY

Co-ordinate System, Distance Formula, Section Formula, Co-linearity of Points, Area of Triangle, Intercepts of Straight Line, Slope of Straight line joining Two Points, Various forms of Equation of Straight Lines, General Equation of Line, Parallelism &Perpendicularity of Two Straight Lines, Point of Intersection of Two Straight Lines.   12 Hrs

UNIT-IV: LIMITS& DIFFERENTIATION

Definition of Limit, Continuity, Some Standard Limits, Condition for Function to be Continuous & Discontinues. Definition of Derivatives, Rules of Differentiation, Derivatives of Algebraic, Trigonometric Functions, Second order Derivatives,Maxima& Minima Functions.   12 Hrs

UNIT-IV: INTEGEGRATION

Indefinite Integrals, Standard Integrals of Algebraic, Logarithmic, Exponential & Trigonometric Function, Integration by Parts. Definite Integrals & their Applications.   12 Hrs

References:

1. P.G.Umarani&B.G.Umarani:A Text Book of Mathematics
2. S.S.Bosco: A Text Book of Mathematics G.K.Ranganath:
3. S.L.Loney:The Elements of Co-ordinate Geometry Part-I,Surjeet Publication.
4. S.L.Loney:Trigonometry, Surjeet Publication.
5. Shanti Narayan:Differential& Integral Calculus,S.Chand& Co.

| Paper Cade: BCADSC 1.6 | Paper Title: C Programming Lab | Teaching Hours: 3 Hrs / Week |
| | Marks: Th-40+IA-10 | Credits: 1 |

Students are encouraged to use Linux-Open Source OS for executing c –programs using gcc/similar compiler available with Linux.Students shall gain familiarity with working in Linux environment with the help of course teacher in Lab. Following shall be practiced
• Using vi/gedit/geany editor for writing c programs
• Familiarity with bash/similar shell for executing basic shell commands such as ls, cd, mv, mkdir, rm, cat,etc.
URL for reference:
http://www.ee.surrey.ac.uk/Teaching/Unix/
https://www.tutorialspoint.com/unix/unix-vi-editor.html
https://www.tutorialspoint.com/compile_c_online.php

Note:Students shall draw flow charts/algorithms for all programs.
Assignment Programs -
Section A:
1. Write a program to enter P, T, R and calculate Simple Interest.
2. Write a program to check whether year is leap year or not using conditional/ternary operator.
3. Write a program to find HCF (GCD) of two numbers.
4. Write a C program that accepts a number 'n', and prints all prime numbers between 1 to n.
5. Write a C program to print sum of even numbers and sum of odd numbers from array of integers.
6. Write a program to find maximum between three numbers.
7. Write a program to function as a basic calculator; it should ask the user to input what type of arithmetic operation he would like, and then ask for the numbers on which the operation should be performed. The calculator should then give the output of the operation. Use switch. Error message should be reported, if any attempt is made to divide by zero.
8. Program to generate and print first n Fibonacci numbers.
9. Write a C program to concatenate two strings without using library function
10. Write a C program to create array of structure which stores Roll No, Name and Average marks of students. Accept 'n' students and print it in proper format.

Section B:
1. Write a C program to add two matrices.
2. Write an iterative function calculate factorial of a given integer.
3. Write a function that accepts array of integers to find maximum and minimum element in an array.
4. Write a C program to illustrate difference between structure and union by defining emp_no ,emp_name, salary as members and display the size of the defined structure
5. Write a C program that reverse a given integer number and check whether the number is palindrome or not.
6. Write a program that takes in three arguments, a start temperature (in Celsius), an end temperature (in Celsius) and a step size. Print out a table that goes from the start temperature to the end temperature, in steps of the step size; Celsius to Fahrenheit.

Practice programs –
1. Write a C program to calculate area and circumference of a circle.
2. Write a program to check whether an alphabet is vowel or consonant using switch case.
3. Write a C Program to check the given number is Armstrong number or not? Armstrong number is a number that is the sum of its own digits each raised to the power of the number of digits. Example: $153 = 1^3 + 5^3 +3^3$
4. Write a C program to add two complex numbers by passing structure to a function. Consider the following structure definition for complex number.
   typedefstruct complex
   {
   float real;
   floatimag;
   } complex;

Paper Cade: BCADSC 1.7	Paper Title: Computer Fundamentals Lab	Teaching Hours: 3 Hrs / Week
	Marks: Th-40+IA-10	Credits: 1

Part-I
Students shall gain familiarity of Windows 10/Windows 8 OS- Basics of Windows, basic components of windows, icons, taskbar, activating windows, using desktop, title bar, running applications, exploring computer, managing files and folders, copying and moving files and folders. Control panel features, adding and removing software and hardware.

Part-II
Students shall know about the various hardware components of a typical desktop computer/laptop. Identify motherboard, processor, network card, data bus, i/o devices, hard drive, hard disk, flash drive, various ports and other parts of computer.

Part-III
Students shall gain familiarity with word processing software such as MS Word/Open Office. Understand various editing and formatting features, mail-merge option, encrypting the document, and inserting clipart/shapes,/hyperlink/word art. Students shall gain familiarity with spreadsheet software such as MS Excel/Open Office. Concepts of spreadsheet and other features such as, entering text, menus, insert rows/columns, formatting, formula, sort, filter. Advanced features such as graphs, library functions (Arithmetic, Date and Time, Financial, Logical, text and statistical)

Part-IV
Students shall practice working in Linux Environment-Open Source OS. Student shall understand basic shell environment.
Following shall be practiced :OS boot process,Description of the basic shell commands, Basics of shell scripting, Usage of if statements in scripts, Usage of vi editor, Description of vi editor with commands, Creating new variables and echoing

Lab Assignments:
Students shall write
Section A:
1. Description about motherboard components of computer system.
2. MS-Word assignment to draw Architecture of Linux using various shapes.
3. MS-Word assignment to demonstrate Bullets and Numbering.
4. MS-Word assignment to demonstrate header, footer, and hyperlink.
5. MS-Word assignment to design a pamphlet for the advertisement of your college features.
6. MS-Word assignment to demonstrate SmartArt and Watermark.
7. MS-Word assignment to demonstrate usage of tables and encryption.
8. MS-Word assignment to demonstrate usage of mail merge.

Section B:
1. MS-Excel assignment to demonstrate math and statistical functions.
2. MS-Excel assignment to demonstrate graphs.
3. Familiarity with bash/similar shell for executing basic shell commands such as cal, date, bc, who, ls, pwd, cd, mkdir, rmdir etc.
4. Familiarity with commands to work with file (cat, cp, rm, mv, file, wc, head, tail)
5. File ownership and permissions (chmod)
6. echo command
7. Write a shell script to read and display student name, roll number, and marks of five subjects.
8. Write a shell script to find eligibility for voting
9. Write a shell script to find maximum and minimum of three numbers.

Paper Cade: BCADSC 1.8	Paper Title: Office Automation lab	Teaching Hours: 3 Hrs / Week
	Marks: Th-40+IA-10	Credits: 1

NOTE: The term works of Section A must be implemented in MS-Excel and the term works of Section B in MS-Access.

Section A:

1. Design a Calendar of July month.
2. Prepare a bill with the following details :Sr No. Item Name, Rate, Quantity, Amount, Discount (10%), Net Amount. Also Calculate Grand total of the Net Amount.
3. Create a Salary Sheet of Employees with following fields: Eon, Name, Basic Salary, HRA (7% of Basic Salary), DA(80% of Basic Salary), Gross Salary, PF (12% of Basic Salary), And Net Salary. Enter the formula for HRA, DA, Gross Salary, PF and Net Salary.

4. Using Ms-Excel draw X-Y Line Chart and Bar Charts based on the following worksheet data and write the steps

ITEM	MONTHLY SALES (in Thousands)
Cotton	2,750
Wool	3,100
Yarn	2,975
Jute	2,100
Fiber	3,010

5. Prepare Students Attendance Report as Follows: Use appropriate type of Cell Referencing in a formula
6. *Using Functions & simple if :*Create a table to display Numbers 1-5. Calculate their Factorial, Square & Cube using appropriate functions. Display current date & time on the first row & Sr. no of the weekday on the second row (as shown in figure) using appropriate date functions.

Section B:

1. Create Employee table with the following fields: EmpCode (Primary key), Name, Address, phone, email &DOJ(Date of Joining). (using Table Templates) & add five Records.
2. Create 'Student' table with the following fields: (using Table Design) & add five fields.

Field Name	Validation Rule	Data Type	Description
RNO	Primary key	Autonumber	Roll Number
SName		Text	Student's Name
DOB	Less than Today	Date	Date of Birth
City		Text	City

3. Create a Select Query to display Employee details using Query wizard.
4. Using Ms-Access with suitable examples write steps and execute the following.
   a. Create STUDENT database table.
   b. Create appropriate records.
   c. Add two more records to the table.
   d. Delete 2nd record to the table.
   e. View the records.
5. Using Ms-Access with suitable examples write steps and execute the following.
   a. Create EMPLOYEE database table.
   b. Create appropriate records.
   c. Sort the records in ascending order of name.
   d. Sort the records in descending order of salary.
   e. View the records
6. Create a Select Query to display Item details supplied by "Vijay" (using Query Design)

Paper Cade: BCAAEC 1.9	Paper Title: Indian Constitution	Teaching Hours: 2 Hrs / Week
Total Teaching Hours: 30Hrs	Marks: Th-40+IA-10	Credits: 2

Syllabus as prescribed by the University

					II Semester BCA w.e.f 2020-21 and onwards CHOICE BASED CREDIT SYSTEM (CBCS)					
Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		
Part I AECC	BCAAEC 2.1	MIL	4	-	3	80	20	100		3
	BCAAEC 2.2	English	4	-	3	80	20	100		3
Part II DSC	BCADSC 2.3	Data Structures	5	-	3	80	20	100		3
	BCADSC 2.4	Web Programming	5	-	3	80	20	100		3
	BCADSC 2.5	Numerical and Statistical Methods	5	-	3	80	20	100		3
	BCADSC 2.6	Data Structures Lab	-	3	2	40	10	50		1
	BCADSC 2.7	Web Programming Lab	-	3	2	40	10	50		1
	BCADSC 2.8	Numerical and Statistical Methods Lab	-	3	2	40	10	50		1
Part III AECC	BCAAEC 2.9	Human Rights and Environmental Studies	2	-	2	40	10	50		2
	BCAAEC 2.10	CC/EA	2	-	-	-	50	50		1
Total			27	9				750		21

Paper Cade: BCAAEC 2.1	Paper Title: MIL	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCAAEC 2.2	Paper Title: English	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCADSC 2.3	**Paper Title:** Data Structures	**Teaching Hours:** 5 Hrs / Week
Total Teaching Hours: 60Hrs	**Marks:** Th-80+IA-20	**Credits:** 3

UNIT I

Advanced C: Dynamic memory allocation and pointers in C- Declaring and initializing pointers, Pointer & Functions, Pointer & Strings, Pointer& Structure, Pointer to Pointer. Command line arguments, Static and dynamic memory allocation. Memory allocation functions :malloc, calloc, free and realloc. File Management in C: Defining ,declaring a file, Opening & Closing File, Input & Output Operations on Files, Random Access to Files, File error handling functions.

12 Hrs

UNIT II

Introduction to Data structures: Definition, Classification of data structures: primitive and non-primitive. Operations on data structures Search: Basic Search Techniques- sequential search, Binary search- Iterative and Recursive methods. Sort-General Background: Definition, different types: Bubble sort, Selection sort, Merge sort, Insertion sort, Quick sort.

12 Hrs

UNIT III

Recursion: Definition, Recursion in C, Writing Recursive programs – Binomial coefficient, Fibonacci, GCD, towers of Hanoi. Stack – Definition, Array representation of stack, Operations on stack-push and pop, Infix, prefix and postfix notations, Conversion of an arithmetic expression from Infix to postfix, applications of stacks.   **12 Hrs**

UNIT IV

Queue - Definition, Array representation of queue, Types of queue: Simple queue, circular queue, double ended queue (dequeue) priority queue, operations on ordinary queue and circular queues.   **12 Hrs**

UNIT V

Linked list – Definition, components of linked list, representation of linked list, advantages and disadvantages of linked list, Arrays versus linked list, Types of linked list: Singly linked list, doubly linked list, Circular linked list and circular doubly linked list. Operations on singly linked list: creation, insertion, deletion, search and display.   **12 Hrs**

References
1. Data structures using 'C'– Padma Reddy
2. A.K. Sharma, Data Structures Using C, 2nd edition, PearsonEducation.
3. Achuthsankar S. Nair, T. Makhalekshmi, Data Structures in C,PHI.
4. Prof. S.Nandagopalan, Fundamental of Data Structures with C.
5. Mark Allen Weiss, Data Structures and Algorithm Analysis in C, PearsonEducation.

Additional Reading
1. A.M. Tenenbaum, Y, Langsam, M. J. Augustein, R. L. Kruse, B. P. Leung and C. L. Tondo, Data Structures using C,PHI.
2. Trembley, An introduction to Data Structures with applications, Tata McGrawHill.
3. C. Loudon, Mastering Algorithms, SPD/O'REILL

Paper Cade: BCADSC 2.4	Paper Title: Web Programming	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Unit I: Fundamentals of Web

Internet, WWW, Web Browsers, and Web Servers, URLs, MIME,HTTP, XHTML- Basic Syntax, Standard structure, Basic text markup, Images, Hypertext, Links, Lists, Tables, Forms- <form>,<input>,<label>,<select>,<textarea> tags and action buttons(submit and reset).   **12 Hrs**

Unit II: CSS

CSS- Introduction, Levels of style sheets, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The box model, Background images, The <span> and <div>tags.   **12 Hrs**

Unit III: Basics of Javascript

Overview of Javascript, Object Oriented and javascript, General Syntactic characteristics, Primitives, operations and expressions, Screen output and keyboard input, Control statements, Object creation and modification.   **12 Hrs**

Unit IV: Javascript Concepts and XHTML Documents

Arrays, Functions, Constructor ,Element access in javascript, Event and event Handling , Handling events from body elements, Handling events from button elements, Handling events from Textbox and password elements. **12 Hrs**

Unit V: Introduction to XML

Introduction, Syntax of XML , XML document structure, Displaying raw XML documents, Displaying XML documents with CSS,XSLT Stylesheets and Displaying XML documents with XSLT.   **12 Hrs**

References:
1. Robert W. Sebestra, "Programming the World Wide Web", 7th Edition /4th edition Addison Wesley Publication,2013.

Additional Reading:
1. Chris Bates, "Web Programming: Building Internet Applications", 3rd Edition Wiley 2009
2. Eric Freeman, "Head First HTML with CSS and XHTML', O'Rielly,2006.
3. S SGornale&Basavanna M, ""Web Programming for Beginners", ISBN: 978-93-5213-363-5, Shroff Publisher & Distributors PVT Ltd, Mumbai-2016
4. David Flnagan, "JavaScript, The Definitive Guide", 6th Edition, O'Rielly2011.
5. Internet & World Wide Web – How to Program – Deitel&Deitel – Fourth edition

Paper Cade: BCADSC 2.5	Paper Title: Numerical and Statistical Methods	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Unit 1: Floating point representation:

Introduction to floating point numbers , floating point binary , floating point storage and its storage format,normalized floating point form(decimal) , exponent form(binary),floating point arithmetic (decimal)

12 Hrs

Unit 2:Numerical Solution of Non-linear Equations:

Introduction and solutions of algebraic and transcendent equations , methods of finding solution of non-linear equations- Bisection method, False Position method, Secant method, Fixed point iteration method and Newton-Raphson method. General discussion on convergence of these methods (No Mathematical derivations) **12 Hrs**

Unit 3: Solution of System of Simultaneous linear Equations:

Introduction and methods of solving of solving system of linear equations- Gauss elimination method, Gauss-Jordan, LU Decomposition method and Gauss-Seidal iteration method, Eigen values and Eigen vectors of a square matrix. **12Hrs**

Unit 4: Statistical investigation and Data representation :

Origin and development, Definition, Importance and scope of business Statistics, Meaning and definition of data, Methods of data collection. Types of data proportions, ratios and rates; building, cleaning and administering databases in SPSS. *Significance* of diagrams and graphs, Types of diagrams-one dimensional or Bar Diagrams, Two dimensional or area diagrams, pictograms and cartograms. Graphs of frequency distribution- Histogram, frequency polygon, Frequency curve, gives or cumulative frequency curves.

12hrs

Unit 5: Measures of central tendency and Measures of dispersion:

Definition of averages, objectives of averages, requisites of ideal averages.Types of averages- A mean, median, Mode, Harmonic mean, Geometric Mean – Definition computation, merits and demerits, Application in Business. Definition and properties of Ideal Measure of dispersion, Absolute and Relative Measures of dispersion-Range and co-efficient of range, Quartile and co-efficient of Q.D., Average Deviation(AD) and co-efficient of A.D., Standard Deviation and co-efficient of S.D. and co-efficient of variation. **12 hrs**

References:
1. S.S. Sastri, Introductory Methods of Numerical Analysis, PHI (New Delhi) 2001.
2. Balaguruswamy E, (1988), Computer Oriented Statistical and Numerical Method, Macmillan India Ltd.
3. Medhi J. 1992, Statistical Methods (An Introductory Text), New Age International.
4. Business Statistics by - J K Sharma , Pearson Publication.

Additional Reading:
1. M.K. Jain, S.R.K. Iyenger and R.K. Jain, Numerical Method for Scientific and Engineering Computation, Wiley Eastern (1998).
2. V. Raja Raman Computer oriented numerical methods, PHI Publication
3. Gupta S. C.and Kapoor V. K. 2005 Fundamentals of Mathematical Statistics, S. Chand and Sons, New Delhi.
4. Gupta S. C.and Kapoor V. K. 2005 Fundamentals of Applied Statistics, S. Chand and Sons, New Delhi.

Section A:

1. Write a C program to demonstrate the Dynamic Memory Allocation for Structure by reading and printing 'n' employee details.
2. Write a C program to read one dimensional array, and print sum of all elements along with inputted array elements using Dynamic Memory Allocation.
3. Write a program that takes a file as an argument and counts the total number of lines. Lines are defined as ending with a newline character. Program usage should be count filename.txt and the output should be the line count.
4. Write a C program to find n Fibonacci numbers using recursion.
5. Write a C program to search for an element in an array using Sequential search
6. Write a C program to sort a list of N elements using Bubble sort Technique
7. Write a C program to sort a list of N elements using Insertion sort Technique
8. Write a C program to demonstrate the working of stack of size N using an array. The elements of the stack may assume to be of type integer or real, the operations to be supported are 1. PUSH 2. POP 3. DISPLAY. The program should print appropriate messages for STACK overflow, Under flow and empty, use separate functions to implement the same.

Section B:

1. Write a C program to search for an element in an array using Binary search
2. Write a C program to sort a list of N elements using Selection Sort Technique
3. Write a C program to sort a list of N elements using Merge sort Technique
4. Write a C program to read a text file and convert the file contents in capital (upper-case) and write the contents in an output file.
5. Write a C program to convert a given infix expression into its postfix Equivalent, Implement the stack using an array
6. Write a C program to simulate the working of an ordinary Queue using an array. Provide the operations QINSERT, QDELETE and QDISPLAY. Check the Queue status for empty and full detect these cases
7. Using dynamic variables and pointers Write a C program to construct a singly linked list consisting of the following information in each node; Roll – No (Integer), Name (Character string). The operations to be supported are:
   - LINSERT Inserting a node in the front of the list
   - LDELETE Deleting the node based on Roll –No
   - LSEARCH Searching a node based on Roll-No
   - LDISPLAY displaying all the nodes in the list

Paper Cade: BCADSC 2.7	Paper Title: Web Programming Lab	Teaching Hours: 3 Hrs / Week
	Marks: Th-40+IA-10	Credits: 1

Section A:

1. Write an html program to display the following table.

Day	Today	Tomorrow	Monday
Condition	Sunny	Mostly sunny	Partly cloudy
Temperature	19°C	17°C	12°C
Wind	E 13 km/h	E 11 km/h	S 16 km/h

Use cell spacing, align and cell padding attribute.

2. Demonstrate the use of following in HTML
   Font family, font variant, font style, font size and text decoration.
3. Write a HTML program which displays random contents using.
   a. Ordered list   b. Unordered list
   use list properties for both.

4. Write a HTML program to demonstrate
   a. Inline CSS   b. Class CSS   c. External CSS
5. Write a HTML Program to demonstrate how the following selector forms can be used.
   a. Simple selectors   b. Class selector

6. Write a HTML Program to demonstrate how the following selector forms can be used.
   a. Generic selector   b. Id selector   c. Universal selector

Section B:

1. JavaScript Program to Convert temperatures from Celsius to Fahrenheit and vice versa

2. Write a JavaScript program which displays 4 radio buttons and displays a suitable text based on radio button selection.
3. Write a HTML program which accepts username and password from the user, provide a option to reset the contents. [use action attribute in form tag.]
4. Write a HTML program that displays random text on load of Java Script.
5. Develop a XML document to display information about subjects in BCA second semester and display the same using CSS.
6. Design an XML document to store information about a student in an BCA college affiliated to RCU. The information must include USN, Name, Name of the College, Brach, Year of Joining, and e-mail id. Make up sample data for 3students.

NOTE: Section A must be implemented using C Language and Section B using SPSS.

Section A:

1. Write a program to check whether the given matrix is singular or not.
2. Write a program to find roots of an equation f(x)=0 using Bisection method.
3. Write a program to find roots of an equation f(x)=0 using Regula-Falsi method.
4. Write a program to find roots of an equation f(x)=0 using Newton-Rephson method.
5. Write a program to solve the system equation Ax=b using Gauss Elimination method.
6. Write a program to solve the system of equation Ax=b using Gauss Seidel method.

Section B:

1. Open a new data set in SPSS
   - Create a nominal variable called cat_dog that has a width of 3 with 0 decimal places. The label should be "Do you like cats or dogs better?". The values should be 1 for cats and 2 for dogs (or vice versa). Do not worry about missing data codes.
   - Create a scale variable called neatness that has a width of 8 with 3 decimal places. The label should be "Eric Cartman's Neatness Scale (higher = neater)". There will be no value labels.
   - Enter data for the following cases
      - case 1 prefers cats and has a neatness of 4
      - case 2 prefers dogs and has a neatness of 3
      - case 3 prefers dogs and has a neatness of 7
      - case 4 prefers dogs and has a neatness of 2
      - case 5 prefers cats and has a neatness of 5
      - case 6 prefers cats and has a neatness of 1
      - case 7 prefers cats and has a neatness of 3
      - case 8 prefers dogs and has a neatness of 6
   - Change the neatness of the second case from 3 to 6, like you would if you discovered a data entry error.

2. Create a data set in SPSS for the following data:

Group	Gender	Hw1	Hw2	Hw3
expt	Male	92	84	93
expt	Female	77	84	85
expt	Male	87	86	81
expt	Female	89	90	93
expt	Male	64	73	78
control	Female	81	84	93
control	Male	83	90	91
control	Female	84	88	86
control	Male	82	80	78
control	Female	96	91	88

   - Using the Frequencies option, find the mean, median, mode, quartiles, 95th percentile, variance, standard deviation, minimum, and maximum of Hw1, Hw2, and Hw3.
   - Using the Descriptives option, find the means and standard deviations of Hw1, Hw2, and Hw3.
   - Using the Compare Means --Means procedure, find the means on Hw1, Hw2, and Hw3 for everyone, for the experimental group, for the control group, for men, for women, and for all combinations of gender and group.

3. A researcher has created a data table showing the anthropometrical measurements of tribal subjects under each of the four social categories, namely GM, OBC, SC and ST as shown in table.

GM			
Gender	HT	WT	Biceps
1	137.8	30.5	5.50
2	130.2	29.5	5.65
2	135.6	29.0	5.15
2	137.8	30.0	5.25
1	131.5	30.5	4.95
1	132.8	31.5	5.65
1	139.8	30.5	5.50
1	136.7	30.0	5.65
1	138.6	30.5	5.15
1	139.5	30.5	5.25

SC			
Gender	HT	WT	Biceps
2	132.4	25.0	4.37
1	133.5	24.5	4.95
1	130.6	25.5	4.65
1	132.5	26.5	4.45
1	130.6	26.0	6.48
2	132.4	25.5	5.01
1	130.5	25.0	4.37
1	132.4	24.5	4.95
2	133.5	25.5	4.65
2	130.6	26.5	4.45

OBC			
Gender	HT	WT	Biceps
1	124.4	23.5	4.61
2	125.5	23.0	4.52
1	126.3	24.0	4.45
2	128.0	23.5	4.39
1	129.0	25.0	4.37
2	130.0	22.0	4.69
1	129.5	23.5	4.61
1	130.0	23.0	4.52
2	126.0	24.0	4.45
2	128.5	23.5	4.39

ST			
Gender	HT	WT	Biceps
1	124.5	20.5	3.54
1	125.8	21.0	3.55
1	123.5	20.5	3.95
1	124.8	22.0	4.05
1	122.5	21.5	3.55
1	122.8	22.0	3.54
1	122.5	22.5	3.55
1	121.5	21.5	3.95
1	124.5	20.5	4.05
2	125.8	21.0	3.55

- Create a data file in SPSS (The Data in SPSS has to be entered with category 1=GM, 2=OBC, 3=SC and 4=ST. The codes for Gender are 1=Male and 2= Female).
- Generate central tendency and measures of dispersion output using the descriptives command in SPSS for the variables Height, Weight and Biceps.
- Generate two-way cross table Gender versus Category.

4. The marks obtained by 50 students of a class in mathematics are given below.
32, 42, 41, 51, 41, 30, 39, 18, 48, 53, 54, 32, 31, 46, 15, 37, 32, 56, 42, 48, 38, 26, 50, 40, 38, 42, 35, 22, 62, 51, 44, 21, 45, 31, 37, 41, 44, 18, 37, 47, 38, 41, 30, 52, 52, 60, 42, 38, 38, 34.
- Create a data file in SPSS.
- Generate a frequency table.
- Draw the Histogram.
- Generate central tendency output using the frequencies command in SPSS.
- Generate central tendency output using the descriptives command in SPSS.
- Generate central tendency output using the explore command in SPSS.

5. The number of blood donations in the years 1995 and 2000 in various blood groups are as follows

Year	O	A	B	AB
1995	1154	526	775	155
2000	700	1125	1280	560

Create a data file in SPSS and hence represent the data by multiple bar diagram.

Paper Cade: BCAAEC 2.9	Paper Title: Human Rights and Environmental Studies	Teaching Hours: 2 Hrs / Week
Total Teaching Hours: 30Hrs	Marks: Th-40+IA-10	Credits: 2

Syllabus as prescribed by the University

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		
					III Semester BCA w.e.f 2021-22 and onwards **CHOICE BASED CREDIT SYSTEM (CBCS)**					

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Duration Hrs	Theory /Practical	IA	Total	Credits
Part I AECC	BCAAEC 3.1	MIL	4	-	3	80	20	100	3
	BCAAEC 3.2	English	4	-	3	80	20	100	3
Part II DSC	BCADSC 3.3	Java Programming	5	-	3	80	20	100	3
	BCADSC 3.4	Operating System	5	-	3	80	20	100	3
	BCADSC 3.5	Design and Analysis of Algorithms	5	-	3	80	20	100	3
	BCADSC 3.6	Java Programming Lab	-	3	2	40	10	50	1
	BCADSC 3.7	Operating Systems Lab	-	3	2	40	10	50	1
	BCADSC 3.8	Design and Analysis of Algorithms-Lab	-	3	2	40	10	50	1
Part III SEC	BCASEC 3.9	Data Communication	2	-	2	40	10	50	2
	BCAAEC3.10	CC/EA	2	-	-	-	50	50	1
Total			27	9				750	21

Paper Cade: BCAAEC 3.1	Paper Title: MIL	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCAAEC 3.2	Paper Title: English	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCADSC 3.3	Paper Title: Java Programming	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I

Concept - Object, classes, abstraction, encapsulation, inheritance, polymorphism .History of Java, features of Java, JDK Environment, Java Virtual Machine, Java Runtime environment, Identifiers and Keywords, Data types and typecasting, Variables, Java coding conventions, Expressions, Control structures, Decision making statements, Arrays and its methods, command line arguments. **12 Hrs**

UNIT II

Java classes, Define class with instance variables and methods, Object creation, Accessing member of class, argument passing, Constructors, Method overloading, Static data, Static methods, Static blocks, This keyword, Garbage collection & finalize() method, Nested & Inner classes, Wrapper Classes, String (String Arrays, String Methods, String Buffer, String Builder) **12 Hrs**

UNIT III

Inheritance: Super class & subclass, abstract method and classes, method overriding, final keyword, super keyword, dynamic method dispatch. Packages and Interfaces: Implementing interfaces, user defined interfaces; modifiers & access control (Default, public, private and protected), user defined packages, Importing classes, Exploring java.util package: Vector, Scanner, Date, Calendar. **12 Hrs**

UNIT IV

Exception handling: Types of Exceptions, try, catch, finally, throw, throws keywords, creating your own exception, nested try blocks, multiple catch statements, user defined exceptions. Java Input Output: Java IO package, File, Class Byte/Character Stream, Buffered reader / writer, File reader / writer, Print Writer; Multithreading: Multithreading concept, Java thread model, Main thread, Creating a thread, Creating multiple threads, Using isAlive() and join(), Thread priorities, Synchronization, Inter-thread communication, Suspending, Resuming and Stopping threads. **12 Hrs**

UNIT V

Applets: How Applets differ from Applications, Preparing to write applet, Building applet code, Applet life cycle, Creating an executable applet, Applet tags, Adding applet to HTML file, Getting input from the user. Graphics: The graphics class, Lines and rectangles, Circles and ellipses, Drawing arcs, Drawing polygons, Line graphs, Drawing bar charts. **12 Hrs**

References:
1. Balaguruswamy, Programming with JAVA A primer, 4th Edition, TATAMcGraw-Hill
2. Herbert Schildt, The Java 2 : Complete Reference, Fourth edition,TMH,
3. Cay S Horstmann, Fary Cornell, Core Java 2, Volume – I, Sun MicrosystemsPress
4. https://docs.oracle.com/javase/tutorial/

Additional Reading:
1. Peter Van der Liden, Just Java, Prentice Hall
2. H. M. Deitel, P. J. Deitel, Java: how to program, 5th edition, Prentice Hall of India
3. Y. Daniel Liang, Introduction to Java programming, 9thEdition, Pearson education

Paper Cade: BCADSC 3.4	Paper Title: Operating System	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I
Introduction: Basics of Operating Systems: Definition, types of Operating Systems, OS Services, System Calls, OS structure: Layered, Monolithic, Microkernel Operating Systems – Concept of Virtual Machine.   **12 Hrs**

UNIT II
Process Management Process Definition, Process states , Process State transitions , Process Control Block , Context switching , Threads, Concept of multithreads, Benefits of threads, Types of threads. Process Scheduling: Definition, Scheduling objectives, Types of Schedulers, CPU scheduling algorithms.   **12 Hrs**

UNIT III
Inter-process Communication Race Conditions, Critical Section, Mutual Exclusion, Hardware Solution, Peterson's Solution, The Producer Consumer Problem, Semaphores, Monitors, Message Passing, and Classical IPC Problems. Deadlocks: Definition, Deadlock characteristics, Deadlock Prevention, Deadlock Avoidance: Resource Allocation graph and Banker's Algorithm with problem.   **12 Hrs**

UNIT IV
Memory Management: Logical and Physical address map, Memory allocation, Internal and External fragmentation and Compaction, Paging. Virtual Memory: Demand paging, Page Replacement algorithms(FIFO,LRU and Optimal), Allocation of frames, Thrashing.   **12 Hrs**

UNIT V
I/O Management- Principles of I/O Hardware: Disk structure, Disk scheduling algorithms File Management: Access methods, File types, File operation, Directory structure, File System structure, Allocation methods, Free-space management, and directory implementation.   **12 Hrs**

References:
1. Silberschatz, Peter B. Galvin and Greg Gagne, Operating System Concepts, 9th Edition, WileyIndianEdition
2. Andrew S Tanenbaum, Modern Operating Systems, Third Edition, Prentice HallIndia
3. Sumitabha Das, UNIX Concepts and Applications,4th Edition, Tata McGrawHill

Additional Reading:
1. Milankovic, Operating Systems, Tata McGrawHill
2. Naresh Chauhan, Principles of Operating Systems, OxfordPress
3. D.M. Dhamdhere, Operating Systems: A concept based approach, 2nd edition, Tata McGraw Hill

Paper Cade: BCADSC 3.5	**Paper Title:** Design and Analysis of Algorithms	**Teaching Hours:** 5 Hrs / Week
Total Teaching Hours: 60Hrs	**Marks:** Th-80+IA-20	**Credits:** 3

UNIT I

INTRODUCTION: Algorithm, Pseudo code for expressing algorithms, Performance Analysis-Space complexity, Time complexity, Asymptotic Notation, Big oh notation, Omega notation, Theta notation.   **12 Hrs**

UNIT II

DIVIDE AND CONQUER: General method, applications-Binary search, Quick sort, Strassen's Matrix multiplication, Finding Max Min, Selection sort.   **12 Hrs**

UNIT III

GREEDY METHOD: General method, applications-Job sequencing with deadlines, Knapsack problem, Single source shortest path, Minimum cost spanning trees, Optimal storage on tapes.   **12 Hrs**

UNIT IV

DYNAMIC PROGRAMMING: General method, applications- Multistage graph, All pairs shortest path problem, Travelling sales person problem.   **12 Hrs**

UNIT V

Basic Traversal and Search Techniques: Binary search tree, techniques for binary trees, techniques for graphs, connected components and spanning trees, BACKTRACKING: General method, applications- N-queen problem, sum of subsets problem, Hamiltonian cycles.   **12 Hrs**

References:

1. Ellis Horowitz, SatrajSahni and Rajasekharan, Fundamentals of Computer Algorithms,2nd Edition, University Press,2008.
2. M. T. Goodrich and R. Tomassia, Algorithm Design Foundations, Analysis and Internet examples, 1st Edition, John wiley and Sons,2006.

Additional Reading:s

1. T. H. Cormen, C. E. Leiserson, R. L. Rivest, and C. Stein, Introduction to Algorithms, 3rd Edition, PHI / Pearson Education,2009.
2. Aho, Ullman and Hopcroft, "Design and Analysis of algorithms", 3rd Edition, Pearson Education, 2008.
3. http://nptel.iitm.ac.in/courses/106101060/

Paper Cade: BCADSC 3.6	**Paper Title:** Java Programming Lab
Teaching Hours: 3 Hrs / Week	**Marks:** Th-40+IA-10 **Credits:** 1

Assignment Programs:

Section A:

1. Write a Java program to find factorial of a number reading input as command line argument.
2. Write a Java program that creates an object and initializes its data members using constructor. Use constructor overloading concept.
3. Write a Java program to demonstrate method overloading.
4. Write a Java program to demonstrate static variables, methods and blocks.
5. Program to demonstrate multilevel inheritance. Show the usage of super().
6. Write a program to demonstrate use of user defined package by importing the package and access the member variable of classes contained in the package.
7. Write a java program to demonstrate at least 5 string methods using Scanner class.
8. Write a program to demonstrate use of implementing interfaces.

Section B:

1. Write a java program to implement exception handling using multiple catch statements. Also include code to identify the significance of finally block in handling exceptions.
2. Illustrate creation of thread by
   a)Extending Thread class. b) Implementing Runnable interface
3. Write a Java Program to implement inheritance and demonstrate use of method overriding.
4. Write a Java Program to implement Wrapper classes and their methods.
5. Write a program to create student report using applet, read the input using text boxes and generate the grades.
6. Write an applet program for drawing bar chart.
7. Program to copy bytes from one file to another.

Practice Programs

1. Write a Java program to perform matrix multiplication.
2. Write a Java program to count the frequency of words, characters in the given line of text.
3. Write a Java program to find GCD and LCM of two numbers (GCD is calculated using Euclidean Algorithm. LCM is found using factorization method.).
4. Illustrate thread join concept.
5. Write a Java program implement basic queue operations.
6. Write a Java Program to implement Vector class and its methods.
7. Write a program to implement the concept of Exception Handling by creating user defined exceptions.

Paper Cade: BCADSC 3.7	Paper Title: Operating Systems Lab	
Teaching Hours: 3 Hrs / Week	Marks: Th-40+IA-10	Credits: 1

Section A:

1. Write a C/Java program that implements a producer-consumer system with two processes.
2. Write a C/Java program to allow cooperating processes to lock a resource for exclusive use, using Semaphores
3. Write a C program to implement SJF CPU scheduling.
4. Write a C program to implement FCFS CPU scheduling.
5. Write a C program to implement Priority based CPU scheduling.
6. Write a C program to implement FIFO page replacement.
7. Write a C program to implement LRU scheduling.
8. Write a C program to implement memory management using paging technique.

Section B :

1. Write a shell script to generate mark-sheet of a student by reading five subject marks, calculate and display total marks, percentage and Class obtained by the student.
2. Write a shell script that displays first n prime numbers as output.
3. Write a shell script to read n numbers as command arguments and sort them in descending order.
4. Write a shell script to read 2 filenames and find which file has more number of words (lines/characters)
5. Find which file is older.
6. Read a directory name and find the number of subdirectories, text files and link files.
7. Write a shell script to display all executable files, directories and zero sized files from current directory.
8. Write a shell script to check entered string is palindrome or not.
9. Write a shell script to perform basic arithmetic operations(use case statement)
10. Write a shell script to determine whether a given file exists or not, file name is supplied as command line argument

Paper Cade: BCADSC 3.8	Paper Title: Design and Analysis of Algorithms-Lab	
Teaching Hours: 3 Hrs / Week	Marks: Th-40+IA-10	Credits: 1

Section A:

1. Write a program to find minimum and maximum value in an array using divide and conquer.
2. Write a program to sort a list of N elements using Selection Sort Technique.
3. Sort a given set of n integer elements using Merge Sort method and compute its time complexity. Run the program for varied values of n> 5000, and record the time taken to sort.
4. Sort a given set of n integer elements using Quick Sort method and compute its time complexity. Run the program for varied values of n> 5000 and record the time taken to sort.
5. Write C program that accepts the vertices and edges for a graph and stores it as an adjacency matrix. Implement function to print In-Degree, Out-Degree and to display that adjacency matrix.

Section B:
1. Write a program to perform Knapsack Problem using Greedy Solution
2. Write a program to perform Travelling Salesman Problem
3. Write a program to find Minimum Cost Spanning Tree of a given connected undirected graph using Prim's algorithm
4. Design and implement in Java to find a subset of a given set S = {Sl, S2,......,Sn} of n positive integers whose SUM is equal to a given positive integer d. For example, if S ={1, 2, 5, 6, 8} and d= 9, there are two solutions {1,2,6}and {1,8}. Display a suitable message, if the given problem instance doesn't have a solution.
5. Write a program to implement N Queen Problem using Backtracking.

Note: Programs to be implemented using java language

Paper Cade: BCASEC 3.9	Paper Title: Data Communication	Teaching Hours: 2 Hrs / Week
Total Teaching Hours: 30Hrs	Marks: Th-40+IA-10	Credits: 2

UNIT I

Introduction: Computer Networks and its applications, Network structure, network architecture, Topologies, LAN, WAN, MAN, The OSI reference model, The TCP/IP reference model. The Physical Layer: Transmission Media – Twisted pair, coaxial cable, optical fiber, radio transmission, microwaves and infrared transmission, Switching – message switching, Multiplexing.   **10 Hrs**

UNIT II

The Data Link Layer: Data Link Layer design issues, Error detection – Single parity checking, Checksum, polynomial codes – CRC, Error correction- Hamming code, Elementary data link protocols, sliding window protocols. **10 Hrs**

UNIT III

The Medium Access Control and LANS: The channel allocation problem, multiple access protocols ALOHA, Slotted ALOHA, CSMA protocols.   **10 Hrs**

References:
1.   Andrew S. Tanenbaum, Computer Networks, 5th Ed, Pearson Education
2.   Behrouza A Forouzan, Data Communication & Networking, Tata McGraw Hill
3.   William Stallings, Data and Computer Communications, 7th Edition, PHI.
4.   W. A. Shay, Understanding communications and Networks, 3e, Cengage Learning.

Additional Reading:
1.   W. Stalling, Wireless Communication and Networks, PearsonEducation.
2.   Brijendra Singh, Data Communication and Computer Networks,PHI.
3.   Dr. Prasad, Data Communication & Network, WileyDreamtech.
4.   http://highered.mheducation.com/sites/0072967757/index.htmls

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination				Credits
					Duration Hrs	Marks			
						Theory /Practical	IA	Total	
Part I AECC	BCAAEC 4.1	MIL	4	-	3	80	20	100	3
	BCAAEC 4.2	English	4	-	3	80	20	100	3
Part II DSC	BCADSC 4.3	Software Engineering	5	-	3	80	20	100	3
	BCADSC 4.4	Database Management Systems	5	-	3	80	20	100	3
	BCADSC 4.5	Python Programming	5	-	3	80	20	100	3
	BCADSC 4.6	Database Management Systems Lab	-	3	2	40	10	50	1
	BCADSC 4.7	Python Programming Lab	-	3	2	40	10	50	1
	BCADSC 4.8	PL/SQL Lab	-	3	2	40	10	50	1
Part III SEC	BCAAEC 4.9	Computer Networks	2	-	2	40	10	50	2
	BCAAEC 4.10	CC/EA	2	-	-	-	50	50	1
Total			27	9				750	21

IV Semester BCA w.e.f 2021-22 and onwards
CHOICE BASED CREDIT SYSTEM (CBCS)

Paper Cade: BCAAEC 4.1	Paper Title: MIL	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCAAEC 4.2	Paper Title: English	Teaching Hours: 4 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

Syllabus as prescribed by the University

Paper Cade: BCADSC4.3	Paper Title: Software Engineering	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT 1:
Introduction to Software Engineering: Defining Software, Software Application Domains, Software Engineering Layers, Software Myths. Process Models: The Waterfall Model, Incremental process model, Evolutionary Process Model – Prototyping and The Spiral model.   **12 Hrs**

UNIT 2:
Software Requirement: Functional and non functional requirement, Software requirements document, requirements specification. Requirements Engineering Process: Requirements elicitation and analysis, requirements validation, Requirements management. System Models: Behavioral models, Object Models.   **12 Hrs**

UNIT 3:
Design Engineering: Design Concepts, Architectural Styles, Architectural Design. Modeling Component-level design: designing class –based components, conducting component-level design. User Interface Design: Golden rules, User interface analysis and design   **12 Hrs**

UNIT 4:
Testing Strategies: A strategic approach to software testing, Validation testing, System testing. Testing Conventional Applications: White-Box Testing (Basis Path Testing), Black Box Testing (Equivalence Partitioning, Boundary Values Analysis).   **12 Hrs**

UNIT 5:
Risk management: Reactive vs. Proactive Risk strategies, software risks, Risk identification, Risk projection, Risk refinement, RMMM, RMMM plan. Software Quality Assurance: Software Reviews, Formal technical Reviews, Statistical Software quality Assurance, Software reliability.   **12 Hrs**

Text Books:
1. Ian Somerville, Software Engineering, 9th Edition, Pearson Publication Ltd. 2011
2. Roger Pressman, Software Engineering – A practitioner's approach 6th edition McGraw Hill 2010.

References:
1. Carlo Ghejgietal, Fundamentals of software – engineering, Pearson Education.
2. PanakajJalote, An Integrated approach to software engineering – Narosa Publishing house.

Paper Cade: BCADSC 4.4	Paper Title: Database Management Systems	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I

Introduction: Database and Database Users, Characteristics of the Database Approach, Actors on the scene, Workers behind the Scene, Advantages of using DBMS, Brief History. Database System Concepts and Architecture: Data Models, Schemas, and Instances, Three Schema Architecture and Data Independence, Database language and interfaces, the database system Environment.   **12 Hrs**

UNIT II

Data modeling using the Entity–Relationship(ER) model: High level conceptual data models for database design with an example, Entity types, Entity sets, Attributes and Keys, Relationship types, Relationship sets, Roles and Structural Constraints, Weak Entity Types, ER Diagrams, Naming Conventions and Design Issues.   **12 Hrs**

UNIT III

Relational Data Model and Relational Algebra: Relation Data Model and Relational Database Constraints, Relation Algebra, Relational Database Design by ER to Relational Mapping.   **12 Hrs**

UNIT IV

Functional dependencies and Normalization for Relational Databases: Informal Design Guidelines for Relational Schemas, Functional Dependencies, Normal Forms based on Primary Keys, General Definition of 2NF and 3NF, Boyce-Codd Normal Form(BCNF).   **12 Hrs**

UNIT V

Relational Database Language: Data definition in SQL, Queries in SQL, Insert, Delete and Update Statements in SQL, Views in SQL,PL/SQL: Introduction, Datatypes, The PL/SQL syntax, Logical Comparison in PL/SQL, Understanding PL/SQL block structure- Identifiers, conditional control, iterative control, cursors- Declaring, opening, closing and fetching from a cursor, stored procedures- syntax, creating, calling and deleting a procedure. (Ref.2)   **12 Hrs**

Reference Book:

1. RamezElmasri&Shamkant B. Navathe, Fundamentals of Database Systems(Sixth Edition),Pearson Education, 2011
2. Commercial Application Development using Oracle Developer 2000, Ivan Bayross, BPB Publications.
3. Abrahamsi, Silberschataz, Henry. F. Korth, S. Sudarshan, Database System Concepts, Mc. Raw hill.
4. Feuerstein, Oracle PL/SQL Programming, SPD/O'REILLY
5. Oracle Press: ORACLE – Computer reference.
6. C.J. Date, Introduction to database systems, Sixth Edition, Addison Wesley 1995.

Paper Cade: BCADSC 4.5	Paper Title: Python Programming	Teaching Hours: 5 Hrs / Week
Total Teaching Hours: 60Hrs	Marks: Th-80+IA-20	Credits: 3

UNIT I
Introduction to Python: Working with python, Variables, expressions, and statements, accepting user input, Conditional execution, Alternative execution, Chained conditionals, Nested conditionals, Iteration, Function Basics- Buillt-in Functions, Declaring and calling user defined functions, Parameters and default arguments, Fruitful functions and void functions, Recursion, Scope :Global, Local variables. Modules : Creating and importing modules- importing all or specific classes from module.   **12 Hrs**

UNIT II
Lambda -- functions as objects, map() function, Strings, indexing, Slicing, Built-in String methods, Lists, Dictionaries and Tuples, Files: Opening the file – modes : read, write, append. Reading from and writing to a file, closing, deleting a file.   **12 Hrs**

UNIT III
Exception: Exceptions in Python, Handling Exceptions: try block, except block, else block, finally block, Raising an exception, User defined exception, Assertions.Object-Oriented Programming: Classes : defining classes with __init__() and methods, creating objects, class variables and instance variables, Inheritance _super() function.   **12 Hrs**

UNIT IV
Regular Expressions: Concept of regular expression, meta characters, using match() function, search(), findall(), sub() and split() functions. GUI Programming in Python (using Tkinter): Introduction to GUI library. Layout management with pack, grid and place, Widgets with their attributes: Frame, Label, Button, Checkbutton, Radiobutton, Entry, Listbox, Text. Events and bindings, Drawing on canvas (line, oval, rectangle, arc.).   **12 Hrs**

UNIT V
Database connectivity in Python: Installing mysql connector, Accessing connector module, Using connect, cursor, execute & close functions, Reading single & multiple results of query execution, Executing different types of SQL statements, Executing transactions, Handling exceptions in database connectivity.   **12 Hrs**

References:
1. Charles R. Severance, "Python for Everybody: Exploring Data Using Python 3", 1st Edition, Create Space Independent Publishing Platform, 2016.
2. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall ofIndia
3. Paul Gries , Jennifer Campbell, Jason Montojo, Practical Programming: An Introduction to Computer Science Using Python 3, Pragmatic Bookshelf,2/E
4. Lukaszewski, MySQL for Python: Database Access Made Easy, PactPublisher
5. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015
6. Magnus Lie Hetland, Beginning Python: From Novice to Professional, Apress

Additional Reading:

1. James Payne , Beginning Python: Using Python 2.6 and Python 3, WileyIndia,
2. Python Programming,http://en.wikibooks.org/wiki/Python_Programming
3. The Python Tutorial,http://docs.python.org/release/3.0.1/tutorial/
4. Learn Python the Hard way,http://learnpythonthehardway.org/
5. Swaroop C H. A Byte of Python,http://www.swaroopch.com/notes/python
6. https://www.tutorialspoint.com/python3

Q1. Consider the following schema for a Insurance database given below. The primary keys are underlined and the data types are specified.

PERSON (Driver_id:String, name:String, address:String)
CAR (Regno:String, model:String, year:int)
ACCIDENT(report-number:int, accd-date:date, location:String)
OWNS(driver-id:String, Regno:String)
PARTICIPATED (driver_id: String, Regno : String, report_number : int, damageamount : int)

  ➢ Create the above relations by specifying appropriate constraints.
  ➢ Insert at least five tuples in each relation.

Demonstrate how you
  1. Update the damage amount for the car with a specific Regno in the accident with report number 12 to 25000.
  2. Add a new accident to the database.
  3. Find the total number of people who owned cars that were involved in accidents in 2008.
  4. Find the number of accidents in which cars belonging to a specific model were involved.
  5. Find the details of the cars owned by a specific person.
  6. Display the name of the person and model of the car that are met with an accident along with the report-number and damage amount.

Q2. Consider the following schema for a Library Database:

BOOK (Book_id:number, Title:String, Publisher_Name:String, Pub_Year:String)
BOOK_AUTHORS (*Book_id:number*, *Author_Name:String*)
PUBLISHER (Name: String, Address:String, Phone:number)
BOOK_COPIES (Book_id:number, Branch_id:number, No-of_Copies:number)
CARD(Card_No:number)
BOOK_LENDING   (Book_id:number,Branch_id:number,Card_No:number, Issue_Date:date)
LIBRARY_BRANCH (Branch_id:number, Branch_Name:String, Address:String)

  ➢ Create the above relations by specifying appropriate constraints.
  ➢ Insert at least five tuples in each relation.

  1. Retrieve details of all books in the library–id, title, name of publisher, authors, branch_name and number of copies in each branch.
  2. Create a view of all books that include book_title and its total number of copies that are currently available in the Library.
  3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulation operation.
  4. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun 2017.
  5. Modify Book_Lending table to add the field : Due_Date : Date
  6. Update Book_Lending table to calculate Due_Date (15 days after Issue_Date)

Q3. Consider the following schema for a Movie Database:

ACTOR (Act_id:String, Act_Name:String, Act_Gender:String)
DIRECTOR (Dir_id:String, Dir_Name:String, Dir_Phone:String)
MOVIES (Mov_id:String, Mov_Title:String,, Mov_Year:number, Mov_Lang:String, Dir_id:String)
MOVIE_CAST (Act_id:String,Mov_id: String, Role:String
RATING (Mov_id:String, Rev_Stars:number)

  ➢ Create the above relations by specifying appropriate constraints
  ➢ Insert at least five tuples in each relation.

  1. List the titles of all movies directed by 'Hitchcock'.
  2. Find the movie names and the number of actors
  3. Create a view to display movie details of a particular actor.

4. Find the title of movies and number of stars for each movie that has at least one rating and find the highest number of stars that movie received. Sort the result by movie title.
5. List the movie details released in the year 2018.
6. Update rating of all movies directed by 'Steven Spielberg' to 5.

Q4. Consider the following schema for Order Processing Database:

CUSTOMER (cust_id: int ,cname: String, city: String)
ORDER (order_id: int, odate: date, cust_id: int, ord-Amt: int)
ORDER – ITEM (order_id: int, item_id: int, qty: int)
ITEM (item_id: int, item_name : String ,unit price: int)
SHIPMENT (order_id: int, warehouse_id: int, ship-date: date)
WAREHOUSE (warehouse_id: int, city: String)

- ➢ Create the above tables by properly specifying the primary keys and the foreign keys.
- ➢ Enter at least five tuples for each relation.

1. Produce a listing: CUSTNAME, Number of orders, AVG_ORDER_AMT, where the middle column is the total numbers of orders by the customer and the last column is the average order amount for that customer.
2. create a view to display customer name, items ordered by him with item number,item name, order number, order amount, warehouse city.
3. Demonstrate the deletion of an item from the ITEM table and demonstrate a method of handling the rows in the ORDER_ITEM table that contain this particular item.
4. List the order numbers for orders that were shipped from all the warehouses that the company has in a specific city.
5. Raise the price of all the items by 15%.
6. Display details of the orders placed by a specific customer, include item number, item name,order number, order amount and warehouse city.

Assignment Programs:

Section A:
1. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
2. Write a Python function that takes a list and returns a new list with unique elements of the first list.
3. Write a Python program of recursion list sum.
4. Write a Python program to get the sum of digits of a non-negative integer.
5. Write a Python program to demonstrate any 5 string operations.
6. Write a Python program that uses List Comprehension to perform any 3 of the following tasks.
   a. Create an output list which contains only the even numbers from the input list.
   b. Create an output list which contains squares of all the numbers from 1 to 9.
   c. Create an output list which extracts all the numbers from an input string.
7. Create an output tuple that converts the words to uppercase from the input tuple of words.
8. Write a Python program to demonstrate any 5 operations performed on dictionary.
9. Write a Python program to create a module Calculation.py that contains functions to perform basic arithmetic operations. Demonstrate importing the module.

Section B:
1. Write a Python program to demonstrate modification of an existing table data from MySQL database.
2. Write a Python class named Circle constructed by a radius and two methods which will compute the area and the perimeter of a circle.
3. Write a Python class named Rectangle constructed by a length and width and a method which will compute the area and perimeter of rectangle. Inherit a class Box that contains additional method volume. Override the perimeter method to compute perimeter of a Box.
4. Write a program to show use of Regular expressions with match(), search(), findall(), sub() and split().
5. Write a python program to demonstrate Exception handling using 'try', 'except', 'finally' and 'else' block.
6. Write a Python GUI program to draw various shapes on Canvas.
7. Write a Python program to read a file line by line store it into an array.
8. Write a Python GUI program to design Student Registration Form using any 5 widgets.

Practice Programs:

1. Write a Python program to solve the Fibonacci sequence using recursion.
2. Write a Python function to check whether a number is perfect or not.
3. Write a Python program to converting an Integer to a String in any base.
4. Write a Python program to count the number of lines in a text file.
5. Write a Python program to copy the contents of a file to another file.

Paper Cade: BCADSC 4.8	Paper Title: PL/SQL Lab	
Teaching Hours: 3 Hrs / Week	Marks: Th-40+IA-10	Credits: 1

Section A:

1. Write a PL/SQL code block to find sum and average of three numbers.
2. Write a PL/SQL program to find the greatest among three numbers.
3. Write a PL/SQL code block to find reverse of a number.
4. Write a Pl/SQL program using FOR loop to insert even numbers between 1 to 10 (as rows) into temp table. Use appropriate SQL statement to display the output.
5. Write a PL/SQL code block to find area of circles with radius less than equal to 7 and store the result in a table with attributes radius and area. Use appropriate SQL statement to display the output.

Section B:

1. Write a Pl/SQL program using procedures to find the minimum of two values. The procedure should take two numbers using the IN mode and return their minimum using the OUT parameter.
2. Write a PL/SQL stored procedure titled as 'COMPOUND_INTR' to calculate the amount of interest on a bank account, which compounds interest yearly. A stored procedure should accept the values of 'p', 'r' and 'y' as parameters and insert the Interest and total amount into temp table.
   a. [Note: The following formula is used to calculate the interest.
   b. Amount = p*(1 + r / 100)y   CI=Amount – p]
3. Create a table EMPLOYEE with following fields (EmpNo, Name, and Salary). Insert at least 5 tuples. Write a cursor to select the five highest paid employees from the table.
4. Create a table CUSTOMER table with following fields(CustID, Name, Age, Salary) Insert at least 5 tuples. Update the table to increase the salary of each customer by 500. Display the number of rows affected(Hint: use the SQL%ROWCOUNT)
5. Create Explicit Cursor for the above Table (Customer) that fetches the details of Customer whose age is greater than 40. Display the details from the cursor.

Paper Cade: BCASEC 4.9	Paper Title: Computer Networks	Teaching Hours: 2 Hrs / Week
Total Teaching Hours: 30Hrs	Marks: Th-40+IA-10	Credits: 2

UNIT I
IEEE LAN standards- IEEE 802.3 (Ethernet), IEEE 802.5 (Token Ring), IEEE 802.11(Wireless LAN standard).   **10 Hrs**

UNIT II
The network Layer: Network layer design issues, Routing algorithms –Flooding, Distance vector routing, Hierarchical routing, Link state routing, Congestion, control algorithms – Leaky bucket, token bucket algorithm, admission control, Hop by Hop choke packets.   **10 Hrs**

UNIT III
The Transport Layer and Application Layer: Elements of Transport service, Elements of Transport, protocols, Internet transport protocols (TCP & UDP), DNS, Electronic Mailing, and World Wide Web.   **10 Hrs**

References:
1. Andrew S. Tanenbaum, Computer Networks, 5th Ed, Pearson Education
2. Behrouza A Forouzan, Data Communication & Networking, Tata McGraw Hill
3. William Stallings, Data and Computer Communications, 7th Edition, PHI.
4. W. A. Shay, Understanding communications and Networks, 3e, Cengage Learning.

Additional Reading:
1. W. Stalling, Wireless Communication and Networks, PearsonEducation.
2. Brijendra Singh, Data Communication and Computer Networks,PHI.
3. Dr. Prasad, Data Communication & Network, WileyDreamtech.
4. http://highered.mheducation.com/sites/0072967757/index.htmls

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory/Practical	IA	Total		

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Duration Hrs	Theory/Practical	IA	Total	Credits
Part I DSC/DSE	BCADSC 5.1	Advanced java	5	-	3	80	20	100	4
	BCADSC 5.2	Data Warehousing and Mining	5	-	3	80	20	100	4
	BCADSC 5.3	Network Security	5	-	3	80	20	100	4
	BCADSE 5.4	Elective I a. .Net Using C# b. Android Programming	5	-	3	80	20	100	4
	BCADSE 5.5	Elective II a. PHP b. Gaming & animation	5	-	3	80	20	100	4
	BCADSE 5.6	Elective Lab I a. C# Lab b. Android Lab	-	4	3	80	20	100	2
	BCADSE 5.7	Elective Lab II a. PHP Lab b. Gaming & animation Lab	-	4	3	80	20	100	2
	BCADSE 5.8	Advanced java Lab	-	4	3	80	20	100	2
Part III SEC	BCASEC 5.9	Personality Development	2	-	2	40	10	50	2
Total			27	12				850	28

Note: Students have to choose any one subject from Elective-I and Elective-II along with respective labs of Elective-I and Elective-II

Paper Cade: BCADSC 5.1	**Paper title:** Advanced Java	**Teaching Hours –** 5 hrs/week
Total Teaching Hours: 60 Hrs.	**Marks:** Th-80+IA-20	**Credits:** 4

UNIT I
Event Handling: Event, Event Source, Event Classes, Event Listener interface, Examples, Handling Windows Events, Adapter Classes, Inner classes.   **12 Hrs**

UNIT II
Swing: Introduction to JFC (Java Foundation Classes), Swing, Swing Features, JComponent, JApplet, JFrame, JPannel, JTextField, JButtons, JCheckBox and JRadioButton, JComboBox, JScrollPane, JList.   **12 Hrs**

UNIT III
JDBC Architecture: Introduction to JDBC, Java and JDBC, JDBC VS ODBC, JDBC DRIVER MODEL, JDBC Driver Types, Types of Driver Managers, JDBC Connection process, Statement object, preparedStatement object, operations on Resultset (Read, insert, update and delete), transaction processing, Metadata, Resultset Metadata, Data types. **12 Hrs**

UNIT IV
Servlet Interaction & Advanced Servlets, Life cycle of Servlet, Java Servlet Development Kit, Javax.servlet package, Reading Servlet Parameters, Reading Initialization Parameters, The javax.servlet.http Package, Handling HTTP. Java Server Pages(JSP): JSP, JSP Tags, Request string, Cookies, User session, Session object.   **12 Hrs**

UNIT V
Networking Basics, InetAddress, TCP/IP Client-Server Socket, URLConnection, HTTPURLConnection, Datagram, Introduction To EJB, Types of EJB.   **12 Hrs**

References:
1.   Jim Keogh, J2EE: The complete Reference, McGrawHill
2.   Herbert Schildt, The Java 2 : Complete Reference, Fourth edition,TMH
3.   https://docs.oracle.com/javase/tutorial/

Additional Reading:
1.   H. M. Deitel, P. J. Deitel, Java: how to program, 5th edition, Prentice Hall ofIndia.
2.   Y. Daniel Liang, Introduction to Java programming, 9thEdition, Pearson education.
3.   Cay S Horstmann,Fary Cornell, Core Java 2, Volume – I&II, Sun MicrosystemsPress

Paper Cade: BCADSC 5.2	Paper title: Data Warehousing and Mining	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT I

DATA WAREHOUSING, BUSINESS ANALYSIS AND ON-LINE ANALYTICAL PROCESSING (OLAP): Basic Concepts - Data Warehousing Components – Building a Data Warehouse – Database Architectures for Parallel Processing – Parallel DBMS Vendors - Multidimensional Data Model – Data Warehouse Schemas for Decision Support, Concept Hierarchies - Characteristics of OLAP Systems – Typical OLAP Operations, OLAP and OLTP.   **12 Hrs**

UNIT II

DATA MINING: Introduction to Data Mining Systems – Knowledge Discovery Process – Data Mining Techniques – Issues – applications- Data Objects and attribute types, Statistical description of data, Data Preprocessing – Cleaning, Integration, Reduction, Transformation and discretization, Data Visualization, Data similarity and dissimilarity measures.   **12 Hrs**

UNIT III

DATA MINING - FREQUENT PATTERN ANALYSIS: Mining Frequent Patterns, Associations and Correlations – Mining Methods- Pattern Evaluation Method – Pattern Mining in Multilevel, Multi Dimensional Space – Constraint Based Frequent Pattern Mining, Classification using Frequent Patterns.   **12 Hrs**

UNIT IV

CLASSIFICATION AND CLUSTERING: Decision Tree Induction - Bayesian Classification – Rule Based Classification – Classification by Back Propagation – Support Vector Machines — Lazy Learners – Model Evaluation and Selection- Techniques to improve Classification Accuracy. Clustering Techniques – Cluster analysis-Partitioning Methods - Hierarchical Methods – Density Based Methods - Grid Based Methods – Evaluation of clustering – Clustering high dimensional data- Clustering with constraints, Outlier analysis-outlier detection methods.   **12Hrs**

UNIT V

WEKA TOOL: Datasets – Introduction, Iris plants database, Breast cancer database, Auto imports database - Introduction to WEKA, The Explorer – Getting started, Exploring the explorer, Learning algorithms, Clustering algorithms, Association–rule learners.   **12Hrs**

References:
1. Jiawei Han and MichelineKamber, ―Data Mining Concepts and Techniques‖, Third Edition, Elsevier, 2012.
2. Alex Berson and Stephen J.Smith, ―Data Warehousing, Data Mining & OLAP‖, Tata McGraw – Hill Edition, 35th Reprint 2016

Additional Reading: .
1. K.P. Soman, ShyamDiwakar and V. Ajay, ―Insight into Data Mining Theory and Practice‖, Eastern Economy Edition, Prentice Hall of India, 2006.
2. Ian H.Witten and Eibe Frank, ―Data Mining: Practical Machine Learning Tools and Techniques‖, Elsevier, Second Edition

Paper Cade: BCADSC 5.3	Paper title: Network Security	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits:4

UNIT I
Introduction - Cyber Attacks, Defence Strategies and Techniques, Guiding Principles, Mathematical Background for Cryptography - Modulo Arithmetic's, The Greatest Comma Divisor, Useful Algebraic Structures, Chinese Remainder Theorem, Basics of Cryptography - Preliminaries, Elementary Substitution Ciphers, Elementary Transport Ciphers, Other Cipher Properties, Secret Key Cryptography – Product Ciphers, DES Construction.   **12 Hrs**

UNIT II
Public Key Cryptography and RSA – RSA Operations, Why Does RSA Work?, Performance, Applications, Practical Issues, Public Key Cryptography Standard (PKCS), Cryptographic Hash - Introduction, Properties, Construction, Applications and Performance, The Birthday Attack, Discrete Logarithm and its Applications - Introduction, Diffie-Hellman Key Exchange, Other Applications.   **12 Hrs**

UNIT III
Key Management - Introduction, Digital Certificates, Public Key Infrastructure, Identity–based Encryption, Authentication–I - One way Authentication, Mutual Authentication, Dictionary Attacks, Authentication – II – Centalised Authentication, The Needham-Schroeder Protocol, Kerberos, Biometrics, IP Sec Security at the Network Layer – Security at Different layers: Pros and Cons, IPSec in Action, Internet Key Exchange (IKE) Protocol, Security Policy and IPSEC, Virtual Private Networks, Security at the Transport Layer - Introduction, SSL Handshake Protocol, SSL Record Layer Protocol, OpenSSL.   **12 Hrs**

UNIT IV
IEEE 802.11 Wireless LAN Security - Background, Authentication, Confidentiality and Integrity, Viruses, Worms, and Other Malware, Firewalls – Basics, Practical Issues, Intrusion Prevention and Detection - Introduction, Prevention Versus Detection, Types of Instruction Detection Systems, DDoS Attacks Prevention/Detection.   **12 Hrs**

UNIT V
IT act aim and objectives, Scope of the act, Major Concepts, Important provisions, Attribution, acknowledgement, and dispatch of electronic records, Secure electronic records and secure digital signatures, Regulation of certifying authorities: Appointment of Controller and Other officers, Digital Signature certificates, Duties of Subscribers, Penalties and adjudication,   **12 Hrs**

References:
1. Cryptography, Network Security and Cyber Laws – Bernard Menezes, Cengage Learning, 2010 edition

Additional Reading:
1. Cryptography and Network Security- Behrouz A Forouzan, DebdeepMukhopadhyay, Mc-GrawHill, 3rd Edition, 2015
2. Cryptography and Network Security- William Stallings, Pearson Education, 7th Edition
3. Cyber Law simplified- VivekSood, Mc-GrawHill, 11th reprint , 2013
4. Cyber security and Cyber Laws, Alfred Basta, Nadine Basta, Mary brown, ravindrakumar, Cengage learning

Paper Cade: BCADSE 5.4	Paper title: Elective-I: a. NET using C#	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

Unit I: C# Language fundamentals

Introducing the Building Blocks of the .NET Platform (CLR, CTS, and CLS), Anatomy of C# program, The System. Environment Class, The System. Console Class, Understanding Value Types and Reference Types, The System Data types, Operators, Decision Constructs, Iteration Constructs, , The System. String data types, String Builder, .NET Array Types, Defining Classes and Creating objects, Pillars of OOP, C#'s Inheritance Support, C #'s Polymorphic Support, Understanding C# Partial types, Understanding Boxing and Unboxing Operations. **12Hrs**

Unit II: Object Life time and Exception handling

Understanding Object Lifetime classes, Objects and References, the basics of Object Lifetime, System.GC type, Building Finalizable Objects, Building Disposable Objects. Ode to Errors, Bugs, and Exceptions, The Role of .NET Exception Handing, throwing generic exceptions, catching exceptions, Configuring the state of an exception, System – Level Exception , Application-Level Exception, Processing Multiple Exception, Generic catch statements, Inner exceptions, Finally Block. **12 Hrs**

Unit III: Interfaces, Collections, Delegates & Events

Defining Interfaces in C#, Implementing an Interface in C#, Contrasting Interfaces to Abstract Base Classes, Collections: Introducing Collections . Benefits of Collection Classes .• Understanding and using commonly used collections, Interfaces of the System. Collections Namespace, .NET Delegate type, defining a Delegate in C#, System. Delegate Base Classes, Delegate examples, C# Events. **12 Hrs**

Unit IV:GUIusingWindows Forms and Database Programming

Controls- TextBox, label, Button, checkbox, radiobutton, listbox, comboxbox , Datetime picker, Common properties, methods and events , menus, context menus, Menustrip, Graphics and GDI, SDI and MDI, Dialog boxes; Database Programming - Understanding the Role of Managed Provider and ADO.NET Objects , Connecting to Database, Performing Insert, Update and Delete Operations, Executing Select Statements. **12Hrs**

Unit V: Understanding .NET Assemblies and file handling

Assemblies-The Role of .NET Assemblies, Understanding the format of .NET Assemblies, single file assembly, multifile assembly, Private and Shared Assemblies; File handling:The System IO Namespace, Directory (Info) and File (Info) types, Working with Directory Info, Directory Type, File Info, File Type Classes, Abstract Stream Class, Stream Writers and Stream Readers, String Writers and String Readers, Binary Writers and Binary Readers. **12 Hrs**

Reference Books:

1. Andrew Troelsen: Pro C# with .NET 3.0, Special Edition aPress, India,2007.
2. E. Balagurusamy: Programming in C#,, 5th Reprint, Tata McGraw Hill,2004.
3. Herbert Schildt: The Complete Reference C#, Tata McGraw Hill,2004
4. C# 2008 programming cogent learning solutions Inc. DreamtechPress.
5. C#2008 Programming covers .net 3.5 Black Book – Beginners Edition Kogent learning solutions Inc. DreamtechPress.

Paper Cade: BCADSE 5.4	Paper title: Elective-I: b. Android Programming	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT - I
The First App, How Java and Android work together :The Android API ,Java is object-oriented What exactly is Android?, The development environment ,The JDK 7, Installing the JDK , Setting up Android Studio, What makes an Android app :Android resources, Creating the project, Deploying and testing the app, Deploying to an emulator, Deploying to a real Android device   **12 Hrs**

UNIT- II
Examining the log output ,Exploring the project assets and code, Examining the layout file, Modifying the UI, Java comments, Sending messages, Writing our first Java code, Writing our own Java methods. Exploring Android Studio: Parts of the UI, The project explorer, Transforming the editor into a design studio,E1 – the Preview toolbar, E2 – exploring the palette, E3 – the layout preview, E4 – the Component Tree, E5 – the Properties window, E6 – text and design view tabs, The project folder and file structure. Structure of a UI design: Configuring and using widgets ,Widget properties, RelativeLayout, Using LinearLayout.   **12 Hrs**

UNIT- III
Coding in Java – Variables, Decisions, and Loops: Types of variables, Primitive types , Reference types, Variable declaration, Variable initialization, Changing values in variables with operators, More operators, If they come over the bridge, shoot them, Else do this instead, Switching to make decisions, The Switch Demo app, Do while loops , For loops , Loops demo app, The method structure , Modifiers.   **12 Hrs**

UNIT- IV
Widget Mania: EditText ,ImageView , Radio button and group, A switch widget ,CheckBox ,WebView , Date & Time, Pre-Marshmallow permissions ,Marshmallow   permissions. Handling large amount of data with arrays ,Arrays are objects ,A simple array example mini app ,Getting dynamic with arrays , A dynamic array example, ListView and BaseAdapter.   **12 Hrs**

UNIT-V
Android Intent and Persistence, Switching Activity, Passing data between activities, Persisting data with SharedPreferences , Designing cool animations in XML, Fading in and out,Movement ,Scaling or stretching,Controlling the duration, Rotating animations, Preparing to publish ,Creating an app icon, Preparing the required resources, Building the publishable APK file, Publishing the app   **12 Hrs**

Reference Books:

1. Android Programming for Beginners: 2015 Packt Publishing
2. Android Programming: The Big Nerd Ranch Guide (Big Nerd Ranch Guides) By: Bill Philips &BrianHardy
3. Android Design Patterns: Interaction design solutions for developers by GregNudelman Android User Interface Design: Turning Ideas and Sketches into Beautifully Designed Apps By: Ian G. Clifton
4. Android Recipes: A Problem-Solution Approach By: Dave Smith &JeffFriesen
5. Hello, Android: Introducing Google's Mobile Development Platform (Pragmatic Programmers) By: EdBurnette

Paper Cade: BCADSE 5.5	Paper title: Elective-II: a. PHP	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT I
Introducing PHP –Basic development Concepts –Creating first PHP Scripts –Using Variable and Operators –Storing Data in variable –Understanding Data types –Setting and Checking variables–Data types –Using Constants –Manipulating Variables with Operators.   **12 Hrs**

UNIT II
Controlling Program Flow: Writing Simple Conditional Statements -Writing More Complex Conditional Statements –Repeating Action with Loops –Working with String and Numeric Functions.   **12 Hrs**

UNIT III
Working with Arrays: Storing Data in Arrays –Processing Arrays with Loops and Iterations –Using Arrays with Forms -Working with Array Functions –Working with Dates and Times.   **12 Hrs**

UNIT IV
Using Functions and Classes: Creating User-Defined Functions -Creating Classes –Using Advanced OOP Concepts. Working with Files and Directories: Reading Files-Writing Files-Processing Directories.   **12 Hrs**

UNIT V
Working with Database and SQL : Introducing Database and SQL-Using MySQL-Adding and modifying Data-Handling Errors –Using SQLite Extension and PDO Extension. Introduction XML- Simple XML and DOM Extension.   **12 Hrs**

REFERENCE BOOKS:

1. PHP A Beginner's Guide, VIKRAM VASWANI,Tata McGraw-Hill, 2008.
2. The PHP Complete Reference, Steven Holzner –Tata McGraw-HillEdition,2010
3. Spring into PHP5, Steven Holzer, Tata McCraw HillEdition,2005

Paper Cade: BCADSE 5.5	Paper title: Elective-II: b. Gaming and Animation	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT-1
HTML5 – SVG ,Viewing SVG Files ,Embedding SVG in HTML5 ,HTML5 – SVG Circle ,HTML5 – ,SVG Rectangle HTML5 – SVG Line ,HTML5 – SVG Ellipse ,HTML5 – SVG Polygon ,HTML5 – SVG Polyline ,HTML5 – SVG Gradients ,HTML5 – SVG Star **12Hrs**

UNIT-2
HTML5 – CANVAS- The Rendering Context ,Browser Support ,HTML5 Canvas Examples , Canvas - Drawing Rectangles , Canvas - Drawing Paths , Canvas - Drawing Lines , Canvas - Drawing Bezier Curves , Canvas - Drawing Quadratic Curves , Canvas - Using Images ,Canvas - Create Gradients ,HTML5 - Styles and Colors , Canvas - Text and Fonts , Canvas - Pattern and Shadow , Canvas - Save and Restore States , Canvas - Translation , Canvas - Rotation , Canvas - Scaling , Canvas - Transforms , HTML5 Canvas - Composition , Canvas – Animations. **12Hrs**

UNIT-3
What is an Animation?,The Start and End States , Interpolation ,Animations in HTML, All About CSS Animations,Creating a Simple Animation ,24 What Just Happened, Detailed Look at the CSS Animation Property , Reusing Keyframes , Declaring Multiple Animations , Wrap-upAll About CSS Transitions,Adding a Transition ,Looking at Transitions in Detail , The Longhand Properties ,Longhand Properties vs. Shorthand Properties , Working with Multiple Transitions...and So On, The transitionEnd Event **12Hrs**

UNIT-4
Sliding Background Effect on Link Hover ,Overview of How This Works , How this Effect Really Works,Creating a Sweet Content Slider ,Overview of How It Works , The Code,The<BLINK>Tag Shall Live On , Re-creating the Blink Effect , Overview of How It Works,Simple Text Fade and Scale Animation , The ExampleMove Element to Click Position , The Example ,The Full Code , How This All WorksHover Effects Using Animations , What This Looks Like , Hovering, CSS Animations, and Handoffs **12Hrs**

UNIT-5
Animations Created in Code, Why Animate Using JavaScript , Breaking Down a JavaScript Animation , Looking at a Real Example , Going a Little More CrazyMeetrequestAnimationFrame , Meet requestAnimationFrame ,Using It ,Another Example ,Your Frame Rate ,Stopping your requestAnimationFrameLoopVendor Prefixes in JavaScript , Meet the Vendor Prefixes in JavaScript , Dealing with Vendor PrefixesAnimating What You Draw, How This Is All Going to Work , Actually Drawing and Animating on a Canvas ,Animating Your Circle. Game IntroGame, CanvasGame, ComponentsGame, ControllersGame, ObstaclesGame, ScoreGame, ImagesGame, SoundGame, GravityGame, BouncingGame, RotationGame, Movement **12Hrs**

References:
1. Animation in HTML, CSS, and JavaScript ByKirupaChinnathambi
2. https://www.tutorialspoint.com/html5/index.htm
3. Gaming Section last unit :https://www.w3schools.com/graphics/game_intro.asp
4. https://cloudinary.com/blog/creating_html5_animations

Paper Cade: BCADSE 5.6	Paper title: Elective-I: a. C# Lab	Teaching Hours – 4hrs/week
.	Marks: Th-80+IA-20	Credits: 2

Assignment Programs:

Journal Programs:

1. Write a C# program to show the machine details like machine name, Operating System, Version, Physical Memory and calculate the time since the Last Boot Up.(Hint: Use System. Environment Class)
2. Write a C# Sharp program to calculate roots of Quadratic Equation
3. Write a program in C# Sharp to count a total number of alphabets, digits and special characters in a string.
4. Demonstrate operator overloading two complex numbers.
5. Write a program to implement multilevel inheritance
6. Write a object oriented program to demonstrate bank transaction. Include methods for amount deposit, amount withdrawal and display.
7. Write a program to demonstrate System exception.
8. Draw a square with sides 100 pixels in length. Then inscribe a circle of radius 50 inside the square. Position the square and the inscribed circle in the middle of the screen.
9. Write a program that inputs the coordinates of three mouse clicks from the user and then draws a triangle in the output window using those three points.

Practice Programs :

1. Write a program to demonstrate Application exception.
2. Create an application to simulate the working of Font Dialog box using list boxes, label and button controls
3. Write a Program to insert the data in the database having fields such as Roll No, Name, Age and ContactNo using Execute-Non Query.
4. Write a Program to input Roll No and display the corresponding student details using database
5. Write a program to demonstrate Directory Info and File Info.
6. Write a program to implement Stream Reader and Stream Writer classes.

Assignment Programs:

Journal Programs:

1. Develop an application to demonstrate toast and intent
2. Create an Application with multiple activities and a simple menu using listview.
3. Develop the android mobile application which consists of GUI components for Login Page Creation.
4. Develop an application to illustrate using of Images and colors.
5. Develop an application to illustrate webview.
6. Illustrate using of audio functions in Android
7. Write an application that draws basic graphical primitives on the screen.
8. Develop an application to create a calculator
9. Write an android program to demonstrate Radio Buttons
10. Develop an application to demonstrate splash screen

Practice Programs:

1. Write a mobile application that creates alarm clock.
2. Write an Android Program to Demonstrate Alert Dialog Box
3. Develop an application to demonstrate shared preferences.
4. Develop an application to demonstrate Navigation Drawer Activity.
5. Develop an Android Program to Demonstrate Progress Dialog in Android

Paper Cade: BCADSE 5.7	Paper title: Elective-II: a. PHP Lab	Teaching Hours – 4hrs/week
.	Marks: Th-80+IA-20	Credits: 2

Assignment Programs:

Journal Programs:

1. Develop a PHP program to display prime numbers between the given range and display the total number of prime numbers.
2. Develop a PHP program and check message passing mechanism between pages.
3. Write a PHP program to implement simple calculator operations.
4. Develop a PHP program to demonstrate String functions. (any 6).
5. Write a PHP program to illustrate built in Array manipulation functions.(any 6)
6. Write a PHP program that displays a different message based on time of day. For example page should display "Good Morning" if it is accessed in the morning.
7. Write a PHP program that accepts two numbers using a web form and calculates greatest common divisor (GCD) and least common multiple (LCM) of entered numbers.(Use recursive function)
8. Develop a PHP program to demonstrate constructors and destructors.
9. Write a PHP program that writes contents of one file to another.
10. Develop a PHP code to read the values entered into the form and test them against the values in the Mysql database. Perform necessary exception handling.

Practice Programs:

1. Develop a PHP program to demonstrate inheritance.
2. Write a PHP program to sort the student records which are stored in the database using selection sort.
3. Develop a PHP program to design a college admission form using MYSQL database.
4. Develop a PHP program using session.
5. Develop a PHP program using cookie and session.

Journal Programs:

Section A:

1. Write a HTML5 program to draw circle using SVG.
2. Write a HTML5 program to draw rectangle using SVG.
3. Write a HTML5 program to draw line using SVG.
4. Write a HTML5 program to draw ellipse using SVG.
5. Write a HTML5 program to draw polygon using SVG.
6. Write a HTML5 program to draw polyline using SVG.
7. Write a HTML5 program to draw gradient ellipse using SVG.
8. Write a HTML5 program to draw Star using SVG.
9. Write an html canvas program to Add a red square onto the game area.
10. Write an html canvas program to add random size obstacles with red square and push button.

Write an html canvas program to add background music with obstacle and push button

Practice Programs:

1. Write an html canvas program to draw line and rectangle, circle.
2. Write an html canvas program to add Push the buttons to move the red square.
3. Write an html canvas program to count the score with obstacle moves and push button.
4. Write an html canvas program to addPush the buttons to move the smiley.

Paper Cade: BCADSE 5.8	Paper title: Advanced Java Lab	Teaching Hours – 4hrs/week
	Marks: Th-80+IA-20	Credits: 2

Assignment Programs:

Section A:

1. Write a java program to implement mouse events like mouse pressed, mouse released and mouse moved by means of adapter classes.
2. Write a java program to implement keyboard events.
3. Write a program that creates a user interface to perform integer divisions. The user enters two numbers in the Textfields, Num1 and Num2. The division of Num1 and Num2 is displayed in the Result field when the Divide button is clicked. If Num1 or Num2 were not an integer, the program would throw a NumberFormatException. If Num2 were Zero, the program would throw an Arithmetic Exception Display the exception in a message dialogbox.
4. Write a Java program to illustrate basic calculator using grid layout manager.
5. Design a ice-cream menu form that displays 4 flavors. Display the flavors selected by the user.
6. Write a Java program that loads names and phone numbers from a database file. It takes a name or phone number as input and prints the corresponding other value.
7. Write a java program that connects to a database using JDBC. Demonstrate insertion and modification of table data.

Section B:

1. Write a servlet program: Ask the user for a color in a JSP in say "Home.jsp" file.
2. Display "Hello World" in the chosen color using a servlet, say in "helloWorld.java". (Hint: use tomcat server).
3. Write a Java servlet program to implement a dynamic HTML using servlet.
4. (username and password should be accepted using HTML and displayed using servlet).
5. Write a Java program to establish client server communication using TCP/IP socket.
6. Write a Java Program to find the IP address of a given website specified by the user.
7. Write a Java Servlet program to create a cookie and read its contents.
8. Write a Java Servlet program to create a Session and display its attributes

Practice Programs:
1. Write a program to create a session bean (both stateful and stateless) using any IDE
2. Write a java program to demonstrate preparedstatement operations
3. Write a servlet program to demonstrate page redirection
4. Demonstrate usage of get() and post() methods using servlets

Paper Cade: BCASEC 5.9	Paper title: Personality Development	Teaching Hours – 2 hrs/week
Total Teaching Hours: 30 Hrs.	Marks: Th-40+IA-10	Credits: 2

Unit I:

Meaning and definition of personality : Personality development as a process, Importance of pass, Importance of personality development , Theories of Personality, Psychological theory(Signed Freud),Phenomenological theory (Car Rogers) Cognitive theory (George A Kelly) A trait factor – Analytic approach(Raymond B. Cattel), Psychosocial development theory(Erickson). **10Hrs**

Unit II:

Determinants of Personality: Physical, intellectual, Emotional, social, educational familial. **10Hrs**

Unit III:

The self-Concept: Individual as a self-sculptor, process of perception cognition and their impact , Learning process, What is attitude, The process of attitude formation. **10Hrs**

Reference:

1. Cloninger, susan C,(2000) Theories of personality, prentice Hall London.
2. Hurloack, Elizabeth B(?) Personality Development.
3. Kagan Jerome (1969), Personality Development , Harcourt Brace, New york.
4. Kundu C.L.(1989) Personality Development , Sterling Bangalore.
5. Personality Development and communication skills, Mulgund&Kenchappanavar, Srhishtiprakashana

Part	Subject Code	Subject Name	Teaching Hrs/week	Practical Hrs/week	Examination					Credits
					Duration Hrs	Marks				
						Theory /Practical	IA	Total		
Part I DSC/ DSE	BCADSC 6.1	Cyber Security	5	-	3	80	20	100		4
	BCADSC 6.2	Artificial Intelligence	5	-	3	80	20	100		4
	BCADSC 6.3	Software Testing	5	-	3	80	20	100		4
	BCADSE 6.4	Elective-III c. Cloud Computing d. Internet of Things	5	-	3	80	20	100		4
	BCADSE 6.5	Elective-IV c. Big Data Analytics d. Image Processing	5	-	3	80	20	100		4
	BCADSE 6.6	Software Testing lab	-	4	3	80	20	100		2
	BCADSE 6.7	Project Work	-	4	3	160	40	200		4
Part IIISEC	BCASEC 6.8	Communication Skills	2	-	2	40	10	50		2
Total			27	8				850		28

Note: Students have to choose any one subject from Elective-III and Elective-IV

Paper Cade: BCADSC 6.1	Paper title: Cyber Security	Teaching Hours – 5hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT I
Introduction to Cybercrime: Cybercrime definition and origins of the world, Cybercrime and information security, Classifications of cybercrime, Cybercrime and the Indian ITA 2000, A global Perspective on cybercrimes.   **12 Hrs**

UNIT II
Cyber offenses & Cybercrime: How criminal plan the attacks, Social Engg, Cyber stalking, Cybercafé and Cybercrimes, Botnets, Attack vector, Cloud computing, Proliferation of Mobile and Wireless Devices, Trends in Mobility, Credit Card Frauds in Mobile and Wireless Computing Era, Security Challenges Posed by Mobile Devices, Authentication Service Security, Attacks on Mobile/Cell Phones.   **12 Hrs**

UNIT III
Tools and Methods Used in Cyberline: Proxy Servers and Anonymizers, Phishing, Password Cracking, Keyloggers and Spywares, Virus and Worms, Steganography, DoS DDoS Attacks, SQL Injection, Buffer Over Flow, Attacks on Wireless Networks, Phishing, Identity Theft (ID Theft) Cybercrimes and Cybersecurity: The Legal Perspectives Why do we need Cyberlaw: The Indian Context, The Indian IT Act, Amendments to the Indian IT Act, Cybercrime and Punishment.   **12 Hrs**

UNIT IV
Understanding Computer Forensics: Digital Forensics Science, The Need for Computer Forensics, Cyberforensics and Digital Evidence, Forensics Analysis of Email, Digital Forensics Lifecycle, Chain of Custody Concept, Network Forensics, Approaching a Computer Forensics Investigation, Setting of a Computer Forensics Laboratory: Understanding the Requirements, Computer Forensics and Steganography, The Security/Privacy Threats, Forensics Auditing, Anti Forensics.   **12 Hrs**

UNIT V
Cryptography: Mathematical Background for Cryptography - Modulo Arithmetic's, The Greatest Comma Divisor, Useful Algebraic Structures, Chinese Remainder Theorem, Basics of Cryptography - Preliminaries, Elementary Substitution Ciphers, Elementary Transport Ciphers, Other Cipher Properties, Secret Key Cryptography – Product Ciphers, DES Construction.   **12 Hrs**

References:

1. Nina Godbole, SunitBelapure, Cyber Security, Wiley India, New Delhi (UNIT I, II, III, IV)
2. Cryptography, Network Security and Cyber Laws – Bernard Menezes, Cengage Learning, 2010 edition (UNIT V)

Additional Reading:

1. Kennetch J. Knapp, Cyber Security & Global Information Assurance Information Science
2. Publishing. William Stallings, Cryptography and Network Security, Pearson Publication

Paper Cade: BCADSC 6.2	Paper title: Artificial Intelligence	Teaching Hours – 5hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

Unit -1

What is Artificial Intelligence: The AI Problems, The Underlying assumption, What is an AI Technique?, The Level of the model.Problems, problem spaces, and search: Defining the problem as a state space search, Production systems, Problem characteristics, Production system characteristics. Heuristic search techniques: Generate-and-test, Hill climbing, Best-first search, Problem reduction, Constraint satisfaction, Mean-ends analysis.   **12 Hrs**

Unit -2

Knowledge representation issues: Representations and mappings, Approaches to knowledge representation, Issues in knowledge representation, The frame problem. Using predicate logic: Representing simple facts in logic, representing instance and ISA relationships, Computable functions and predicates, Representing knowledge using Rules : Procedural verses Declarative Knowledge, Logic Programming, Forward verses Backward Reasoning, Matching.   **12 Hrs**

Unit – 3

Symbolic Reasoning Under Uncertainty: Introduction to nonmonotonic reasoning, Logicfornonmonotonic reasoning, Implementation Issues, Augmenting a problem-solver, Implementation: Depth-first search, Implementation: Breadth-first search. Statistical Reasoning: Probability and bayes Theorem, Certainty factors and rule-based systems, Bayesian Networks, Dempster-Shafer Theory, Fuzzy logic. Weak Slot-and-filter structures: Semantic Nets, Frames.   **12 Hrs**

Unit -4

Strong slot-and –filler structures: Conceptual dependency, scripts, CYC. Game Playing: Overview, The minimax search procedure, Adding Alpha-beta cutoffs, Additional Refinements, Iterative Deepening.   **12 Hrs**

Unit -5

Natural Language Processing: Semantic Analysis, Discourse and Pragmatic Processing, Statistical Natural Language Processing,   Spell   checking.
Learning: What is learning?, Rote Learning. Learning by taking advice, Learning in Problem-Solving, Learning from Examples, Discovery, Analogy, Formal Learning Theory, Neural Net Learning and Genetic Learning.   **12Hrs**

References:

1.   Elaine Rich,Kevin Knight, Shivashanka B Nair:Artificial Intelligence, Tata CGraw Hill 3rd edition. 2013

Additional Reading:

1.   Stuart Russel, Peter Norvig: Artificial Intelligence A Modern Approach, Pearson 3rd edition 2013.
2.   Nils J. Nilsson: "Principles of Artificial Intelligence", Elsevier, ISBN-13: 9780934613101

Paper Cade: BCADSC 6.3	Paper title: Software Testing	Teaching Hours – 5hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNITI:
Principles of Testing, Software Development Life Cycle Models (SDLC), Phases of Software Project, Quality, Quality Assurance and Quality Control, Testing, Verification and Validation, Life Cycle Models, White Box Testing: White Box Testing, Static Testing, Structural Testing   **12 Hrs**

UNITII:
Testing Techniques: Black Box Testing, Integration Testing, Top-Down Integration, Bottom-Up Integration, Bi-Directional Integration, System and Acceptance Testing, Functional versus Non-functional Testing, Functional System Testing, Non-Functional System Testing, Acceptance Testing.   **12 Hrs**

UNIT III:
Performance Testing: Factors, Methodology, Process for performance testing, Regression Testing, Types, Testing of Object-oriented Systems, Usability and AccessibilityTesting, approach, Quality factors, Aesthetics Testing, Accessibility Testing   **12 Hrs**

UNIT IV:
Common People Issues: Perceptions and Misconceptions About Testing, comparison between Testing and Development Functions, Providing Career Paths for Testing Professionals, The role of the Ecosystem and a call for Action. Organization Structures for testing teams:, Structures in Single product Companies, Structures for Multi-Product Companies. (14.1 to 14.3).   **12 Hrs**

UNIT V:
Test Planning, Management: Test Planning: Preparation, scope management, Test approach, setting up criteria, Identifying responsibilities, test deliveries, testing tasks, activity breakdown, communication and risk management. Software Test Automation: Introduction, Terms used, Skills needed   **12Hrs**

References:
1. SrinivasanDesikan, Gopalaswamy Ramesh: Software testing Priniples and Practices, 2nd Edition, Pearson, 2012.

Additional Reading:
1. Software Testing :AdityaMathur.
2. Software Testing, Ron Patton, Second Edition, SAMS Pearson Publication2011
3. The Craft of Software Testing, Brain Marick, Pearson Publication 2010

Paper Cade: BCADSE 6.4	Paper title: Elective-III: a. Cloud Computing	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT I
Cloud Computing Basics: Cloud Computing Overview, applications, Intranets and the Cloud, Why Cloud Computing Matters, benefits, limitations, Companies in the Cloud today, Cloud services.   **12 Hrs**

UNIT II
Cloud Computing Technology: Hardware and Infrastructure, clients, security, network, services, accessing the Cloud , Platform, Web Applications, Web APIs, web browsers, Cloud Storage – Overview, Cloud Storage Providers, standards, Application, Client, Infrastructure, Service.   **12 Hrs**

UNIT III
Cloud Computing At Work: Software as a service – Overview, driving forces, Company offerings, Industries, Software plus Services – Overview, Mobile Device Integration –Providers, Microsoft Azure, Google Cloud Platform, AWS (Workflow Demonstration).   **12Hrs**

UNIT IV
Developing Applications: Google, Microsoft, Intuit Quick Base, Cast Iron Cloud, Bungee Connect, Local clouds and Thin Clients, Virtualization, Server Solutions, Thin Clients.   **12Hrs**

UNIT V
Migrating to the Cloud: Cloud Services for Individuals, Cloud services aimed at the mid, market – Enterprise, Class Cloud Offerings, Migration.   **12 Hrs**

References:

1. Velte T. Antony, Velte J. Toby. and Elsen Peter Robert, Cloud Computing: A Practical Approach, Tata McGraw-Hill
2. Miller Michael, Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online, QuePublishing.
3. Beard Haley,Cloud Computing Best Practices for Managing and Measuring Processes for On- demand Computing, Applications and Data Centers in the Cloud with SLAs, EmereoPvt. Limited.
4. Mark I. Williams, A Quick Start Guide to Cloud Computing: Moving Your Business into the Cloud, Kogan Page, GreatBritan

Additional Reading:

1. Gautam Shroff, Enterprise Cloud Computing Technology Architecture Applications, Cambridge UniversityPress
2. Toby Velte, Anthony Velte, Robert Elsenpeter, Cloud Computing, A Practical Approach McGraw-Hill Osborne Media;
3. Chris Hay, Brian Prince, "Azure in Action" Manning Publications

Paper Cade: BCADSE 6.4 Paper title: Elective-III: b. Internet of Things	Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs. Marks: Th-80+IA-20	Credits: 4

UNIT I:
Introduction of Internet of Things: Introduction: Definition and characteristics of IOT, Physical design of IOT: Things in IOT, IOT Protocols, Logical Design of IOT: IOT Functional Blocks, IOT Communication Models, IOT Communication APIs, IOT Enabling Technologies: Wireless Sensors Networks, Cloud Computing, Big Data Analytics, Communication Protocols and embedded System, IOT Level and Deployment Templates: IOT level-1, level-2, level-3, level-4, level-5 and level-6.   **12 Hrs**

UNIT II:
Domain Specific IOTs and M2M: Introduction: Home Automation, Cities, Environment, Energy, Retail, Logisitics, Agriculture, Industry and Health & Lifestyle, Introduction to M2M, M2M, difference between IOT and M2M, SDN and NFV for IOT: Software Defined Networking , Network Function Virtualization   **12 Hrs**

UNIT III:
Developing Internet of Things :IOT Design Methodology : Step 1 to Step 10, IOT System Logical Design using Python: Data types & data structures, control flow, functions , modules, packages, date /time operations and classes**12 Hrs**

UNIT IV:
IOT Physical Device and Endpoints: What is IOT Device, Basic building blocks of an IOT, Exemplary Device: Raspberry Pi, About Board, Linux on Raspberry Pi, Raspberry Pi Interfaces, Programming Raspberry Pi with Python.   **12 Hrs**

UNIT V:
Case study Illustrating IOT Design: Smart Lighting, Home intrusion Detection, Smart parking, Weather Monitoring System, Weather Reporting Bot, Air Pollution Monitoring, forest fire Detection, Smart Irrigation and IOT Printer.
                                                                                    12Hrs

References:
1. ArshdeepBahga, Vijay Madisetti, ―Internet of Things – A hands-on approach, Universities Press, 2015
2. Olivier Hersent, David Boswarthick, Omar Elloumi , ―The Internet of Things – Key applications and Protocols, Wiley, 2012 (for Unit2).
3. Jan Ho¨ ller, VlasiosTsiatsis , Catherine Mulligan, Stamatis , Karnouskos, Stefan Avesand. David Boyle, "From Machine-to-Machine to the Internet of Things – Introduction to a New Age of Intelligence", Elsevier, 2014.
4. Dieter Uckelmann, Mark Harrison, Michahelles, Florian (Eds), ―Architecting the Internet of Things, Springer,2011.
5. Michael Margolis, Arduino Cookbook, Recipes to Begin, Expand, and Enhance Your Projects, 2nd Edition, O'Reilly Media,2011.

Paper Cade: BCADSE 6.5   Paper title: Elective-IV: a. Big Data Analytics   Teaching Hours – 5 hrs/week
Total Teaching Hours: 60 Hrs.   Marks: Th-80+IA-20   Credits: 4

Unit I
INTRODUCTION TO BIG DATA- Big Data and its Importance – Four V's of Big Data – Drivers for Big Data – Introduction to Big Data Analytics – Big Data Analytics applications, Architecture Components, Massively Parallel Processing (MPP) Platforms, Unstructured Data Analytics and Reporting, Big Data and Single View of Customer/Product, Data Privacy Protection, Real-Time Adaptive Analytics and Decision Engines.   **12 Hrs**

Unit II
INTRODUCTION TO R & HADOOP-Getting Ready to Use R and Hadoop , Installing R ,Installing R Studio, Understanding the features of R language, Installing Hadoop, Understanding Hadoop features ,Learning the HDFS and MapReduce architecture ,Writing HadoopMapReduce Programs, Introducing HadoopMapReduce, Understanding the HadoopMapReduce fundamentals, Writing a HadoopMapReduce example ,Learning the different ways to write HadoopMapReduce in R.   **12 Hrs**

Unit III
INTEGRATION OF R & HADOOP-Integrating R and Hadoop ,Introducing RHIPE ,Understanding the architecture of RHIPE Understanding RHIPE samples, Understanding the RHIPE function reference, Introducing R Hadoop ,Understanding the architecture of RHadoop, Understanding RHadoop examples, Understanding the RHadoop function reference. HADOOP STREAMING WITH R Using Hadoop Streaming with R - Introduction, Understanding the basics of Hadoop Streaming, Understanding how to run Hadoop streaming with R, Understanding a MapReduce application, Exploring the Hadoop Streaming R package.   **12 Hrs**

Unit IV
DATA ANALYTICS WITH R AND HADOOP -Understanding the data analytics project life cycle – Introduction, Identifying the problem, Designing data requirement ,Preprocessing data ,Performing analytics over data ,Visualizing data, Understanding data analytics problems ,Exploring web pages categorization Case Studies: Computing the frequency of stock market change , Predicting the sale price of blue book for bulldozers.   **12 Hrs**

Unit V
UNDERSTANDING BIG DATA ANALYSIS WITH MACHINE LEARNING   Introduction to machine learning, Types of machine-learning algorithms ,Supervised machine- learning algorithms, Unsupervised machine learning algorithm, Recommendation algorithms, Steps to generate recommendations in R ,Generating recommendations with R and Hadoop.   **12 Hrs**

References:
1. ArvindSathi, "Big Data Analytics: Disruptive Technologies for Changing the Game", 1st Edition, IBM Corporation, 2012 (Chapter 1,2,3 Unit 1)
2. Big Data Analytics with R and Hadoop, VigneshPrajapati, -Packt Publishing 2013 (Chapters 1,2,3,4,5,6 Unit 2,3,4,5,6)

Additional Reading:
1. Michael Minelli, Michehe Chambers, "Big Data, Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Business", 1st Edition, AmbigaDhiraj, Wiely CIO Series, 2013. Bill Franks, "Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics", 1st Edition, Wiley and SAS Business Series, 2012.
2. Tom White, "Hadoop: The Definitive Guide", 3rd Edition, O'reilly, 2012.

Paper Cade: BCADSE 6.5	Paper title: Elective-IV: b. Image Processing	Teaching Hours – BCADSE 6.4
Total Teaching Hours: 60 Hrs.	Marks: Th-80+IA-20	Credits: 4

UNIT –I:
Digital Image Processing -Motivation, Why is Computer vision difficult?, Image representation and image Analysis, Image representation concepts, image digitization, Digital Image properties, Color images   **12 Hrs**

UNIT-II:
Image Enhancement: Contrast Intensification, Smoothing, Image Averaging, Mean Filter, Ordered Statistic Filter, Edge Preserving Smoothing Low Pass Filtering. Image Sharpening, High Pass Filtering   **12 Hrs**

UNIT-III:
Segmentation: Thresholding, Edge based segmentation, Region based segmentation, Active contour models **12 Hrs**

UNIT-IV:
Image compression: Image data Properties, Discrete image transforms in image data compression, Predictive compression methods, Vector quantization, Hierarchical and progressive compression methods, Coding, JPEG and MPEG image compression   **12 Hrs**

UNIT-V:
Object Recognition: Knowledge Representation, Statistical pattern recognition, neural Nets, Syntactic pattern recognition   **12 Hrs**

References:
1. Milan Sonka, "Image Processing Analysis and Machine Vision", PWS Pub.2nd Ed. ISBN-81-315-0300-3
2. B. Chand and D. DuttaMajumder ,Digital Image Processing and analysis, PHI(2001),ISBN-81-203-1618-5
3. Adrian Low, Computer vision and Image Processing, McGraw Hill (1991)
4. Kenneth R. Castle man, Digital Image Processing ,PHI

Paper Cade: BCADSE 6.6	**Paper title:** Software Testing Lab	**Teaching Hours** – 4hrs/week
	Marks: Th-40+IA-10	**Credits:** 2

Section A:
1. Write and test a program to login a specific web page. Use Selenium IDE to record Test Scripts for "Successful Login" as well "Login Fail". Run the Test Suite.
2. Write a program(C/C++/Java) to test the following constructs. Use TestNG
   a. do...while
   b. if...else
   c. for loop
3. Black Box testing: (Functional Testing and performance Testing with database) Design a Web page to update the student record into the database and test the same.
4. Black Box testing: (Functional Testing and performance Testing) Design a web page to provide the total number of objects present / available on the page and test the same.
5. Black Box testing: (Load Testing) Design a web page to get the count of visitors who visit your web page.

Section B:
1. White Box Testing: Code Coverage- JaCoCo Write a Java program to compute the factorial of a given non-negative number using:
   a. Iterative Process
   b. Recursion
2. Produce the Coverage Information using the JaCoCo tool
3. Write and test a program to get the number of list items in a list / combo box.
4. Write and test a program to count number of check boxes on the page checked and unchecked count.
5. Write and test a program to update 10 student records into table into Excel file .
6. Write and test a program to select the number of students who have scored more than 60 in any one subject (or all subjects). (Use the same Worksheet)

The objective of the BCA project work is to develop a quality software solution by following thesoftware engineering principles and practices. During the development of the project the students should involve in all the stages of the software development life cycle (SDLC).

This Lab. will enable students to demonstrate their practical and theoretical skills gained during five semesters of study in BCA Programme.

- ➢ The students are required to carry out the project in a group of two or three students under the guidance of course teacher.
- ➢ Project work problem statement shall be identified by the students with the help of the course teachers and students shall submit the synopsis/project proposal of the same during the second week of the commencement of VI semester BCA course.
- ➢ During project development students are expected to define a project problem, do requirements analysis, systems design, software development, apply testing strategies and do documentation with an overall emphasis on the development of a robust, efficient and reliable software systems.
- ➢ No change in the title of the project work shall be allowed after 3rdweek of the commencement of VI semester BCA course.
- ➢ The project development process has to be consistent and should follow standards identified by the guide monitoring the project work.
- ➢ There is no restriction on use of hardware's and software's for carrying out the project work except that ready application packages are not allowed.
- ➢ The students have to submit the project dissertation of the project work carried out in one hard copy along with soft copy written on compact disc.

Project Dissertation Details:

- ➢ The standard procedure for documenting the project work shall be followed. However, while writing is in progress, students should show each chapter to their supervisors for necessary feedback especially on technical content. Note that the quality of the dissertation is more important than its number ofpages.
- ➢ The dissertation text (defined as everything except title page, table of contents, references and appendices) should be around 50 A4 pages. The length (dissertation text together with appendices) of the dissertation should be less than 100pages).
- ➢ The students are advised to follow the following typing recommendations

Contents of the dissertation

- ➢ **Preface:** Title page, certificate, student declaration page, abstract, acknowledgement page, contents, list of figures, list of tables, and list of acronyms.
- ➢ **Main chapters**
  - o **Introduction:** The motivation for the project should be argued here. Then a brief introduction to the project should be provided indicating its objectives and scope. Finally, a paragraph containing an outline of the remaining chapters (starting with Chapter 2) is recommended.
  - o **Analysis:** information on the existing system should be provided-The students can incorporate different types of diagrams to describe the processes and functionalities of the existing system. The candidate should review software of the proposed system. An analysis of the requirements should also be provided in this chapter. For example, the requirements of the system could be listed. A specification of the number of users, the frequency of use, and the jobs of the users could be provided. Functional requirements covering system functionality expected by the users should be addressed. Include a section to the end of the analysis chapter to describe the selected methodology.
  - o **Design:** In this chapter the student should consider different competing design strategies (alternative solutions) for his system. The different strategies may involve the way of development (developing from scratch, using open-source components, etc.,), the development platform (stand-alone personal computer, client-server environment, etc.,), choice of system software (Windows, Linux, etc.). The candidate should compare how the project requirements are satisfied through each alternative. The design of the proposed system should be another major section of this chapter. the candidate should

describe the design of the system referring to different types of diagrams/models; for example, if non-object oriented methodology has been selected then include use case diagrams, use case narratives, activity diagrams, and entity relationship diagrams, and if object oriented methodology has been selected then include use case diagrams and use case narratives, class diagrams, sequence diagrams. User interface design is the next major section of this chapter. The candidates should describe the design considerations for designing user interfaces of the system and justify the design decisions that were made. Layouts of relevant interfaces should be included in order to clarify the design decisions taken.

- o **Implementation:** This chapter should describe the implementation of the system. For example, it should identify and explain all major code and module structures. Include a diagram to depict and describe the interaction between modules of the system. Also, the implementation environment (hardware and software), any existing code that was reused by the candidate, development tools used, and any platform dependence must be discussed. Appropriate technical documentation may be included as appendices to the dissertation if they are expected to be useful for the reader. Note that a list of selected code will appear in appendix and the code used in this chapter should be presented for the purpose of explaining the implementation aspects of selected important code. This code should be presented as a code segment.

- o **Evaluation:** A comprehensive test plan that was used to verify and validate the system should be provided. Evidence should be provided of using a wide range of test data. Evidence should be produced to show that all aspects of the system have been tested and specification has been met. Description of the effects of various kinds of errors and the required system behaviour upon occurrence of an error should be included. The candidate should report the test results in text in a table in this chapter and include detailed actual test results (in screen shots) in an appendix of the dissertation.

- o **Conclusion:** This chapter will conclude the dissertation with a critical evaluation of the system and suggestions for any future work. The evaluation should include a critical discussion and assessment of results of project. This chapter should also identify any deficiencies in the final product and highlight how improvements could be made

- o **References:** The details of the references are provided in References section of the dissertation. You should include any web links too.

- o **Appendices:** - System Documentation-Provide program installation, compilation and execution details.; Design Documentation- Any design documentation that is not critical to be included in the main text (Chapter 3) but could still be of interest to a reader can be added to the appendices. These could be for example design diagrams (e.g., data flow, entity relationship, database schema and UML) that have not been included in the main text; User

- o **Documentation**-User documentation may cover all aspects of the system, with appropriate screen shots and explanations; Management Reports- In addition to producing day to day transaction reports (e.g. a payroll system should produce an individual pay sheet, coin analysis to make cash payments, EPF report etc.) a system must produce summarised reports for the management (e.g. monthly, quarterly payments made by organisation, employees, overtime Hrs by employee, etc.). These reports will be included here; - Code Listing; Glossary and Index

Note: Project guidelines shall be notified by the Department at the end of V semester BCA course. The documentation guideline to document the project work in the form of dissertation shall be notified to the students well in advance during VI semester BCA course.

Paper Cade: BCASEC 6.8	Paper title: Communication Skills	Teaching Hours – 2hrs/week
Total Teaching Hours: 30 Hrs.	Marks: Th-40+IA-10	Credits: 2

Unit I:
Communication and its importance: Process of Communication, written and oral communication, process of listening body language or non verbal communication, the art of public speaking.   **10Hrs**

Unit II:
Leadership as a process: Working in a team, management of conflict, interpersonal and intrapersonal intergroup, Profiles of great personalities   **10Hrs**

Unit III:
Career planning and role of career planning and role of career planning in personality development, How to face personal interview and group discussion.   **10Hrs**

References:
1. EriksenKarin(1979) Communication skills for human services ,Prentice –Hall.
2. Johnson Roy Ivan (1956) Communication : Handling Idea Effectively , McGraw Hill, New York.
3. Personality Development and communication skills, Mulgund&Kenchappanavar, Srhishtiprakashana

Theory and Practical Evaluation scheme:

Internal Marks:

Internal Test	10 Marks	20 Marks
Duration	45 min	1 Hour
Frequency	2 per Semester	2 per Semester
Average of two tests	6Marks	14 Marks
Attendance	02 marks	03 Marks
Assignments / Seminars	02 Marks	03 Marks

External Examination-Theory:

External Theory Examination	Max Marks -40
Duration	2 Hours
Question Paper Pattern	
Section A Q1. Answer any 5 questions (out of 7 sub questions)	5 questions x 2 marks = 10 marks (Min one question from each unit)
Section B Q2. Answer any 5 questions (out of 7 sub questions)	5 questions x 4 marks = 20 marks (Min one questions from each unit)
Section C Q3. Answer any 1 question (out of 3 sub questions)	1 questions x 10 marks = 10 marks (Min two questions from each unit)

External Theory Examination	Max Marks -80
Duration	3 Hours
Question Paper Pattern	
Section A Q1. Answer any 10 questions (out of 12 sub questions)	10 questions x 2 marks = 20 marks (Min two questions from each unit)
Section B Q2. Answer any 4 questions (out of 6 sub questions)	4 questions x 5 marks = 20 marks (Min two questions from each unit)
Section C Q3. Answer any 4 question (out of 5 sub questions)	4 questions x 10 marks = 40 marks (Min one question from each unit)

External Examination –Practical:

External Practical Examination	Max Marks -40	Max marks - 80
Duration	2 Hours	3 Hours
Writing Two Programs	20 Marks	30 Marks
Execution	One Program of Examiner's choice 10 Marks	Both Programs 30Marks
Journal	05	10
Viva – Voce	05	10

Project Examination	Internal -20 Marks
Duration	30 mins / student
Frequency	Twice in a semester
I Internal Test -10 M	Presentation of Project work : • Synopsis • SRS / SAD • Database Design
II Internal Test- 10M	Presentation of Project work : • Coding • Forms and reports

	• Demo of the application developed
Project Examination	**External-80 Marks**
Duration	03 Hrs
Evaluation shall be based on the following:	
Dissertation / Project Report	20 Marks
Presentation / Demo of the application developed(Navigation of application , features incorporated, data validation, UI, reports etc)	50Marks
Viva – Voce	10 Marks
The external examiner shall evaluate maximum of 4 projects per batch during the final examination	

Note :V semester elective lab(5.6) is to be offered based on the respective theory subjects(5.1 & 5.2) .The evaluation pattern for the same

Internal Practical Examination for Elective lab(5.6) in V semester	**Max Marks-20**(10M each from C# Lab or Android lab**and** PHP Lab or Gaming & animation lab)
External Practical Examination for Elective lab(5.6) in V semester	**Max marks - 80**
Duration	3 Hours
Writing Two Programs-One each from C# Lab or Android lab**and** PHPLab or Gaming & animation lab	30 Marks
Execution	Both Programs 30Marks
Journal	10
Viva – Voce	10

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

ENVIRONMENTAL SCIENCE

2ND Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES.   16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION.   16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
2. Biodiversity and its conservation in India. Indus Publishing Company, New Delhi Primack, Richard B 2006.
3. Essentials of conservation biology, 4th edition, Senaceer Associates, Sunderland, Mass.
4. Krishnamurthy K V 20014. An advanced text book of Biodiversity,
5. Principles and Practice. Oxford and IBH Publishing Co. Lvt. Ltd. Negi S S 1933.
6. Biodiversity in India (floristic aspects). Bishen Singh Mahendra Pal Singh, Dehradun.
7. Muller Dombois J. And Ellenberg, H. (1974) aims and methods of vegetation ecology,Wiley, new york.
8.Odum, E.P. 91971) fundamentals of Ecology, saunders, Philadelphia.
9. Kormondy, E. J. (1996) concepts of ecology, prentice hall, India, New Delhi.
10. Foin, T.C. (1976) ecological system and environment, Mifflin, boston.
11. Nobel B.J. and Wright, R.T. (1996) environmental science, prentice hall New Jersey.
12. Lillesand T.M. and Kiefer R.W. (1987) Remote sensing and image interpretation , John Wiley and sons, New York.
13. Agarwal, S.B. and Agarwal, M. (Ed.) (2000) environmental pollution and responses, CKC, press, London.
14. Koshoo, T. N. (1991) environmental concept and stragies ashish publ. House, new delhi.
15. Colinvaux P.C. (1993) ecology John Wiley and Sons, New york.
16.Indian Journal of Ecology by Indian Journal of Ecology
17.Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.

 (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2)   : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

**   b) Internal Assessment   :   10 Marks**

**   c) Total   :   50 Marks**

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

INDIAN CONSTITUTION

1ST Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	INDIAN CONSTITUTION	2	2	40	10	50	2 Hrs

The constitution of India aims to imbue students with the constitutional making process and its formulations. Further, it is done with the objective to acquaint / embolden students to have the basic understanding of the constitution of India.

Unit – 1 Constitution – Structure and Principles
1. Meaning and importance of Constitution.
2. Making of Indian Constitution – Sources
3. Salient features of Indian Constitution

Unit – 2 Fundamental Rights and Directive Priniples
1. Fundamental Rights.
2. Fundamental Duties.
3. Directive Principles.

Unit – 3 Government of Union
1. President of India – Electron and Powers.
2. Prime Minister and Council of Ministers.
3. Lok Sabha – Composition and Powers.
4. Rajya Sabha – Composition and Powers.

Reference :

1) Durga Das Basu, Introduction to the Constitution of India, Gurgaon; LexisNexis, 2018 (23rd edn.)
2) M. V. Pylee, India's Constitution, New Delhi; S. Chand Pub., 2017 (16th edn.)
3) J.N. Pandey, The Constitutional Law of India, Allahabad; Central Law Agency, 2018 (55th edn.)
4) Constitution of India (Full Text), India. Gov. in., National Portal of India, https://www.india.gov.in/sites/upload_files/npi/files/coi_part_full.pdf
5) Durga Das Basu, Bharatada Samvidhana Parichaya, Gurgaon; Lexis Nexis Butter worths Wadhawa, 2015.
6) Kb Merunandan, Bharatada Samvidhana Ondu Parichaya, Bangalore, Meragu Publications, 2015.
7) ಡಾ. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಪ್ರಾಚಾರ್ಯರು ಎಸ್.ಕೆ.ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ತಾಳಿಕೋಟಿ ಭಾರತದ ಸಂವಿಧಾನ ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ ತಾಳಿಕೋಟಿ.
8) ಪ್ರೋ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ.
9) ಎಸ್. ಪಿ. ಡಂಗಿ ಭಾರತ ಸಂವಿಧಾನ ಪರಮಲಕ್ಷ್ಮೀ ಪ್ರಕಾಶನ.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination. (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I (4x 2) : 08Marks

Part II (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination : 40 Marks

b) Internal Assessment : 10 Marks

c) Total : 50 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMMERCE

BASIC KANNADA

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 1: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/ Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	3	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	3	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	3	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	3	80	20	100	3 Hrs

ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಊರುಗಳನುಡಿವೆಂ	– ರನ್ನ
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೬. ತಾನು ಕವಿತೆಯಾಗಿ ನನ್ನನ್ನು ಕವಿಯಾಗಿಸಿದಲು	– ಸತ್ಯಾನಂದ ಪಾತ್ರೋಟ
೭. ಇನ್ನಿಲ್ಲಿ ಮನುಷ್ಯರಿಲ್ಲ	– ನದೀಮ ಸನದಿ

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೮. ಸೀಮೆಯ ಕಲ್ಲು	– ಡಾ. ಬೆಟಗೇರಿ ಕೃಷ್ಣಶರ್ಮ
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೧೧. ಹಣಕಾಸು ನಿರ್ವಹಣೆ ಹೇಗೆ?	– ಬಿ.ಆರ್. ರವೀಂದ್ರನಾಥ
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೧೩. ಹಾಯಿದೋಣಿ–ಯಶೋಗಾಥೆಗಳು	– ಶಾಂತಿ ಎಲ್. ಕಿಂಬಲ್, ಶರತಬಾಬು, ಮಂಜುನಾಥ, ನಿವೇದಿತಾ.
೧೪. ಅತರ್ ಜಾಲದಲ್ಲಿ ಕನ್ನಡ ಬ್ಲಾಗ್ ಬರಹಗಳ ಅವಲೋಕನ	– ಡಾ. ಮಹಾಂತೇಶ ಪಾಟೀಲ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

<p align="center">ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.</p>

ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

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ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೭೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ
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೨. ಕಥಾ ಭಾಗ
೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

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೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ
೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

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೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

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BASIC ENGLISH

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w.e.f.

Academic Year 2020-21 and Onwards
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RANI CHANNAMMA UNIVERSITY, BELAGAVI
ENGLISH SYLLABI
For Undergraduate Programmes: BA, BSC, BCOM, BBA, BCA, and BSW.

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

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   Question Paper Pattern

1. Board of Studies: English (UG)

01	**Prof. Vijay Nagannawar** Department of Studies in English, Rani Chanamma University, Belagavi.	Chairman
02	**Shri. M. C. Karabari** Department of English, BLDEA's College, Jamkhandi.	Member
03	**Shri. U. S. Aralimatti** Department of English, RPD College, Belagavi.	Member
04	**Shri. S. B. Khot** Department of English, MES College, Mudalagi.	Subject Expert
05	**Dr. M. M. Hurali** Department of English, KLE's B. K. College, Chikodi.	Subject Expert
06	**Dr. S. B. Biradar** Department of English, SVM College, Ilkal.	Subject Expert

2. Abbreviation Used

Part 1: AECC – Ability Enhancement Compulsory Course (Basic English)

3. Course Objectives for BAA

1) To acquaint the students with communication skills

2) To inculcate life skills and human values

3) To improve the language competency

4) To enhance listening and speaking skills

5) To improve reading and writing skills

6) To encourage to think creatively and critically

7) To expand emotional intelligence

8) To develop gender sensitivity

4. Course Outcomes for BAA

On successful completion of CBCS English courses, an undergraduate student will be able to:

1) Read, understand, and interpret a variety of written texts

2) Undertake guided and extended writing using appropriate vocabulary and correct grammar

3) Listen and speak with confidence in both formal and informal contexts with reasonable fluency and acceptable pronunciation

4) Become employable with requisite professional skills, ethics and values

BCOM/BBA Credit Structure

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC ENG121	English Stars I	4	3	80	20	100	3 Hrs
II	AECC ENG122	English Stars II	4	3	80	20	100	3 Hrs
III	AECC ENG123	Motivation	4	3	80	20	100	3 Hrs
IV	AECC ENG124	Functional English	4	3	80	20	100	3 Hrs

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BCOM / BBA PROGRAMME

Part 1: AECC - Ability Enhancement Compulsory Course (English Language)

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Semester I: AECCENG121 – English Stars I

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The Course brings in some of the most wonderful, instructive and enjoyable literary pieces to the students beginning their undergraduate course. The literary texts in the course provide powerful contexts to understand human situations in our world and show how they are expressed in English language.

The units of the Language Activity strengthen the students' English vocabulary and understanding of English sentence structure. Internal Assessment consist of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams; the one-mark, five-mark and ten-mark questions in the examination are designed to evaluate language comprehension and textual understanding.

Unit 1. Prose (1 hour / week; 25 Marks)
1. Bores – E. V. Lucas
2. Ritesh Agarwal - Karan
3. My Lost Doller – Stephen Leacock
4. Zero Budget Natural Farming - Shibu

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Unknown Citizen – W. H. Auden
2. World is too much with us - William Wordsworth
3. Night of the Scorpion – Nissim Ezkiel
4. The Road not taken - Robert Frost

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Word class (Nouns, Adjectives, Verbs, adverbs)
2. Articles
3. Prepositions (Place, Time, Position)
4. Affixes
5. Use of 'be, have, do'
6. Introducing: Self Introduction and Introducing the chief-guest /principal/president/family member/relatives/friend

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: (1from Prose and 1 from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

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Semester II: AECCENG122 - English Stars II

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Prose (1 hour / week; 25 Marks)
1. A Room 10X8 – K. S. Duggal
2. Spoken English and Broken English – G. B. Shaw
3. Forgetting - Robert Lynd
4. My Greatest Olympic Prize – Jesse Owens

Unit 2. Poetry (1 hour / week; 25 Marks)
1. The Chimney Sweeper – William Blake
2. Dover Beach – Matthew Arnold
3. Lady Clare – Lord Tennyson
4. The Vagabond – R. L. Stevenson

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Use of Possessive Adjectives and Pronouns
2. Correction of sentences
3. Use of Negatives
4. Framing Questions (with 'Wh-' words & yes/no questions)
5. Welcome address and vote of thanks
6. Report Writing (Tour, Student Activities, News)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01= 10
II.	02 annotations out of 4: (1from Prose and 1 from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester III: AECCENG123 – Motivation
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Who Moved My Cheeese – Spencer Johnson (2 hours / week; 50 Marks):

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)

1. One-word Substitutes (based on the text)
2. Active and Passive Voice
3. Notice writing
4. Paragraph writing
5. Publication Tips: Revising and rewriting – proof reading – editing
6. Review writing (short films/plays)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern

I.	10 comprehension questions from the novel	10x1=10
II.	04 short notes out of 6 on minor characters/incidents from the novel	4x05=20
III.	02 essay type questions out of 4 from the novel	2x10=20
IV.	Language Activity:	6x05=30
		80

Semester IV: AECCENG124 – Functional English
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I:

i. Making enquiries, requests: At least 6 situations: at a hotel, medical shop, railway station, bookshop, bank and college office. (Use of primary and modal auxiliary verbs: be, have, can you please, will you please, can I, if I may, may I, shall we, etc.)

ii. Giving direction/instructions/information: a) Giving directions: (Use of prepositions – in the corner, near, next to, between, opposite to, behind, beyond, along, past, across, down, up, towards, etc.)

Unit II

i. Giving instructions: Being polite, using helping verbs- preparing coffee/tea/recipe, preparing a word file/PPT, conducting a program/campaign, preparing for trech/travel

ii. Telephone conversation (formal and informal): Etiquette, common phrases for beginning and closing conversation etc.

Unit III

i. Academic writing skills: Interpreting and analyzing graphs, tables, diagrams, maps, family/organisation tree, etc.

ii. Fixing an appointment (with doctor, with Bank Manager, with a friend for going to a movie, with
 a colleague, etc.)

Unit IV

i. Group Discussion, Public Speaking (short speeches) and Facing an Interview (leadership qualities, positive attitude, etc.)

ii. Short descriptions of people and places (Expressing facts and opinion, use of adjectives)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	2 questions each on i and ii of Unit I	4X5=20
II.	2 questions each on i and ii of Unit II	4X5=20
III.	2 questions each on i and ii of Unit III	4X5=20
IV.	2 questions each on i and ii of Unit IV	4X5=20
Total		80

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF COMMERCE

BASIC HINDI

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.A. is applicable to B.S.W.

Courses

AECC: Ability Enhancement Compulsory Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks

Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks

Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks

Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks

Q-5 Others : 28 Marks

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
BBA

BASIC HINDI –AECC 2020-21 & 2021-22 On words

COURSE PATTERNS, SCHEME OF EXAMINATION AND CREDITS
B.Com/B.B.A. Subject : HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Exam	Total	Credits
I	AECC	1) गद्य चयन 2) हिंदी भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
II	AECC	1) काव्य वैभव (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
III	AECC	1) ताजमहल का टेंडर (नाटक) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूलक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1)सपनों की होम डिलिबरी (उपन्यास) 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40	50	2

2020-21 & onwords

B.Com/B.B.A. Programme
Subject : HINDI
Semester I

AECC : Ability Enhancement Compulsory Course

1) गद्य चयन (गद्य संकलन)
2) हिंदी भाषा के विविध रुप : बोलचाल की भाषा, परिनिछित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा
3) स्वर तथा व्यंजन – सामान्य परिचय
4) अनुवाद (पारिभाषिक शब्दावली)
प्रात्याक्षिक : कथाकारिता, शब्दों का योग्य उच्चारण, शब्दों का अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) (कविता संकलन)
2) व्याकरण–संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
3) पत्रलेखन–पारिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र
काव्य वैभव : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

B.Com/B.B.A. Programme
Subject : HINDI
Semester III

AECC : Ability Enhancement Compulsory Course

1) ताजमहल का टेंडर (नाटक) : अजय शुक्ला, राजकमल प्रकाशन, नई दिल्ली
2) भाषा संप्रेषण–परिभाषा, प्रकार, चरण
3) मुहावरें और लोकोक्तियाँ
4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द

प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग बताना

Semester IV

AECC : Ability Enhancement Compulsory Course

1) सपनों की होम डिलिवरी (उपन्यास) : ममता कालिया, लोकभारती प्रकाशन, इलाहबाद
2) पल्लवन तथा संक्षेपण –
पल्लवन अथवा कल्पना विस्तार के लिए विषय –
जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है, मन के जीते जात,
 मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय
परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला
3) अनुवाद (परिच्छेद)
प्रात्यक्षिक : पल्लवन तथा अनुवाद का अभ्यास

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Academic Year 2020-21 and Onwards

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Instructions

I.Syllabus Prescribed for B.Com. is applicable to B.B.A.

Courses

AECC: Ability Enhancement Compulsory Course

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS

B. Com. / B. B. A.

I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
IV	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3

Question Paper Pattern and Distribution of Marks

Scheme of Examination:

Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks   will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all AECC Papers

I. Multiple choice questions   (from all text)   1x10=10

II.Essay type question on prose   (1out of3)   12x1=12

III.Summary of the poem   (1 out of3)   12x1=12

IV.Appreciation of verses from Ghazals   (4 out of 6)   03x4=12

V.R C   (4 out of6)   03x4=12

VI.Summary Essay type question on text   (1 out of3)   12x1=12

VII.Short note questions on practical   (1 out of2)   10x1=10

            (Que No II to VII are with choice)

(1out of2)   10x1=10

                    (Que No II to IV are with choice

B. Com. / B. B. A.SEMESTER I   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr
 1 Hali aur insaniyat
2 Hatim ki sakhawat
3 Khutoot e Galib
4 Faiz Ahamad Faiz
 5 Samjota

UNIT: II Poetry/Nazm
 1 Surat Fatiya
2 H Hurr ki shahadat
 3 Shahzade ka gayab ho jana
4 Subah e dam

UNIT: III Poetry:Ghazal
1 Mir darya hai
2 Hajaron khwahishen aisi
3 Na kisi ki ankh ka noor
4 Duniya ke sitam yaad
5 Dhundoge agar mulkon mulkon

UNIT: IV Aaina eSahafat
1 Tarseel ki ahmiyat o salahiyat
2 Khabroun ki ahmiyat o tarteeb
3 Press conference
4 Mulakat nigari

Practical: 1. Making a catalogue, Making a resume.
2. letter writing, job application.

BOOKS: 1) **Afkar -e –adab**   **Compiled by: Dr Md Iqbal I Jarman**
    Dr Syed Tajulhuda Khateeb

     2) **Aaina-e –sahafat**   **Compiled by: Dr Syed Alimula Husaini**
    Dr Syed Tajulhuda M Khatib

B Com / B B A SEMESTER II   **SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

 UNIT: I Prose/Nasr
        1 Zevar ka chakkar
        2 Talash
        3 Jheengar
        4 Adab aur tahzeeb
        5 Safar e Mysore

UNIT: II Poetry: Nazm
        1 Banjara nama
        2 Zamana
        3Chaaragar
        4 Albeli subah

UNIT: III Poetry: Ghazal
        1 Duniya ke sitam yaad
        2 Dil me ab yun tere
        3 Sar mein sauda bhi nahi
        4 Hamara dil savera ka
         5 Chura ke mere taq se kitab

UNIT: IV Aaina-e –sahafat
        1 Interview ki ahmiyat o takneek
        2 Urdu akhbarat me Kartoon nigari
        3Internet aur urdu
        4 Online media ka tassaur aur urdu

Practical: 1. Interview someone, coloum writing.
2. Create Advertisement, phamplets and leaflets.

BOOKS: 1) **Afkar -e –adab**   **Compiled by:Dr Md Iqbal I Jarman**
        Dr Syed Tajulhuda M Khatib

 2) Aaina-e –sahafat   **Compiled by: Dr Syed Aleemula Husaini**
        Dr Syed Tajulhuda M Khatib

B. Com. / B.B.A.SEMESTER III   SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr:
      1 Dar madh akl 'Sabras'
      2 Sair pahle darvesh ki
      3 Lakhnou ki raisana zindagi
      4 Khatoot e Galib
      5 Apni madad aaap

UNIT: II Poetry: Nazm
      1 Bazm e anjum
      2 Badli ka chand
      3 Qaid khane ki rat
      4 Joban awr chandni rat

UNIT: III Poetry:Ghazal
      1 Wali Ghazal no 1
      2 wali Ghazal no 2
      3 Mir Ghazal no 1
      4 Mir Ghazal no 2
      5 Galib Ghazal no 1

UNIT: IV Sahafat o Tijarat
      1 Sahafat kise kahte hain
      2 Khabar kise kahte hain
      3 Hidustan me urdu sahafat ka irtiqa
      4 Idaraya navesi
Practical:1. Making News item, News reading
        2.Report writing, reporting oral.

Prescribed Books: **1) Miyar -e –adab**   **Compiled by: Prof. Suryya Hussain**
        2) Sahafat o Tijarat   **Compiled by: Dr Syed Khalil Ahmad**

B. Com. / B.B.ASEMESTER IV   **SUBJECT: URDU**

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr:
    1 Bahaduron ke karname

2 Ek khat

3 Nazeer ahmad ki kahani

4 Acchi kitab

5 Hali

UNIT: II Poetry: Nazm

1 Perahn e sharar

2 Jo do hazar baras awr bhi jiye hote

3 Han me khoshin

UNIT: III Poetry:Ghazal

 1 GalibGhazal no 2

 2 Galib Ghazal no3

 3 Momin Ghazal no 1

 4 Momin Ghazal no 2

 5 Momin Ghazal no3

UNIT: I Sahafat o Tijarat

Unit: 1 Kar o bar ki mubadiyat

Unit: 2 Karobari aadami ka nizane amal

Unit: 3 Kharidari ki jimmedari

Unit: 4 Tajir ki imandari

Practical:1. Business report including all the vital points.

           2.Business Report writing, expenditure incurred during the year.

Prescribed Books: **1) Miyar -e –adab**   **Compiled by: Prof. Suryya Hussain**

                     2) Sahafat o Tijarat   **Compiled by: Dr Syed Khalil Ahmad**

Rani Channamma   University Belagavi

B.Com (CBCS) Syllabus
2020-21

Department of Commerce,
Vidyasangama Rani Channamma University, Belagavi-
591156

Revised B.Com Syllabus as per CBCS Regulation/s   2020-21

Regulations governing three years semester Bachelor Degree of Commerce of Rani Channamma University, Belagavi (framed under Section 44 (1)(c) of the K.S.U. Act 2000) (W.e.f 2012-13)

A. Definitions

1. University' means Rani Channamma University as specified under Sec. 3(c) of KSU Act. 2000.
2. Course means a logical part of a subject matter of the programme.
3. Alternatively, this shall be called a paper.
4. B.Com means Bachelor of Commerce Degree
5. Student means the student admitted to B.Com Degree Programme under this Regulations
6. Board of Studies means the Board of Studies in Commerce (Graduate Studies) of Rani Channamma University.
7. Academic Council means Academic Council of Rani Channamma University" as specified under Sec. 2(1) read with Sec. 30 of the KSU Act.2000.
8. Fee means the fee prescribed by the University for B. Com Programme from time to time.

Objectives of Course

1. To provide an effective and holistic commerce education to the needy by using the available facilities.
2. To develop strong manpower with necessary business and technical skills for promoting entrepreneurial activities.
3. To produce the capable professionals to ensure the best business practices on contemporary issues in the global business.
4. To encourage young minds to contribute in nation building through providing opportunity to learn different aspects about business.

Eligibility for Admission

Candidate, who has passed the two year Pre-University course (10+2) of the Pre-University Board in the State of Karnataka or any other course considered as equivalent thereto by the University. However, the candidates who have passed the three-year Diploma in Commercial Practice or Secretarial Practice or Modern Office Practice conducted by the Department of Technical Education, Government of Karnataka shall be eligible for admission to the third semester of B.Com programme directly without the benefit of exemption in any course/s of Semesters III – VI, and

Admission for Students of other Universities

The candidate who has completed the first year or first two semester of B.Com degree in the institution coming under the jurisdiction of other university shall be eligible to taken admission to third semester or fifth semester of B.Com subject to the following conditions.

1. The candidate should produce the migration certificate from the concerned university.
2. If the candidate has not successfully completed one or more course/s/paper of particular Semester/s –I or II and/ III or IV of B.Com, as the case may be, shall be taken and pass the examination/s in his/her parent university.
3. Further, the candidate seeking admission for – III or V semester of B.Com degree of this University shall be liable to passé those papers which he has not studied in his /her parent university previously in earlier semesters as compared to RCU course structured by self-study
4. The candidate who intends to retain the results of the examinations of the university studied previously shall be eligible to do so subject to the condition that he/she is not eligible for any Rank and Class in this University's examination.
5. The candidate who migrates from other university for admission shall also fulfill the conditions and requirements prescribed by the University.

Papers/course for B.Com

Part – 1
A student of Bachelors degree in Commerce shall study in English and one of the MIL during I and II, III and IV semesters.
Part –II
Four core papers (discipline specific papers) for first semester, five for second, third and fourth semester. Seven core papers for fifth and sixth.
Part –III practical on skill development are a compulsory paper for all semesters.
Part –IV- Indian Constitution shall be studied in the first semester only

The board of studies may add any new subject or may change the nomenclature of any of the above subjects from time to time, if need be.

Teaching Pedagogy

The programme consists of Lectures and Practical sessions both inside and outside the classroom. Lectures will be supplemented with tutorial classes which encompass Student Seminars, Case Studies, Group Discussions, Role play activities and hands on computer use.

Medium of Instruction
The medium of instruction shall be English. However, a candidate will be permitted to write the examination either in English or in Kannada.
Class Room Strength of Students
There shall be Maximum of 60 students in each section.

Scheme of Examination
At the end of each semester there shall be a university examination. The marks for each paper shall be 100 of which 20 marks shall be internal assessment and remaining 80 marks shall be for semester end examinations.
Out of 20 internal marks 5 for attendance and remaining 15 for two internal tests. First test carries 5 marks and second test carries 10 marks. Each test shall be of at least one hour duration to be held during the semester. For the attendance the marks shall be awarded according to as mentioned below;

Attendance	Marks
Below 75%	No marks
75% to 80	1
81% to 90	3
91 to 100	5

1. The Internal Assessment (IA) marks awarded to students shall be displayed on the notice board of the college within two weeks from the date of conduct of the tests. The Principal shall display the particulars of IA marks awarded to each student, one week prior to the commencement of the semester end examination.

2. The Principal shall preserve the IA records of all the students and their answer scripts till the declarations of the semester examination results.

3. A consolidated IA marks list in all the papers of a particular semester duly signed by HOD/Staff in charge and Principal shall be submitted to the University Examination section by the college, prior to the date of commencement of semester Examination. The Principal shall maintain a master register of IA marks of all the students in the papers. This master register shall be kept open for inspection by the University authorities, at any time.

4. There shall be no provision for improvement of IA marks.

Semester End Examination

1. There shall be separate examinations for theory and practical at the end of each semester.

2. There shall be an examination conducted by the University at the end of each semester ordinarily during the month of November/December for the odd semesters and during the April/May for the even semesters or as notified by the University from time to time.

3. A student failing to satisfy the attendance requirement during the prescribed semester shall not be allowed to appear for the semester end examination.

4. A student shall register for all the prescribed papers of a semester when he/she appears for the examination of that semester for the first time.

5. **Minimum percentage for Pass**

6. A candidate shall be declared to have passed the examination only when he/she obtains not less than 40% marks in written examination in each paper (exclusive of IA marks) and 40% marks in the aggregate of semester end examination.

7. A candidate who fails in any paper under Group – I, II and III shall take the examinations only in the failed paper(s) at any specific examination within the period of six years from the date of admission to first semester.

Classification of Successful Candidates

1. The results of successful candidates at the end of VI semester shall be classified on the basis of aggregate marks obtained in all the six semesters.

2. Only those candidates who have studied and completed all the VI semesters in the first attempt itself, and within the stipulated period of three years in Rani Channamma University, shall be eligible for rankings.

3. In case of candidates who have taken admission for III-semester B.Com degree after completion of three-years Diploma in Commercial Practice or Secretarial Practice or Modern Office Practice conducted by the Department of Technical Education, Government of Karnataka. The Percentage of marks for declaring class of these students on the basis aggregate marks obtained in the core papers of III-VI semesters

4. Percentage of marks for declaring class for students on the basis of aggregate marks obtained in the core papers of all the six semesters. The successful candidates shall be classified as under for the award of class:
   a. 70% and above for Distinction
   b. 60% and above but less than 70% "First Class"
   c. 50% and above but less than 60% "Second Class"
   d. 40% and above but less than 50% "Pass Class"
   e. The grace marks shall be awarded as per University rules prescribed from time to time.

5. The results of successful candidates at the end of VI semester shall be classified on the basis of aggregate marks obtained in all the six semesters.

Improvement of Marks

1. The student, who is intending to improve his/her marks in one or all papers of the respective semester after the declaration of the result of the said semester, is allowed to do so, subject to the payment of fees as stipulated by the University only at the time when the examination of such semester is conducted next time. Such students may improve their performance in the desired papers along with any paper/s, in which they have failed, as per existing syllabus prevailing at the time of examination of the respective semester within six years.

2. If the performance of the student, who has applied for improvement is found to be relatively less, when compared with his/her earlier performance, such student shall be allowed to retain his/her earlier performance.

3. The student shall be allowed to apply for improvement of his/her results only once in any semester, in respect of any or all paper(s). However, at the end of the course, he/she shall have another chance to improve the overall percentage by repeating any or all papers of all the semester as and when the examination is conducted, subject to a maximum period of six years from the date of registration to the first semester.

4. The students are not eligible for applying for the improvement of their results in respect of internal assessment.

5. Application for improvement shall be submitted by the students through the Principal of the respective colleges, to the Registrar (Evaluation) along with prescribed fees and the necessary documents on or before the last date prescribed for submission of such application forms.

6. The student, who applies for improvement, shall not be eligible for the award of any rank, prize, gold medals, on improvement of his/her performance.

Question Papers model

Section –A (10X2=20)

1. Answer any ten sub questions each sub question carries 2 marks
    a)
    b)
    c)
    d)
    e)
    f)
    g)
    h)
    i)
    j)
    k)
    l)

Section –B (3X5=15)

Answer any three questions; each question carries 5 marks (in case of practical papers four problems and one theory question)

    2.
    3
    4
    5
    6

Section –C (2X15=30)

Answer any two questions; each question carries 5 marks (in case of practical papers four problems and one theory question)

    7.
    8.
    9.
    10

Section –D (1X15=15)

Compulsory question (case study/ problems)

    11.

Annexure
B.Com (CBCS) Course Structure
(With effect from 2020-21)

Semester First

	Title of the paper	Marks			Teaching Hours	Total Credit
		IA Marks	End Examination Marks	Total		
Part I	1.1 – MIL	20	80	100	4	2
	1.2 –English	20	80	100	4	2
Part -II	1.3- Financial Accounting –I	20	80	100	5	3
	1.4 Market Behaviour and Cost Analysis	20	80	100	4	2
	1.5- Company Law and Administration	20	80	100	5	3
	1.6- Business Environment	20	80	100	4	2
Part III	1.7 Practicals on Skill Development	10	40	50	2	1
Part IV	1.8-Indian Constitution	10	40	50	2	2
	1.9 Extra co curricular Activities	50	-	50	-	1
Total						18

Note

1. ONE hour of Practical Class is equal to One hour of Theory Class and the class is managed by a Single teacher. Practical classes may be conducted in the Business Lab. or in Computer Lab. or in the Class Room depending on the requirement. Senior / Experienced Teachers may be allotted the practical work load.

Second Semester

	Paper code	Title of the paper	Marks			Teaching Hours	Total Credit
			IA Marks	End Examination Marks	Total		
Part I	AEC	2.1 – MIL	20	80	100	4	2
	AEC	2.2 –English	20	80	100	4	2
Part -II	DSC	2.3 Modern Management Techniques	20	80	100	4	3
	DSC	2.4- Financial Accounting –II	20	80	100	5	3
	DSC	2.5- Modern Marketing Management	20	80	100	4	2
	DSC	2.6 –Investment Management	20	80	100	5	3
		2.7 E-Commerce and Modern Business	20	80	100	5	3
Part III	SEC	2.8 Practicals on skill Development -I	10	40	50	2	2
Part IV	CC/EA	2.9 Extra co curricular Activities	50	-	50	-	1
Total							21

Note
1. One hour of Practical Class is equal to One hour of Theory Class and the class is managed by a Single teacher. Practical classes may be conducted in the Business Lab. or in Computer Lab. or in the Class Room depending on the requirement. Senior / Experienced Teachers may be allotted the practical work load.

Paper 1.3 Financial Accounting – I

Lecture per Week- 5 hours
Objectives
1. To make the students acquire the conceptual and practical knowledge of accounting.
2. To equip the students with the knowledge of accounting process and skill for preparation of the books of accounts of various business forms.
3. To develop the skills of recording financial transactions and preparation of accounts for self Employment as accounts assistants and accountants

Unit	Topics	No of Periods
I	**Conversion of Single entry system into double entry system:** Need for conversion, steps involved in conversion; problems relating thereto.	12
II	**Accounts of Professionals**: Chartered Accountants, Lawyers and Doctors only. Fees a/c, Petty Cash book, Clients Ledger, Receipts & Payments a/c, Income & Expenditure a/c & A Balance Sheet.	12
III	**Farm Accounting**: Meaning, objectives, Books of Accounts to be maintained under Single entry & Double entry for Farm Accounting. Preparation of Farm Revenue Account to ascertain the Profit or Loss: of various sections like Crop, Livestock, Dairy & Poultry. Preparation of B/S for Agriculture, Dairy farming, & Poultry Farming.	12
IV	**Royalty Accounts** :Meaning and importance - minimum rent, short-workings, recoupment of short–workings, strike period; entries and accounts in the books of lessee and lessor (excluding sub lease)	12
V	**Fire Insurance Accounting:** Introduction – Need – Loss of stock Policy- Steps for Ascertaining Fire Insurance claim- Treatment of salvage – Average Clause – Treatment of Abnormal items – Computation of Fire Insurance Claims	12

Reference Books

1. Tulsian: Financial Accounting - Pearson Education, New Delhi.
2. Ashok Sehgal and Deepak Sehgal -Advanced Accounting - Vol. - I, Taxmann Publications, New Delhi.
3. S. N. Maheshwari & S. K. Maheshwari: Advanced Accountancy - Vol. –I & II, Vikas Publications,
4. Shukla & Grewal: Advanced Accountancy - Vol. -I, S. Chand & Sons, New Delhi.
5. Jain & Narang: Financial Accounting Kalyani Publishers New Delhi.
6. Advanced Accountancy: Arulanandam, Himalaya publishers

Paper 1.4 –Market Behaviour and Cost Analysis
Lecture per Week: 4 hours

Objectives

To acquaint students with the different dimensions of market behaviour and role of cost analysis in decision making

Unit	Topics	No of Periods
I	**Firms and Decisions -**Firms - Meaning and Goals, Profit Maximization *vs* Wealth Maximization Dynamics, Decision Making – Features, Process, Strategy, Tactical and Operational Decisions, Game Theory, and Problems.	08
II	**Market Forces**: Demand - Meaning, Law of Demand, Nature of Elasticity of Demand, Determinants of Elasticity of Demand, Derived Demand Relations. Demand Forecasting - Meaning and Methods (Problems on Trend Projection by Method Least Squares); Supply - Law of Supply, and Determinants of Supply	10
	Location of a Firm -Locating the Firm, Basic Principles, Selecting an Industrial Location, Primary and Secondary Factors; Sources of Capital, Internal and External Sources; Risk and Uncertainty – Concepts, and Investment Decisions under Uncertainty	10
III	**Production and Cost Analysis -**Production Function – Concept and Importance, Cost Analysis - Meaning of Short-run and Long-run Costs, Fixed and Variable Costs, Explicit and Implicit Costs, Opportunity Cost and Incremental Costs (concepts only). Total Cost, Average Cost and Marginal Cost Behavior in Short-run and Long-run (including problems). CVP Analysis – Assumptions, Uses, P/V Ratio, BEP, BE Chart, Margin of Safety and Problems.	12
IV	**Pricing Practices and Strategies** Price – Pricing, Pricing Policy, Objectives and Determinants of Pricing Policy, Pricing Methods - Marginal Cost Pricing, Target Rate Pricing, Product Line Pricing, Administered Pricing, Competitive Bidding, Dual Pricing, Transfer Pricing; Price Discrimination - Requirements, Types and Dumping Strategies; Pricing over Product Life Cycle - Skimmed Pricing, Penetration Pricing, Product Line Pricing and Price Leadership; Linear Programming Problems – Problems on Profit Maximization and Cost Minimization using Graphic Method with two Variables	10

Note: Each unit to be dealt with suitable numerical problems and case studies from the real economic world wherever necessary

Reference Books

1. Dr. B. Mariyappa: Market Behaviour and Cost Analysis, Himalaya Publishing House, New Delhi
2. R.L Varshney&Maheshwari : Managerial Economics, Sultan Chand & sons. New Delhi
3. Dwivedi D.N.: Managerial Economics, Vikas Publishing House, New Delhi.
4. Mithani D.M: Managerial Economics, Himalaya publishers, Mumbai
5. Lekhi R.K.: Business Economics, Kalyani Publishers, New Delhi

6.

Paper -1.5 Company Law and Administration

Lectures per week- 5 Hours

Objective

The objective of this course is to enable the students to get familiarized with the existing Company Law and Company administration.

Unit	Topics	No of Periods
I	**Unit 1: Joint Stock Companies** - Meaning, Definition and Features Joint Stock Companies, Kinds of Company (concepts only), Public V/c Private Companies- Formation of a Company – Steps viz. Promotion Stage: Meaning of Promoter, Position of Promoter and Functions of Promoter; Incorporation Stage: Steps in incorporation of a company; Meaning and Contents of Memorandum of Association and Articles of Association, Distinction between Memorandum of Association and Articles of Association- Subscription Stage – Meaning, Contents and Types of Prospectus; Commencement Stage – e-filing and Certificate of Commencement of Business.	14
II	**Capital Of A Company -** Share Capital – Meaning of Shares – Kinds of Shares – Equity V/s Preference shares; Debentures – Meaning – Features – Types; SEBI guidelines for issue of shares and debentures, Types of Issue of Shares (concepts only), Book Building Process.	12
III	**Key Personnel And Administration-** Key Managerial Personnel – Managing Director, Whole time Directors, Company Secretary, Chief Financial Officer, Resident Director, Independent Director; Auditor – Appointment – Powers – Duties and Responsibilities; Managing Director – Appointment – Powers – Duties and Responsibilities; Audit Committee and CSR Committee, Company Secretary – Meaning, Qualification, Appointment, Duties and Liabilities.	10
IV	**Corporate Meetings** - Meaning and Definition – Requisites of a valid meeting - Types of Meeting: Statutory Meeting – Annual General Meeting – Extra-ordinary General Meeting – Board Meetings; Resolutions: Meaning and Types- Secretary's Duties in relation to these meetings.	12
V	**Structure and Administration Of Global Companies** Meaning – Types – Features – Legal Formalities – Administration- Ethical Practices in Company Administration	12

Reference Books

1. Elements of Corporate Law- S.N Maheshwari, HPH.
2. Business Law for Management- Balchandran, HPH
3. Principles of Company Law- M.C. Shukla & Gulshan
4. Company Law and Secretarial Practice- S.C. Kuchhal

Paper 1.6 Business Environments

Lecture per week – 4 Hours

Objectives
1. To identify and manage factors influencing business.
2. To manage environment by rearranging environmental factors
3. To grab the opportunities and handle the threats

Unit	Topics	No. of periods
I	**Business Environment-** Business-meaning- characteristics-objectives of business. Environment-meaning Business Environment- Types – Internal Environment – External Environment – Micro Environment – factors – Macro Environmental – factors – Business decisions and Business Environment	10
II	**Economic and Natural Environment** – Meaning – Economic System – Economic Policies – Economic factors – LPG – Natural environmental factors	10
III	**Political and Legal Environment** Political environment – Meaning- factors- Government role in business – Legal Environment – Meaning, Advantages and disadvantages of Government intervention in business - Socio-cultural environment – meaning and features	10
IV	**Business ethics and community services** Business ethics – meaning, benefits, Community services- meaning, benefits, types of community services, limitations of community services	10
V	**Technological environment –** meaning- benefits- impact of technology on society – on economy- on the plant, management of technology	10

Reference Books
1. Bedi Suresh, Business Environment – Excel Books, Ansari Road, Darya Ganj, New Delhi
2. Ashwatappa K Essential of Business Environment - Himalaya Publishing House
3. Srivastava O.S. Business Environment – Kalyani Publishers
4. Chidambaram K and Alagappen V Business Environment – Vikash Publishing House
5. Joshi Rosy Walia and Kapoor Sangam Business Environment – Kalyani Publishers
6. Kang K.N.S. Modern Business Environment – Deep and Deep Publishers
7. Saleem Shaik Business Environment – Pearson Education
8. Dr. M.L. Guledgudd Business Environment – Shri Sai Publications, Gadag

Paper 1.7- Practicals on Skill Development

Practical work: 2 hours

Objectives

The objectives of the course is to enable students to learn practical aspects of business functions and help them to improve their knowledge relating to real practices of business in relations to particular functions.

Unit	Topics
I	Collect a Trial Balance from a Sole Trader and prepare Final Accounts Collection & prepare of royalty agreement with regard to any suitable situation Prepare Proforma Invoice and Account Sales Preparation of list of items which comes under Royalty accounts Collect Receipts and Payment Account of a Non-trading Concern Prepare brief note on accounting system of hotel industry Calculation of policy premium with imaginary figures Calculation of fair claims with imaginary figures
II	Identify the internal environment of non trading organization and prepare the strength and weakness of any non trading organization Making list of socio-cultural factors of socio-cultural environment of trading organization Identify an important ethics practiced of Hotel Industry (visiting to the units). Making list of Community Services of business towards village development Making list of important business laws that are linked with business. Making list of business organization that are linked marriage seasons. Developing techniques to handle the business threats. Ascertaining impact of Banking Regulations on business.
III	A case study on decision making under market uncertainties A practical example with graphical presentation of Elasticity of Demand Construct a table with imaginary figures showing the relationship of Fixed Cost, Variable Cost, Total Cost, Average Fixed Cost, Average Variable Cost, Average Cost and Marginal Cost. Practical analysis of product life cycle of a product List out factors to be considered for location of a new firm
IV	Drafting of Memorandum of Association, Drafting of Articles of Association. Drafting Notice of Company Meetings – Annual, Special, Extraordinary and Board meetings. Prepare a prospects of company Prepare Company's Organization Structure. List out the rights of and obligations of owners of company List out code of ethics and governance related aspects of company

B.Com Second Semester

Paper -2.3- Modern Management Techniques
Lecture per week- 4 Hours

Objectives

The main objectives of the course are to help students to understand the conceptual framework of management and their applicability in industrial and other organizations.

Unit	Topics	No of Periods
I	Introduction - Concept and nature- types of managers- responsibilities and skills of professional managers- functions of management- Fayols Principles of management- Administration vs Management, management process- Levels of management- Challenges of managing 21st century corporations & organizations.	8
II	Management Functions- Planning-meaning & Importance, types. Organizing-concept, principles, theories, types of organizations, Authority, responsibility, power, Delegation, Decentralization, Staffing, Directing, Controlling, Coordinating, Control-nature, process & techniques.	12
III	Human Resources Management - Meaning, objectives, functions, HRM process, job analysis, job design, recruitment, selection, placement, Training and development, retention of employees, employee morale, performance appraisal.	10
IV	Setting Up a New Business Enterprise- Managerial decisions of setting up a new enterprise- Determination of objectives-Discovery of an idea and its preliminary investigation-Pricing of the product-Marketing of the product- Size of business enterprise-Location- Plant and equipment- Plant layout.	10
V	Office management- Meaning, functions of modern office, duties and responsibilities of office manager, Managerial functions on the office- Planning and organization of an office- Controlling office activities- co-ordination- office layout, techniques and objectives of office layout- locations of departments.	10

Reference Books

1. Ivancevich; Jhon and Micheeol T.Matheson; organizational behavior and Management.
2. Koontz Harold, Cyril o'Donnell, and Hienz Weihrich: Essentials of management, Tata Mc Graw Hill, New York.

Paper 2.4- Financial accounting –II

Lecture per Week: 5 hours

OBJECTIVES:
1. To appraise the students about the application of accounting knowledge to special business formats
2. To impart the skills of preparation of final accounts of business organizations as per Indian accounting standards
3. To develop the skills of recording of transactions relating to issue of, Consignment, branches, Hire purchase, Co-operative Societies and LLP manually.

Unit	Topics	No of Periods
I	**Consignment Accounts:** Meaning of consignment and important terms used in consignment. Valuation of stock, normal loss, abnormal loss; problems relating to consignment in the books of consignor and consignee, cost-price method and invoice-price method – theory and practical problems.	12
II	**Branch Accounts:** Dependent Branches: Features - Books of accounts - Methods of accounting of dependent branches: Debtors System, Stock and debtors (Cost price & Invoice Price) theory and practical problems excluding independent Branch.	12
III	**Hire Purchase Accounting:** (excluding Repossession) Hire Purchase System: Features – Accounting Treatment in the Books of Hire Purchaser and Hire Vendor - and practical problems.	12
IV	**Partnership:** The concept of limited liability partnership: Meaning – Objectives features – Merits in conversion of joint stock companies into Ltd. Liability partnership.	12
V	**Cooperative Society Accounting** – (Theory only) Introduction - Need - Registration , Types of Societies, Books of accounts to be maintained, Accounting standards applicable , Types of audit, Provisions of Co-op Societies Act	12

Reference Books

1. Tulsian: Financial Accounting - Pearson Education, New Delhi.
2. Ashok Sehgal and Deepak Sehgal -Advanced Accounting - Vol. - I, Taxmann Publications, New Delhi.
3. S. N. Maheshwari & S. K. Maheshwari: Advanced Accountancy – Vol & II. -I, Vikas Publications,
4. Shukla & Grewal: Advanced Accountancy - Vol. -I, S. Chand & Sons, New Delhi.
5. Jain & Narang : Financial Accounting Kalyani Publishers New Delhi.
6. Advanced Accountancy: Arulanandam, Himalaya publishers
7. Introduction to Accountancy: T.S.Grewal, S.Chand and Co.
8. Financial Accounting : Ashok Banarjee, Excel
9. Cooperative Accounting and Auditing : Y.K.Rao , Mittal Publication
10. Cooperative Accounting : M.Kartikeyan and R. Karunakaran ,

Lecture per week- 4 Hours

Objective

The objective of this course is to familiarize the students with the concepts, dimensions and trends in modern marketing practices.

Unit	Topics	No of Periods
I	**Introduction -**Meaning and Definition- Evolution of Marketing- Marketing Philosophies- Concepts of Marketing- Functions of Marketing- Importance of Marketing-Marketing Mix-Customer Relationship Management- Job Opportunities in Marketing Field- Ethics in Marketing Field.	**10**
II	**Marketing Environment And Buyer Behaviour** - Types of Environments - Demographic, Economic, Natural, Political, Legal and Socio-Cultural Environments- Market Segmentation – Meaning and Definition- Basis of Market Segmentation, Buyer Behaviour – Factors Influencing Consumer Behaviour-Buying Decision Process.	**10**
III	**Marketing Mix** Meaning and Elements, Product, Product Mix, Product Line, Product Life Cycle, Product Planning, New Product Development- Pricing – Factors Influencing Pricing - Methods of Pricing (meaning) and Pricing Policy, Physical Distribution – Meaning - Factors affecting Channels of distribution - Types of Marketing Channels, Promotion – Meaning and Significance of Promotion -Personal Selling and Advertising.	**10**
IV	**Recent Developments In Marketing** Introduction-Online Marketing-Direct Marketing-Social Marketing- Green Marketing- Grey Marketing -Mobile Marketing-Market Forces-e-Business Domain-Marketing in Digital Age- Challenges and Suitability of Digital Marketing in India.	**10**
V	**Services Marketing** Meaning-Nature and Characteristics of Services-Types of Service – Reasons for Growth of Indian Service Scenario-Services Marketing- Products Marketing V/s Services Marketing- Services Gap Model-7 Ps of Services Marketing- Changing Women's Role in Services marketing- Challenges of Services Marketing-	**10**

Reference Books
1. Philip Kotler - Marketing Management, PHI.
2. Davar: Marketing Management.
3. Rekha. M.P. &Vibha V – Marketing & Services Mgt – VBH.
4. Sunil B. Rao - Marketing & Services Mgt – HPH.
5. Janardhan T.G., Leelavathy AM, Bhagya G.B. – Marketing & Service Management, Kalyani Pub.

Paper 2.6 Investment Management

Lecture per week – 5 Hours

Objective: To familiarize the students with different investment alternatives, introduce them to the framework of their analysis and valuation and highlight the role of investor protection

Unit	Topics	No. of periods
I	The Investment Environment - The investment decision process, Types of Investments – Commodities, Real Estate and Financial Assets, the Indian securities market, the market participants and trading of securities, security market indices, sources of financial information, Concept of return and risk, Impact of Taxes and Inflation on return.	12
II	Fixed Income Securities -Bond features, types of bonds, estimating bond yields, Bond Valuation types of bond risks, default risk and credit rating.((with practical problems)	12
III	Approaches to Equity Analysis - Introductions to Fundamental Analysis, Technical Analysis and Efficient Market Hypothesis, dividend capitalization models, and price-earnings multiple approach to equity valuation. (with practical problems)	12
IV	Portfolio Analysis and Financial Derivatives -Portfolio and Diversification, Portfolio Risk and Return; Mutual Funds; Introduction to Financial Derivatives; Financial Derivatives Markets in India (with practical problems)	12
V	Investor Protection - Role of SEBI and stock exchanges in investor protection; Investor grievances and their redressal system, insider trading, investors' awareness and activism	12

Reference Books

1. C.P. Jones, Investments Analysis and Management, Wiley, 8th ed.
2. Prasanna Chandra, Investment Analysis and Portfolio Management, McGraw Hill Education
3. R.P. Rustogi, Fundamentals of Investment, Sultan Chand & Sons, New Delhi.
4. N.D. Vohra and B.R. Bagri, Futures and Options, McGraw Hill Education
5. Mayo, an Introduction to Investment, Cengage Learning

Lectures per week- 4 Hours

Objectives: To facilitates students to gain knowledge about different aspects of e-commerce and trends in digital payments

Unit	Topics	No of Periods
I	**Introduction**- E-Commerce-meaning, nature, concepts, types; e-commerce business models B2B concept, major activities, types of B to B market (independent, buyer oriented, supplier oriented, e-market place, B2C portals, e-tailor, content provider, transaction broker, real life examples of B2C, C2C, C2B, etc.; forces behind e-commerce, e-Governance meaning, types, significance, real life examples.	10
II	**E-CRM and SCM** -E-CRM-definition, features, goals of E-CRM business framework, phases of E-CRM, types of E-CRM, Functional components of E-CRM, strategies for E-CRM solutions; SCM-definition, features, types of supply chain.	10
III	**Digital Payment** - Methods of e-payments Debit Card, Credit Card, Smart Cards, e-Money, electronic or digital wallet, digital signature (procedures, working and legal provisions), payment gateways Core Banking Solution or CBS, Mobile Payment, UPI, NCPI, International Payments Online banking [meaning, concepts, importance, electronic fund transfer, automated clearing house, automated ledger posting], risks involved in e-payments.	10
IV	**New Trends in E-Commerce** - Social Commerce-concept, definition, features; Digital Marketing-definition, objectives, methods, limitations; Advertisement in Social Media-objectives, advantages and disadvantages, procedures	10
V	**MS-Word and Excel -** Word Opening Screen Elements, Creating, Opening and Saving of Word Document, Formatting, Margin, Paper Selection, Undo-Redo, Spell Check, Alignment, Insert Table, Mail Merge; MS-Word Shortcut Keys. Features, Advantages, MS-Excel Program, Window Elements, Managing Workbooks, Create, Open, Save and Close, Managing, Worksheets - Naming, Inserting, Moving, Coping and Deleting. Navigation in MS-Excel; Standard Toolbar Elements; Types of Cell Data ETC .	10

Reference Books
1. P. T. Joseph, E-Commerce: An Indian Perspective, PHI Learning
2. Henry Chan, Raymond Lee, Tharam Dillon, Elizabeth Chang, E-Commerce: Fundamentals and Applications,
3. Wiley. • Laudon, E-Commerce, Pearson Education India
4. Schneider G., E-Business, Cengage
5. Bhaskar, B., E–Commerce, McGraw Hill

Paper 2.7- Practicals on Skill Development

Practical work pw: 2 hours

Objectives

  The objectives of the course is to enable students to learn practical aspects of business functions and help them to improve their knowledge relating to real practices of business in relations to particular functions.

Unit	Topics
I	- Select any trading or non trading organization and find out the nature and functions of the organization - Identify the management values which are practices by the organization - Draft an advertisement for recruitment of candidates for an organization - List out the wage and salary structure of organization - Draft a note on contribution of organization towards society - Identify the requirements of office management and also draft a note on by selecting any organization
II	- Identify the product of your choice and describe in which stage of the product life cycle it is positioned - Suggest strategies for development of a product - Study of consumer behavior for a product of your choice - Develop an advertisement copy for a product - Prepare a chart for distribution network for different products
III	- Collect capital structure of any five companies and analyze - List out the financial functions of hotel industry - Draft a note on financial sources of small scale industry - Name the 50 companies whose equities are covered under NIFTY, - Collect information on NCFM (National Certification in Financial Market) and prepare a brief report on the same
iv	- Prepare a list of application software and their uses in business organizations, and visit business organizations for better understanding of how application software being used. - Create a Data flow diagram of a business project

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

ENVIRONMENTAL SCIENCE

2ND Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES.   16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION.   16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
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17. Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.

 (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2)   : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

**   b) Internal Assessment   :   10 Marks**

**   c) Total   :   50 Marks**

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

INDIAN CONSTITUTION

1ST Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Sem End Exam	IA	Total	Duration of Exam
					Marks			
I	AECC	INDIAN CONSTITUTION	2	2	40	10	50	2 Hrs

The constitution of India aims to imbue students with the constitutional making process and its formulations. Further, it is done with the objective to acquaint / embolden students to have the basic understanding of the constitution of India.

Unit – 1 Constitution – Structure and Principles
1. Meaning and importance of Constitution.
2. Making of Indian Constitution – Sources
3. Salient features of Indian Constitution

Unit – 2 Fundamental Rights and Directive Priniples
1. Fundamental Rights.
2. Fundamental Duties.
3. Directive Principles.

Unit – 3 Government of Union
1. President of India – Electron and Powers.
2. Prime Minister and Council of Ministers.
3. Lok Sabha – Composition and Powers.
4. Rajya Sabha – Composition and Powers.

Reference :

1) Durga Das Basu, Introduction to the Constitution of India, Gurgaon; LexisNexis, 2018 (23rd edn.)
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5) Durga Das Basu, Bharatada Samvidhana Parichaya, Gurgaon; Lexis Nexis Butter worths Wadhawa, 2015.
6) Kb Merunandan, Bharatada Samvidhana Ondu Parichaya, Bangalore, Meragu Publications, 2015.
7) ಡಾ. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಪ್ರಾಚಾರ್ಯರು ಎಸ್.ಕೆ.ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ತಾಳಿಕೋಟಿ ಭಾರತದ ಸಂವಿಧಾನ ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ ತಾಳಿಕೋಟಿ.
8) ಪ್ರೊ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ.
9) ಎಸ್. ಪಿ. ಡಂಗಿ ಭಾರತ ಸಂವಿಧಾನ ಪರಮಲಕ್ಷ್ಮೀ ಪ್ರಕಾಶನ.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination. (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2) : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

b) Internal Assessment   :   10 Marks

c) Total   :   50 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

BASIC KANNADA

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

Part 1: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/ Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	3	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	3	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	3	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	3	80	20	100	3 Hrs

ಮೊದಲ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಪುಷ್ಪ ರಗಳೆ	– ಹರಿಹರ
೨. ಕಾಯಕ ಪ್ರಜ್ಞೆ	– ಆಯ್ದಕ್ಕಿ ಲಕ್ಕಮ್ಮ
೩. ಮಾನವ ಜನ್ಮ ದೊಡ್ಡದು	– ಪುರಂದರದಾಸರು
೪. ಓ, ಬನ್ನಿ, ಸೋದರರೆ, ಬೇಗ ಬನ್ನಿ!	– ಕುವೆಂಪು
೫. ಅಭಿವಂದನೆ ನಿಮಗೆ	– ನಿಸಾರ್ ಅಹಮ್ಮದ್
೬. ದಿವ್ಯ ಜ್ಯೋತಿ	– ಡಾ. ಡಿ. ಎಸ್. ಕರ್ಕಿ
೭. ಕಿತ್ತೂರು	– ಜಾನಪದ
೮. ಮಹಾಮಾನವತಾವಾದಿ	– ಆಧುನಿಕ ವಚನಕಾರರು

ಗದ್ಯಭಾಗ

೯. ಮನೆಯಂಗಳದಲ್ಲಿ ಔಷಧೀಯ ವನ	– ಡಾ. ವಸುಂಧರಾ ಭೂಪತಿ
೧೦. ಡಾ. ಬಾಬಾಸಾಹೇಬರ ಕೊನೆಯ ಭಾಷಣ	– ಡಾ. ಸರಜೂ ಕಾಟ್ಕರ್
೧೧. ಡಾ. ಶಿವರಾಮ ಕಾರಂತರು	– ಡಾ. ಮ.ನು. ಬಳಿಗಾರ
೧೨. ವೃತ್ತಿ ಸಾರ್ಥಕ್ಯದ ದಿನ	– ಡಾ. ಶಿವಾನಂದ ಕುಬಸದ
೧೩. ಲಕ್ಕವ್ವನ ಮಂದಿ	– ಪ್ರೊ. ಮಲ್ಲಿಕಾರ್ಜುನ ಹಿರೇಮಠ
೧೪. ಉತ್ತರಾಖಂಡದ ಜಿಮ್ ಕಾರ್ಬೆಟ್ ಪಾರ್ಕ್	– ವೆಂಕಟೇಶ ಮಾಚಕನೂರ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಎರಡನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೧, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

ಪದ್ಯಭಾಗ

೧. ಚತುರ್ಥತಂತ್ರಂ	–	ದುರ್ಗಸಿಂಹ
೨. ನಾಡಸಿರಿ	–	ನಂಜುಂಡಕವಿ
೩. ಕೋಗಿಲೆ ಚೆಲ್ವ ಕೋಗಿಲೆ	–	ನಿಜಗುಣ ಶಿವಯೋಗಿ
೪. ಏನಾದರೂ ಮಾಡುತಿರು ತಮ್ಮ	–	ಎಂ. ಗೋಪಾಲಕೃಷ್ಣ ಅಡಿಗ
೫. ಮರ ಮತ್ತು ನರ	–	ಚಂಪಾ
೬. ಗಜಲ್‌ಗಳು	–	ಅಲ್ಲಾಗಿರಿರಾಜ ಕನಕಗಿರಿ
೭. ಉತ್ತರದೇವಿ ಕಥನ ಕವನ	–	ಜಾನಪದ
೮. ನಾ ಹೆಚ್ಚೋ ನೀ ಹೆಚ್ಚೋ	–	ಜಾನಪದ
೯. ಒಗಟು ಹಾಗೂ ಒಡಪು	–	ಜಾನಪದ

ಗದ್ಯಭಾಗ

೧೦. ಬೆಡ್ ನಂಬರ್ ೨	–	ತ್ರಿವೇಣಿ
೧೧. ಜೀತ	–	ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ
೧೨. ಉದ್ಯೋಗ ಪರ್ವ	–	ಬೀChi
೧೩. ಜಾತಿ ಮುಖ್ಯವೋ ಅಥವಾ ವ್ಯಕ್ತಿತ್ವವೋ	–	ಮುರುಘಾ ಶರಣರು
೧೪. ಏಂಜಲ್ ಫಾಲ್ಸ್	–	ಕೆ. ಪಿ. ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
೧೫. ಜೀವನದ ಅಗಾಧತೆ ಕಂಡಾಗ	–	ನಿರೂಪಣೆ ಪ್ರೀತಿ ನಾಗರಾಜ

ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗದಿಂದ ಸದರಿ ಪಠ್ಯಭಾಗಗಳ ಪಠ್ಯಕ್ರಮವನ್ನು ಪುಸ್ತಕರೂಪದಲ್ಲಿ ಪ್ರಕಟಿಸಲಾಗಿದೆ. ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯ ಮಾದರಿಯನ್ನು ಪುಸ್ತಕದ ಕೊನೆಯಲ್ಲಿ ನೀಡಲಾಗಿದೆ.

ಮೂರನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.
ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ ಪಠ್ಯಕ್ರಮ

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೮೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‌ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ
೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ
೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ
೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ
೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

<div align="center">

ನಾಲ್ಕನೆಯ ಸೆಮಿಸ್ಟರ್ ಸಿ.ಬಿ.ಸಿ.ಎಸ್.

ಬೇಸಿಕ್ ಕನ್ನಡ (Ability Enhancement Compulsory Course) ಪತ್ರಿಕೆಯ
ಪಠ್ಯಕ್ರಮ

</div>

(ಒಟ್ಟು ಪಾಠದ ಅವಧಿ ೭೦ ಗಂಟೆಗಳು. ವಾರಕ್ಕೆ ೦೪ ಗಂಟೆಗಳ ಪಾಠ ಒಟ್ಟು ಅಂಕಗಳು ೧೦೦ ಆಂತರಿಕ ಗುಣಾಂಕಕ್ಕೆ ೨೦ ಅಂಕಗಳು (ಹಾಜರಾತಿಗೆ ೦೪, ಮೊದಲ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೦೪, ಎರಡನೆಯ ಕಿರು ಪರೀಕ್ಷೆಗೆ ೧೦, ನಿಯೋಜಿತ ಕಾರ್ಯಕ್ಕೆ ೦೨ ಅಂಕಗಳು) ಹಾಗೂ ಥಿಯರಿ ಪರೀಕ್ಷೆಗೆ ೮೦ ಅಂಕಗಳು, ಕ್ರೆಡಿಟ್‍ಗಳು ೦೨)

೧. ಕಾವ್ಯ ಭಾಗ

೧. ಹಳೆಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೨. ನಡುಗನ್ನಡದ ಒಂದು ಕಾವ್ಯ ಭಾಗ

೩. ಒಂದು ತತ್ವಪದ (ಅನುಭಾವ ಕವಿತೆಗಳು)

೪. ನವೋದಯದ ಒಂದು ಕವಿತೆ

೫. ನವ್ಯ ಮತ್ತು ನವ್ಯೋತ್ತರದ ಒಂದು ಕವಿತೆ

೨. ಕಥಾ ಭಾಗ

೧. ನವೋದಯದ ಒಂದು ಕಥೆ

೨. ಪ್ರಗತಿಶೀಲದ ಒಂದು ಕಥೆ

೩. ದಲಿತ ಬಂಡಾಯದ ಒಂದು ಕಥೆ

೪. ನವ್ಯದ ಒಂದು ಕಥೆ

೩. ಜಾನದಪ ಭಾಗ

೧. ಒಂದು ಜನಪದ ಗೀತೆ

೨. ಒಂದು ಜನಪದ ಕಥೆ

೩. ಒಂದು ಜನಪದ ಕಾವ್ಯ ಭಾಗ

೪. ಲೇಖನ ವೈವಿಧ್ಯ

೧. ಒಂದು ವೈಚಾರಿಕ ಲೇಖನ

೨. ಒಂದು ಜೀವನ ಚರಿತ್ರೆಗೆ ಸಂಬಂಧಿಸಿದ ಲೇಖನ

೩. ಒಂದು ಪ್ರವಾಸ ಕಥನ ಅಥವಾ ಆತ್ಮಚರಿತ್ರೆಯ ಒಂದು ಭಾಗ

(ರಾಣಿ ಚನ್ನಮ್ಮ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಪ್ರಸಾರಾಂಗವು ಪಠ್ಯವನ್ನು ಪ್ರಕಟಿಸಿರುತ್ತದೆ. ಪಠ್ಯಭಾಗದ ಕೊನೆಯಲ್ಲಿ ಮಾದರಿ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ನೀಡಲಾಗಿದೆ.)

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

BASIC ENGLISH

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

ENGLISH SYLLABI
For Undergraduate Programmes: BA, BSC, BCOM, BBA, BCA, and BSW.

CHOICE BASED CREDIT SYSTEM
(w.e.f. 2020-21 onwards)

BSC/BCA Credit Structure

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC ENG117	English Gems I	4	3	80	20	100	3 Hrs
II	AECC ENG118	English Gems II	4	3	80	20	100	3 Hrs
III	AECC ENG119	English Language Skills I	4	3	80	20	100	3 Hrs
IV	AECC ENG120	English Language Skills II	4	3	80	20	100	3 Hrs

BSC/BCA PROGRAMME

Part 1: AECC - Ability Enhancement Compulsory Course (Basic English)

Semester I: AECCENG117 - English Gems I
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Introduction: The Course brings in some of the most wonderful, instructive and enjoyable literary pieces to the students beginning their undergraduate course. The literary texts in the course provide powerful contexts to understand human situations in our world and show how they are expressed in English language.

The components of the Language Activity strengthen the students' English vocabulary and understanding of English sentence structure. Internal Assessment consist of Tests and Tutorials ensure that the students are learning well and prepare them for Semester end exams; the one-mark, five-mark and ten-mark questions in the examination are designed to evaluate language comprehension and textual understanding.

Unit 1. Prose (1 hour / week; 25 Marks)

1. The Last Leaf - O Henry
2. The Challenge of Everest – H. P. S. Ahluwalia
3. Zero Budget Natural Farming - Shibu
4. The Kid – Charlie Chaplin

Unit 2. Poetry (1 hour / week; 25 Marks)
1. A Prayer for My Daughter – W. B. Yeats
2. The Road Not Taken – Robert Frost
3. Still I Rise - Maya Angelou
4.How did you Die? - Edmund Vance Cooke

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)

1. Word class (Nouns, Adjectives, Verbs, adverbs)
2. Articles
3. Prepositions (Place, Time, Position)
4. Synonyms
5. Antonyms
6. Introducing: Self Introduction and Introducing the chief-guest /principal/president/family member/relatives/friend

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.   10 objective questions 5 from Prose and 5 from Poetry   10x01=10
II.   02 annotations out of 4: (1from Prose and 1 from Poetry   02x05=10
III.   01 essay type question out of 2 from Prose   01x10=10
IV.   01 essay type question out of 2 from Poetry   01x10=10
V.   02 short notes out of 4: One from Prose and one from Poetry   02x05=10
VI.   Language Activity on each topic   06x05=30
Total   80

Semester II: AECCENG118 - English Gems -II

(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Prose (1 hour / week; 25 Marks)

1. Spoken English and Broken English – G. B. Shaw
2. Tiger in the Tunnel - Ruskin Bond
3. Milka Singh: The Flying Sikh – Sonia Sanwalka
4. On Saying Please - A. G. Gardinar

Unit 2. Poetry (1 hour / week; 25 Marks)
1. Once Upon a Time - Gabriel Okara
2. The Quality of Mercy – William Shakespeare
3. La Belle Dame Sans Merci – John Keats
4. Good-bye Party for Miss Pushpa T.S. – Nissim Ezekiel

Unit 3. Language Activity (2 Tutorial hours / week; 30 Marks)
1. Use of Possessive Adjectives and Pronouns
2. Correction of Sentences
3. Use of Negatives
4. Framing Questions (with 'Wh-' words & yes/no questions)
5. Welcome address and vote of thanks
1. Report Writing (Tour, Student Activities, News)

IA : **20** Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total : 100 Marks

Question Paper Pattern
I.	10 objective questions 5 from Prose and 5 from Poetry	10x01=10
II.	02 annotations out of 4: One from Prose and one from Poetry	02x05=10
III.	01 essay type question out of 2 from Prose	01x10=10
IV.	01 essay type question out of 2 from Poetry	01x10=10
V.	02 short notes out of 4: One from Prose and one from Poetry	02x05=10
VI.	Language Activity on each topic	06x05=30
Total		80

Semester III: AECCENG119 - English Language Skills- I
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit 1. Novella (2 hours / week; 50 Marks): The Blue Umbrella - Ruskin Bond

Unit 2. Language Activity (2 Tutorial hours / week; 30 Marks)
1. One-word Substitutes (based on the text)
2. Active and Passive Voice
3. Notice writing
4. Paragraph writing
5. Publication Tips: Revising and rewriting – proof reading – editing
6. Review writing (short films/plays)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.   10 comprehension questions from the novel   10x1=10
II.   02 essay type questions out of 4 from the novel   2x10=20
III.   04 short notes out of 6 from the novel   4x05=20
IV.   Language Activity on each topic   6x05=30
Total   80

Semester IV: AECCENG120 - English Language Skills - II
(2 Credits; 4 Teaching hours; Theory 80 + IA 20 = 100; 3 hrs Exam)

Unit I:

i. Making enquiries, requests: At least 6 situations: at a hotel, medical shop, railway station, bookshop, bank and college office. (Use of primary and modal auxiliary verbs: be, have, can you please, will you please, can I, if I may, may I, shall we, etc.)

ii. Giving direction/instructions/information: a) Giving directions: (Use of prepositions – in the corner, near, next to, between, opposite to, behind, beyond, along, past, across, down, up, towards, etc.)

Unit II

i. Giving instructions: Being polite, using helping verbs- preparing coffee/tea/recipe, preparing a word file/PPT, conducting a program/campaign, preparing for trech/travel

ii. Telephone conversation (formal and informal): Etiquette, common phrases for beginning and closing conversation etc.

Unit III

i. Academic writing skills: Interpreting and analyzing graphs, tables, diagrams, maps, family/organisation tree, etc.

ii. Fixing an appointment (with doctor, with Bank Manager, with a friend for going to a movie, with

 a colleague, etc.)

Unit IV

i. Group Discussion, Public Speaking (short speeches) and Facing an Interview (leadership qualities, positive attitude, etc.)

ii. Short descriptions of people and places (Expressing facts and opinion, use of adjectives)

IA   : 20 Marks (2 Internal Tests: 4 and 10 marks; Attendance 3 & Tutorials 3 marks each)
Theory: 80 Marks
Total   : 100 Marks

Question Paper Pattern
I.	2 questions each on i and ii of Unit I	4X5=20
II.	2 questions each on i and ii of Unit II	4X5=20
III.	2 questions each on i and ii of Unit III	4X5=20
IV.	2 questions each on i and ii of Unit IV	4X5=20
Total		80

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

BASIC HINDI

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Instructions

I.Syllabus Prescribed for B.S.C is applicable to B.C.A

Courses

AECC: Ability Enhancement Compulsory Course

Theory Exam Question Paper Pattern and Distribution of Marks
DEPT. of HINDI

(AECC) ABILITY ENHANCEMENT COMPULSORY COURSE (Total 80 Marks)

Q-1 Objective type Questions (10 out of 12) : 10x1=10 Marks
Q-2 Annotations from Text Book (2 out of 4) : 2x7=14 Marks
Q-3 Essay Type Question from Text Book (1 out of 2) : 1x14=14 Marks
Q-4 Short Notes from Text Book (2 out of 4) : 2x7=14 Marks
Q-5 Others : 28 Marks

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS
BSC

BASIC HINDI –AECC 2020-21 & 2021-22 On words

B.Sc./B.C.A. Subject : HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Exam	Total	Credits
I	AECC	1) गद्य फुलवारी (गद्य संकलन) 2) हिंदी भाषा के विविध रुप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80	100	3
II	AECC	1) काव्य कुसुम (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80	100	3
III	AECC	1) कथा भारती (कहानी संकलन) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80	100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूलक हिंदी	1T*	2	2	10	40	50	2
IV	AECC	1) गिलिगडु (उपन्यास) 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80	100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40	50	2

2020-21 & onwords

B.Sc./B.C.A. Programme
Subject : HINDI
Semester I

AECC : Ability Enhancement Compulsory Course

1) गद्य फुलवारी (गद्य संकलन)
2) हिंदी भाषा के विविध रूप : बोलचाल की भाषा, परिनिष्ठित भाषा, सम्पर्क भाषा, राष्ट्रभाषा, राजभाषा
3) स्वर तथा व्यंजन – सामान्य परिचय
4) अनुवाद (पारिभाषिक शब्दावली)

प्रात्यक्षिक : कथाकारिता, शब्दों का योग्य उच्चारण, शब्दों का अनुवाद

Semester II

AECC : Ability Enhancement Compulsory Course

1) काव्य कुसुम (कविता संकलन)
2) व्याकरण–संज्ञा, सर्वनाम, विशेषण, क्रिया, अव्यय
3) पत्रलेखन–पारिवारीक पत्र, व्यवहारिक पत्र, बँक संबंधी पत्र, बीमा संबंधी पत्र, नौकरी संबंधी पत्र

प्रात्यक्षिक : काव्यपाठ, लिंग परिवर्तन, वचन परिवर्तन, अंकलेखन

2021-22 & onwords

B.Sc./B.C.A. Programme
Subject : HINDI
Semester III

AECC : Ability Enhancement Compulsory Course

1) कथा भारती (कहानी संकलन)
2) भाषा सप्रेषण–परिभाषा, प्रकार, चरण
3) मुहावरें और लोकोक्तियाँ
4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द

प्रात्यक्षिक : मुहावरें तथा लोकोक्तियों के आधार पर कहानी अथवा प्रसंग बताना

Semester IV

AECC : Ability Enhancement Compulsory Course

1) गिलिगडु (उपन्यास) – चित्रा मुदगल, सामयिक प्रकाशन, नई दिल्ली
2) पल्लवन तथा संक्षेपण –
 पल्लवन अथवा कल्पना विस्तार के लिए विषय –
 जहाँ चाह वहाँ राह, दुख भोगे बिना सुख कहाँ, चिंता चिता समान है, मन के हारे हार है, मन के जीते जात,
 मजहब नहीं सिखाता आपस में बैर रखना, लालच बुरी बला है, सब्र का फल मीठा होता है, उतने पाँव पसारिये जितनी चादर होय
 परिश्रम कभी व्यर्थ नहीं जाता, बुरी संगत से अकेला भला
3) अनुवाद (परिच्छेद)
प्रात्याक्षिक : पल्लवन तथा अनुवाद का अभ्यास

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

BASIC URDU

1ST TO 4TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

I.Syllabus Prescribed for B.Sc. is applicable to B.C.A.

Courses

AECC: Ability Enhancement Compulsory Course

COURSE PATTERNS,SCHEME OF EXAMINATION AND CREDITS

B. Sc./ B. C. A.

I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
IV	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3

*T- Theory

Question Paper Pattern and Distribution of Marks

Scheme of Examination:

Assessment Activities for IA will be based on Test/Assign/Tutorial/Viva-voce/Seminar/any other

Assessment for 100 marks will be as follows:(For AECC,DSC,DSE Papers)

IA=20   TH=80   Total=100

Assessment for 50 marks   will be as follows: (For SEC Papers)

IA=10   TH=40   Total=50

Question pattern for all AECC Papers

I. Multiple choice questions   (from all text)   1x10=10

II.Essay type question on prose   (1out of3)   12x1=12

III.Summary of the poem   (1 out of3)   12x1=12

IV.Appreciation of verses from Ghazals   (4 out of 6)   03x4=12

V.R C   (4 out of6)   03x4=12

VI.Summary Essay type question on text   (1 out of3)   12x1=12

VII.Short note questions on practical   (1 out of2)   10x1=10

          (Que No II to VII are with choice)

Question pattern for all DSC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of2)   12x1=12

VII.Short notes question on Practical   (1 outof2)   10x1=10

          (Que No II to VII are with choice)

Question pattern for all DSE Papers

I. Multiple choice questions   (fromall Chapters)   1x10=10

II. Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   12x1=12

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

IV.Short notes question on Author /character/style /art   (2outof 3)   06x2=12

V.Summary/critical / Essay type question of the Prescribed topics   (1 out of 2)   12x1=12

VII.Summary/critical / Essay type question of the Prescribed topics (1out of 2)   12x1=12

VII.Short notes question on Author /character/style /art   (1 out of 2)   10x1=10

          (Que No II to VII are with choice)

Question pattern for all SEC Papers

I.Multiple choice questions   (from all Chapters)   1x10=10

II.Summary/critical / Essay type question of the Prescribed topics (1 out of2)   10x1=10

III.Summary/critical / Essay type question of the Prescribed topics   (1 out of2)   10x1=10

IV.Short notes question on Practical   (1out of2)   10x1=10

          (Que No II to IV are with choice

B.Sc./ B.C.A.   **SEMESTER I**   **SUBJECT: URDU**

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr
      1.Urdu me lisani adab
      2.Hali ki seerat
      3.Bhola
      4.Ham huye tum huye ke meer huye
      5.Gul banu

UNIT: II Poetry / Nazm
      1) Samp
      2) Jugnu
      3) Qaid khane ki rat
      4) Tehzeeb ka urooj
      5) Ay shareef insano

UNIT: III Gazaliyat
      1)Dil me kisi ke raah
      2)Donu jahan teri mohabbat me
      3)Qatl Aashique
      4)Husn ma garcha hangam
      5)Hasti apni habab ki si
      6)Naye kapde badal kar

UNIT: IV Jadeed ilm e science
1)Science aur naaptol
2) Taqat aur harakat
3) Hawa, hawa ka dabaw aur barometer
Practical: 1. Write an article in your own style.
2. Use library and website collect modern poems and prose (five each)

Prescribed Books**:**   **1) Anwar -e –adab**   **Compiled by: Prof.Syed Dastgeer pasha**
      Prof Mushtaque Ahmad Byakod

      Dr Syed Alimullah Husaini
      2) Jadeed ilm e science   **Compiled by Wazahat Husain**

B. Sc./ B. C. A. PROGRAMMESEMESTER II SUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I Prose/Nasr
       1)Sahab baat room me hain
2)Sir sayyed marhoom aur Urdu literature
       3)Mumtaz mufti ki yaad me
4)Haj e Akbar
5)Achchi kitab

UNIT: II Poetry / Nazm
      1) Shuaa e ummeed
      2) Raste ki mantak
      3) Dawat e inqilab
      4) Banjara nama
      5) Dehli marhoom

UNIT: III Gazaliyat
      1)Tamasha e der o haram
      2)Dil mera jis se behalta
      3)Asar usko zaranahi hota
      4)Sar me sauda bhi nahi
      5)Tere ishq ki inteha
UNIT: IV Jadeed ilm e science
      1)Hararat
      2) Roshani
      3) Miqnatees
Practical: 1. Collect stories (minimumfive) of the same author
2. Precis writing, read passage and Re-write it in your own words.

Prescribed Books**:**   **1) Anwar -e –adab**   **Compiled by: Prof.Syed Dastgeer pasha**
                                Prof Mushtaque Ahmad Byakod
Dr Syed Alimullah Husaini

      2) Jadeed ilm e science   **Compiled by Wazahat Husain**

B. Sc./ B. C. A.   **SEMESTER III SUBJECT: URDU**

AECC (**Ability Enhancement Compulsory Course**)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

 UNIT: I Prose/Nasr
     1 Bint e bahadur shah
     2 Khutut e Galib
     3 Kafan
     4 Faiz ahmad
     5 Savere jo kal meri aankh khuli

UNIT: II Poetry/ Nazm
     1)   Qaid khane ki raat
     2)   Aata daal
     3)   Jadeed Taraqqiyat
     4)   Zamana

UNIT: III Gazaliyat
     1 piya baaz
     2 hasti apani
     3 layi hayat
     4 Badao
     5 chup ke chuoke

UNIT: IV Jadeed ilm e science
     1)Bijali
     2) Mada aur uski khususiyat
     3) Tabayi aur Kemiyai Tagayyur
Practical:
1. Discussion of multiple facets of a Gazal and Urdu poems. Pair work
2. Creating, presenting an argument, expressing a point of view. Pair work

Prescribed Books**:**   **1) Karwan-e –adab**   **Compiled by: Prof.Syed Sana ullah**
                         2) Jadeed ilm e science   **Compiled by Wazahat Husain**

B. Sc./ B. C. A.SEMESTER IVSUBJECT: URDU

AECC (Ability Enhancement Compulsory Course)
TITLE OF THE PAPER: Study of Prose and poetry, various literary form

UNIT: I

    1 Umar e rafta

2 Mirza Galib ke akhlaq o aadat

3 Kahawatein aur muhaware

4 Mohle ki holi

5 Mumtaz shereen se abbas tabish ka interview

UNIT: II Poetry: Nazm

1Tazheek e rozgaar

2 Khak e Hind

3Taleem e niswan

4bol ari o dharti

UNIT: III Poetry:Ghazal

1 nagah chaman me

2 ye na thi hamari qismat

3lagta nahin

4 ham ne sun

5 Hum hain mata ekucha

UNIT: IV Jadeed ilm e science

1 Pani

2 Hydrozon,oxyzon,carbon dhyoxide

3 Tezab, Khad,aur namak

Practical: 1. Read the given poem and find out the difficult words and make 'Farhang'

    2.Write an Essay on a current issues and give an appropriate title.

Prescribed Books: **1) Karwan -e –adab   Compiled by: Prof.Syed Sana ullah**

    2) Jadeed ilm e science   Compiled by Wazahat Husain

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

BOTANY

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

**CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: BOTANY**

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: BOTANY

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	**Exam**	**Total**	
V	Part – 1 DSE	BOTDSET5.1	Economic Botany and Biotechnology	4	20	80	100	3
		BOTDSEP5.1	Practical V	3	10	40	50	1
		BOTDSET5.2A (Elective I)	Cell and Molecular Biology	4	20	80	100	3
		BOTDSEP5.2A (Elective I)	Practical VIA	3	10	40	50	1
		BOTDSET5.2B (Elective II)	Genetics, Plant Breeding and Evolution	4	20	80	100	3
		BOTDSEP5.2B (Elective II)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	BOTSECT5.3	Medicinal Botany	2	10	40	50	2
		Total : Hours / Credits		**16**			**350**	**10**

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/Week	IA	Exam	Total	Subject Credits
VI	Part – 1 DSE	BOTDSET6.1	Analytical Techniques in Plants.	4	20	80	100	3
		BOTDSEP6.1	Practical VII	3	10	40	50	1
		BOTDSET6.2A (Elective III)	Research Methodology	4	20	80	100	3
		BOTDSEP6.2A (Elective III)	Practical VIIIA	3	10	40	50	1
		BOTDSET6.2B (Elective IV)	Biofertilizers and Organic Farming	4	20	80	100	3
		BOTDSEP6.2B (Elective IV)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	BOTSECT6.3	Ethnobotany	2	10	40	50	2
		Total : Hours / Credits		**16**			**350**	**10**

The title row "B.Sc., BOTANY Syllabus under CBCS scheme (With effect from the academic year 2022-23 onwards)" spans the full table above.

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)
Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

First Semester B.Sc. (Botany)

Paper Code: BOTDSCT1.1   **Paper Title:** Biodiversity (Microbes, Algae, Fungi and Archegoniate)
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Total hours: 60   **Credits: 3**

Unit1:
- **Viruses** : Discovery, general structure, replication (general account), DNA virus (T-phage); Lytic and lysogenic cycle, RNA virus (TMV); Economic importance;
- **Bacteria:** Discovery, General characteristics and cell structure; Reproduction – vegetative, asexual and recombination (conjugation, transformation and transduction); Economic importance.
- **Viral Plant Diseases**: TMV. Vein clearing, Dwarfing, Yellowing and BBTV disease.
- **Bacterial Plant Disease**: Citrus canker, Bacterial blight and Crown gall disease.

                                                               15 hours

Unit2:
- **Algae**: General characteristics; Ecology and distribution; Range of thallus organization and reproduction; Classification of algae by smith; Morphology and life-cycles of the following: *Nostoc*, *Oedogonium*, *Vaucheria*, *Volvox*, *Ectocarpus* & *Batrachospermum*. Economic importance of algae.

- **Fungi**: Introduction- General characteristics, ecology and significance, range of thallus organization, cell wall composition , nutrition, reproduction and classification; True Fungi- General characteristics, ecology and significance, life cycle of *Rhizopus* (Zygomycota), *Penicillium* (Ascomycota)*, cercospora (Deutoromycota), Puccinia, Agaricus* (Basidiomycota);

- **Fungal Diseases:** Late blight of potato, White rust of *Albugo candida*., Black rust of *Puccinia*, Powdery mildew and Early Blight of Tomato.

- **Symbiotic Associations-Lichens**: General   account, reproduction and significance; Mycorrhiza: ectomycorrhiza and endomycorrhiza and their significance   **15 hours**.

Unit 3:
- **Introduction to Archegoniate:** Unifying features of archegoniates, Transition to land habit, Alternation of generations.
- **Bryophytes:** General characteristics, adaptations to land habit, Classification, Range of thallus organization. Classification (up to family), morphology, anatomy and reproduction of *Riccia, Marchantia, Anthoceros* and *Funaria* (Developmental details not to be included). Ecology and economic importance of bryophytes with special mention of *Sphagnum*.

                                                               15 hours

Unit 4:
- **Pteridophytes:** General characteristics, classification, Early land plants (*lepidodendron, Lepidocarpon, Calamites*). Classification (up family), morphology, anatomy and reproduction of *Selaginella*, *Equisetum* and *Pteris*. (Developmental details not to be included). Heterospory and seed habit, stelar evolution. Ecological and economical   importance of Pteridophytes.
- **Gymnosperms:** General characteristics, classification. Classification (up to family), morphology, anatomy and reproduction of *Cycas, Gnetum* and *Pinus*. (Developmental details not to be included). Ecological and economical importance.   **15 hours**

Practical

Paper Code: BOTDSCTP1.1 **Paper Title:** Biodiversity (Microbes, Algae, Fungi and Archegoniate)
Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10
Credits: 1

1. EMs/Models of viruses – T-Phage and TMV, Line drawing/Photograph of Lytic and Lysogenic Cycle.
2. Types of Bacteria from temporary/permanent slides/photographs; EM bacterium; Binary Fission; Conjugation; Structure of root nodule.
3. Gram staining
4. Study of vegetative and reproductive structures of *Volvox*, *Nostoc,* (electron micrographs)*, Oedogonium, Vaucheria, Ectocarpus and Batrachospermum* through temporary preparations and permanent slides.
5. *Rhizopus and Penicillium*: Asexual stage from temporary mounts and sexual structures through permanent slides.
6. *Cercospora Specimens*/photographs and tease mounts.
7. *Puccinia*: Herbarium specimens of Black Stem Rust of Wheat and infected Barberry leaves; section/tease mounts of spores on Wheat and permanent slides of both the hosts.
8. *Agaricus*: Specimens of button stage and full grown mushroom; Sectioning of gills of *Agaricus*.
9. Lichens: Study of growth forms of lichens (crustose, foliose and fruticose)
10. Mycorrhiza: ectomycorrhiza and endomycorrhiza (Photographs)
11. *Marchantia*-morphology of thallus, w.m. rhizoids and scales, v.s. thallus through gemma cup, w.m. gemmae (all temporary slides), v.s. antheridiophore, archegoniophore, L.S. sporophyte (all permanent slides).
12. *Funaria*- morphology, w.m. leaf, rhizoids, operculum, peristome, annulus, spores (temporary slides); permanent slides showing antheridial and archegonial heads, L. S. capsule and protonema.
13. *Selaginella*- morphology, w.m. leaf with ligule, T.S. stem, w.m. strobilus, w.m. microsporophyll and megasporophyll (temporary slides), L.S. strobilus (permanent slide).
14. *Equisetum*- morphology, T.S. internode, L.S. strobilus, T.S. strobilus, w.m. sporangiophore, w.m. spores (wet and dry) (temporary slides); T.s rhizome (permanent slide).
15. *Pteris*- morphology, T.S. rachis, v.s. sporophyll, w.m. sporangium, w.m. spores (temporary slides), T.S. rhizome, w.m. prothallus with sex organs and young sporophyte (permanent slide).
16. *Cycas*-morphology (coralloid roots, bulbil, leaf), T.S. coralloid root, T.S. rachis, v.s. leaflet, v.s. microsporophyll, w.m. spores (temporary slides), L.S. ovule, T.S. root (permanent slide).
17. *Pinus*- morphology (long and dwarf shoots, w.m. dwarf shoot, male and female), w.m. dwarf shoot, T.S. needle, T.S. stem, L.S./T.S. male cone, w.m. microsporophyll, w.m. microspores (temporary slides), L S. female cone, T. L.S. & R. L.S. stem (permanent slide).
18. Study tour two days compulsory.

Suggested Readings

1. Kumar, H.D. (1999). Introductory Phycology. Affiliated East-West. Press Pvt. Ltd. Delhi. 2nd edition.
2. Tortora, G.J., Funke, B.R., Case, C.L. (2010). Microbiology: An Introduction, Pearson Benjamin Cummings, U.S.A. 10[th]edition.
3. Sethi, I.K. and Walia, S.K. (2011). Text book of Fungi & Their Allies, Mac Millan Publishers Pvt. Ltd.,Delhi.
4. Alexopoulos, C.J., Mims, C.W., Blackwell, M. (1996). Introductory Mycology, John Wiley and Sons (Asia), Singapore. 4[th]edition.
5. Raven, P.H., Johnson, G.B., Losos, J.B., Singer, S.R., (2005). Biology. Tata McGraw Hill, Delhi,India.
6. Vashishta, P.C., Sinha, A.K., Kumar, A., (2010). Pteridophyta, S. Chand. Delhi, India.
7. Bhatnagar, S.P. and Moitra, A. (1996). Gymnosperms. New Age International (P) Ltd Publishers, New Delhi, India.
8. Parihar, N.S. (1991). An introduction to Embryophyta. Vol. I. Bryophyta. Central Book Depot, Allahabad.

Second Semester B.Sc. (Botany)

Paper Code: BOTDSCT2.1   **Paper Title:** Plant Ecology and Diversity of angiosperms
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Teaching hours: 60   **Credits:** 3

Unit1:

- **Atmosphere:** Atmosphere gaseous composition and Atmospheric layers.

- **Ecological factors:** Soil, weathering, composition, pedogenesis and soil profile. Water: States of water in the environment, precipitation types. Light and temperature: Variation Optimal and limiting factors; Shelford law of tolerance. Adaptation of hydrophytes and xerophytes.

                15 hours

Unit 2:

- **Plant Succession:** Characters; Ecotone and edge effect; Succession; Hydrosere and Xerosere.
- **Ecosystem:** Structure; energy flow trophic organisation; Food chains and food webs, Ecological pyramids production and productivity; Biogeochemical cycles; carbon, nitrogen and Phosphorous cycles.

- **Phytogeography:** Principle, biogeographical zones; Endemism.

                15 hours

Unit3

- **Morphology of Angiosperms:** Root, Stem, leaf and its modifications: inflorescence, flower and fruit.

                15 hours

Unit4:

- **Plant Taxonomy:** Introduction, Identication Functions of Herbarium, important herbaria and botanical gardens of the world and India; Documentation: Flora, Keys: single access and multi-access
- **Classification**

  Types of classification-artificial, natural and phylogenetic. Bentham and Hooker
  (upto series), Engler and Prantl (upto series).
- **Taxonomic hierarchy**

  Ranks, categories and taxonomic groups, Taxonomic evidences from palynology, cytology, phytochemistry and molecular data.
- **Botanical nomenclature**

  Principles and rules (ICN); ranks and names; binominal system, typification, author citation, valid publication, rejection of names, principle of priority and its limitations.

                15 hours

Practical

Paper Code: BOTDSCP2.1　　　　　　**Paper Title:** Plant Ecology and Diversity of angiosperms
Teaching Hours: 3 Hrs / Week　　　　　　　　　　　　　　　　**Marks:** Th-40+IA-10
　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Credits: 1

1. Study of instruments used to measure microclimatic variables: Soil thermometer, maximum and minimum thermometer, anemometer, psychrometer /hygrometer, rain gauge and lux meter.
2. Determination of pH, and analysis of two fertile soil samples for carbonates, chlorides, nitrates, sulphates, organic matter and base deficiency by rapid field test.
3. (a) Study of morphological adaptations of hydrophytes (Submerged, Free floating, Amphibious and Rooted floating) and xerophytes (succulent and non succulent).
   (b)Study of biotic interactions of the following: Stem parasite (*Cuscuta)*, Root parasite (Orobanche), Epiphytes, Predation (Insectivorous plants)
4. Morphology of Angiosperms: Root, Stem, leaf and its modifications: Inflorescence, Flower and Fruit.
5. Study of vegetative and floral characters of the following families (Description,V.S. flower, section of ovary, floral diagram/s, floral formula/e and systematic position according to Bentham & Hooker's system of classification): Polypetalae: Magnoliaceae, Malvaceae, Rutaceae, Brassicaceae. Gamopetaleae–Rubiaceae*,* Asteraceae, Apocynaceae, Asclepiadaceae. Apetalae-Euphorbiaceae. Monocot- Poaceae
6. Mounting of a properly dried and pressed specimen of any wild plant with herbarium Label (Herbarium any 10 to be submitted in the record book).
7. Study tour for minimum 3 days compulsory.

Suggested Readings

1. Kormondy, E.J. (1996). Concepts of Ecology. Prentice Hall, U.S.A. 4[th]edition.
2. Sharma, P.D. (2010) Ecology and Environment. Rastogi Publications, Meerut, India. 8th edition.
3. Simpson, M.G. (2006). *Plant Systematics.* Elsevier Academic Press, San Diego, CA, U.S.A.
4. Singh, G. (2012). *Plant Systematics:* Theory and Practice. Oxford & IBH Pvt. Ltd., New Delhi. 3[rd]edition.

Third Semester B.Sc. (Botany)

Paper Code: BOTDSCT3.1   **Paper Title:** Plant Anatomy and Embryology
Teaching Hours: 4 Hrs / Week   **Marks: Th-80+IA-20**
Teaching hours: 60   **Credits: 3**

Unit1:
- **Tissues**: Tunica carpous theory and apical theory, meristems and its types; Simple and complex tissues.
- **The tissue system:** Epidermal tissue system, Ground and fundamental tissue system and Vascular or conducting tissue system.
- **Organ:** Structure of dicot and monocot root stem and leaf.

15 hours

Unit 2:
- **Secondary Growth**: Stelar and Extrastelar Secondary growth in root and stem, Wood (heartwood and sapwood). Abnormal secondary growth in Bignonia, Dracaena and Beet root.
- **Leaf fall and healing of wounds**.
- **Special tissues**: Secretary.
- **Mechanical tissues in plants**

15 hours

Unit3:

- **Structural organization of flower:** Structure of anther and pollen; Structure and types of ovules; Types of embryo sacs, organization and ultra structure of mature embryo sac.
- **Pollination and fertilization:** Pollination mechanisms and adaptations; Types of pollination: Anemophily, Entemophily, hydrophily. Double fertilization; Endosperm types, structure and functions.

15 hours

Unit 4:
- **Embryo and endosperm:** Dicot and Monocot seed-structure, appendages and dispersal mechanisms. Structure and development of Dicot and Monocot embryo; Embryo- endosperm relationship.
- **Apomixis and polyembryony:** Definition, Classification and practical applications.

15 hours

Practical

Paper Code: BOTDSCP3.1   **Paper Title:** Plant Anatomy and Embryology
Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10
     Credits: 1

1. Study of meristems through permanent slides and photographs.
2. Tissues (parenchyma, collenchyma and sclerenchyma); Macerated xylary elements, Phloem (Permanent slides, photographs)
3. Stem: Monocot: *Zea mays;* Dicot: *Helianthus*; Secondary growth: *Helianthus* (Permanent slides).
4. Root: Monocot: *Zea mays*; Dicot: *Helianthus*; Secondary growth: *Helianthus* (Permanent slides).
5. Leaf: Dicot and Monocot leaf (Permanent slides).
6. Structure of anther (young and mature), tapetum (amoeboid and secretory) (Permanent slides).
7. Types of ovules: anatropous, orthotropous, circinotropous, amphitropous / campylotropous.
8. Female gametophyte: *Polygonum* (monosporic) type of Embryo sac Development (Permanent slides/photographs).
9. Ultrastructure of mature egg apparatus cells through electron micrographs.
10. Pollination types and seed dispersal mechanisms (including appendages, aril, caruncle) (Photographs ands pecimens).
11. Dissection of embryo/endosperm from developing seeds.
12. Calculation of percentage of germinated pollen in a given medium.

Suggested Readings

1. Bhojwani, S.S. & Bhatnagar, S.P. (2011). Embryology of Angiosperms. Vikas Publication House Pvt. Ltd. New Delhi. 5thedition.
2. Mauseth, J. D. (1988).Plant Anatomy.The Benjamin/Cummings Publisher, USA.

Third Semester B.Sc. (Botany) Skill Enhancement Course

Paper Code: BOTSECT3.2   **Paper Title:** Herbal technology
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10
Teaching Hours: 30   **Credits :**2

Unit1:

- **Herbal medicines**: History and scope, definition of medical terms and role of medicinal plants in Siddha systems of medicine; cultivation, harvesting, processing, storage, marketing and utilization of medicinal plants.
- **Pharmacognosy**: Systematic position medicinal uses of the following herbs in curing various ailments; Tulsi, Ginger, Fenugreek, Indian Gooseberry and Ashoka.

15 hours

Unit2:

- **Phytochemistry**: Active principles and methods of their testing, identification and utilization of the medicinal herbs; *Catharanthus roseus* (cardiotonic), *Withania somnifera* (drugs acting on nervous system), *Clerodendron phlomoides* (anti-rheumatic) and *Centella asiatica* (memory booster).

- **Analytical pharmacognosy:** Drug adulteration, types, methods of drug evaluation, Biological testing of herbal drugs, Phytochemical screening tests for secondary metabolites (alkaloids, flavonoids, steroids, triterpenoids, phenolic compounds)

- **Medicinal plant banks** micropropagation of important species (*Withania somnifera*, neem and tulsi, Herbal foods and future of pharmacognosy.)

15 hours

Suggested Readings

1. Glossary of Indian medicinal plants, R. N. Chopra, S. L. Nayarand I. C. Chopra, 1956. C.S.I.R, New Delhi.

2. The indigenous drugs of India, Kanny, Lall, Deyand Raj Bahadur, 1984. International Book   Distributors.

3. Herbal plants and Drugs Agnes Arber, 1999. Mangal Deep Publications.

4. Ayurvedic drugs and their plant source. V. V. Sivarajan and Balachandran Indra1994. Oxford IBH   publishing Co.

5. Ayurveda and Aromatherapy. Miller, Light and Miller, Bryan, 1998. Banarsi dass, Delhi.

6. Principles of Ayurveda, Anne Green, 2000. Thomsons, London.

7. Pharmacognosy, Dr. C. K. Kokate et al. 1999. Nirali Prakashan.

Fourth Semester B.Sc. (Botany)

Paper Code: BOTDSCT4.1   **Paper Title:** Plant Physiology and Biochemistry
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Teaching Hours: 60   **Credits:** 3

Unit 1:

- **Plant-water relations:** Solutions, Suspensions, colloids, True solutions, Molarity, Molar, Buffer, Molal, pH, Emulsion and Gel. Permeability, Diffusion, Osmosis, Imbibition, membranes, Endoosmosis, Exoosmosis, osmotic pressure, Turger pressure, Wall pressure, Relation between O.P, D.P.D and T.P. Importance of water, water potential and its components;

- **Transpiration**: Transpiration types, Structure of stomata, Types of stomata, stomatal Movment, Starch sugure Interconversion theory and K^+ ion pump theory. significance of transpiration; Factors affecting transpiration; guttation,

- **Pathways of water movment:** Apoplast and symplast.

- **Mineral nutrition:** Essential elements, macro and micronutrients; Criteria of essentiality of elements; Role of essential elements; Transport of ions across cell membrane, active and passive transport, carriers, channels and pumps.

                                                    15 hours

Unit 2:
- **Ascent of sap, translocation of solutes:** Theories on Ascent of sap: Root pressure theory and transpiration pull theory. Composition of phloem sap, girdling experiment; Pressure flow model; Phloem loading and unloading.

- **Photosynthesis:** Photosynthetic Pigments (Chl a, b, xanthophylls, carotene); Photosystem I and II, reaction center, antenna molecules; Electron transport and mechanism of ATP synthesis; C_3, C_4 and CAM pathways of carbon fixation; Photorespiration, Blackmen's law of Limiting factor and factors affecting photosynthesis.

                                                    15 hours

Unit3:
- **Respiration:** Aerobic cellular respiration: Glycolysis, TCA cycle, Oxidative phosphorylation & Pentose Phosphate Pathway. Anaerobic respiration: Alcoholic lactic acid and acetic acid fermentation amphibolic pathway. Respiratory quotient of carbohydrate, protein and organic acid.

- **Enzymes:** Structure and properties, Classification, Mechanism of enzyme catalysis Lock and key model and induced fit model, enzyme inhibition and factors affecting enzyme activity.

- **Nitrogen metabolism:** Nitrogen cycle, Biological nitrogen fixation; Nitrate and ammonia assimilation.

                                                    15 hours

Unit 4:
- **Plant growth regulators:** Discovery and physiological roles of auxins, gibberellins, cytokinins, ABA, ethylene. Application of Phytoharmones.
- **Plant Movements:** Photoperiodism (SDP, LDP, Day neutral plants); Phytochrome (discovery and structure), red and far red light responses on photomorphogenesis; Vernalization.

- Structure and classification of Proteins, carbohydrates and Lipids.   **15 hours**

Practical

1. Determination of osmotic potential of plant cell sap by plasmolytic method.
2. Calculation of stomatal index and stomatal frequency of a mesophyte and a xerophyte.
3. Demonstration of rate of transpiration by Ganong's photometer / Farmer's photometer
4. Demonstrate the activity of catalase and study the effect of pH and enzyme concentration.
5. To study the effect of light intensity and bicarbonate concentration on O_2 evolution in photosynthesis.
6. Comparison of the rate of respiration.
7. Separation of Chlorophyll pigments by paper chromatography.
8. Qualitative test for proteins, carbohydrate and lipids.
9. Demonstration experiments

- Bolting.
- Effect of auxins on rooting.
- Suction due to transpiration.
- R.Q. (Ganong's respirometer.)
- Phototropism.
- Seismonastic movements.
- Nyctinastic movements.

Suggested Readings

1. Taiz, L., Zeiger, E., (2010). Plant Physiology. Sinauer Associates Inc., U.S.A. 5th Edition.
2. Hopkins, W.G., Huner, N.P., (2009). Introduction to Plant Physiology. John Wiley & Sons, U.S.A. 4th Edition.
3. Bajracharya, D., (1999). Experiments in Plant Physiology- A Laboratory Manual. Narosa Publishing House, New Delhi.

Fourth Semester B.Sc. (Botany) Skill Enhancement Course

Paper Code: BOTSECT4.2   **Paper Title :**Nursery and Gardening
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10
Teaching Hours: 30   **Credits :**2

Unit 1:

- **Nursery:** Definition, objectives and scope, building up of infrastructure for nursery, planning and seasonal activities. Planting, direct seeding and transplants.

- **Seed:** Structure and types. Seed dormancy; causes and methods of breaking dormancy, Seed storage: Seed banks, factors affecting seed viability, genetic erosion, Seed production technology, seed testing and certification.

- **Vegetative propagation**: Air layering, cutting, selection of cutting, collecting season, treatment of cutting, rooting medium and planting of cuttings. Hardening of plants, green house, mist chamber, shed root, shade house and glass house.

15 hours

Unit2:

- **Gardening:** Definition, objectives and scope. Different types of gardening: Landscape and home gardening, parks and its components. Plant materials and design. Computer applications in landscaping. Gardening operations: soil laying, manuring, watering, management of pests and diseases and harvesting.
- **Sowing/raising of seeds and seedlings - Transplanting of seedlings:** Study of cultivation of different vegetables: cabbage, brinjal, lady's finger, onion, garlic, tomatoes, and carrots-Storage and marketing procedures**.**

15 hours

Suggested Readings

1. Bose T.K. & Mukherjee, D., 1972, Gardening in India, Oxford & IBH Publishing Co., New Delhi.
2. Sandhu, M. K., 1989, Plant Propagation, Wile Eastern Ltd., Bangalore, Madras.
3. Kumar, N., 1997, Introduction to Horticulture, Rajalakshmi Publications, Nagercoil.
4. Edmond Musser & Andres, Fundamentals of Horticulture, Mc Graw Hill Book Co., New Delhi.
5. Agrawal, P.K. 1993, Hand Book of Seed Technology, Dept. of Agriculture and Cooperation, National Seed Corporation Ltd., New Delhi.
6. Janick Jules. 1979. Horticultural Science. (3rd Ed.), W.H. Freeman and Co., San Francisco, USA.

Fifth Semester B.Sc. (Botany)

Paper Code: BOTDSET5.1   **Paper Title :**Economic Botany and Biotechnology
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Teaching Hours:60   **Credits :**3

Unit1:

- **Origin of Cultivated Plants:** Concept of centers of origin, their importance with reference to Vavilov's work.
- **Cereals:** Origin, morphology and uses of Wheat, Jowar and Rice
- **Legumes:** General account with special reference to Gram and Soybean
- **Pulses**: Origin, morphology and uses of Chick pea, Cow pea and Lentil.

15 hours

Unit2:

- **Spices:** General account with special reference to clove and black pepper (Botanical name, family, part used, morphology and uses)
- **Beverages:** Tea (morphology, processing, uses)
- **Oils and Fats:** General description with special reference to groundnut.
- **Rubber:** General description with special reference to Hevea sp.
- **Fiber Yielding Plants:** General description with special reference to Cotton (Botanical name, family, part used morphology and uses).

15 hours

Unit 3:

- **Microbial genetic manipulation**: Bacterial transformation, selection of recombinant and trasformants, genetic improvement of industrial microbes, nitrogen fixers and fermentation technology.

- **Immunology:** Hybridoma and monoclonal antibodies, ELISA and Immunodetection. Molecular diagnosis of human disease, Human gene Therapy.

- **Plant tissue culture:** Micropropagation; haploid production through androgenesis and gynogenesis; brief account of embryo & endosperm culture with their applications

15 hours

Unit4:

- **Recombinant DNA Techniques**: Biotechnology scope, tools of genetic engineering, gene cloning techniques, gel electrophoreses, Bioreactor, transgenic plants. Agro bacterium and retroviruses as natural genetic engineer. Intellectual property rights and possible ethical risks.

- **Blotting techniques:** Northern, Southern and Western Blotting, DNA Fingerprinting; Molecular DNA markers i.e. RAPD, RFLP, SNPs; DNA sequencing, PCR and Reverse Transcriptase-PCR.

15 hours

Practical

Paper Code: BOTDSEP5.1   **Paper Title :**Economic Botany and Biotechnology
Teaching Hours: 3Hrs / Week   **Marks:** Th-40+IA-10
Credits :1

1. Study of economically important plants: Wheat, Jowar, Rice, Gram, Soybean, Black pepper, Clove, Tea, Cotton, Groundnut through specimens.
2. Study of economically important plants: chick pea, cowpea, Clove, Tea, Cotton, Groundnut and rubber through specimens.
3. Familiarization with basic equipments in tissue culture.
4. Study through photographs: Anther culture and somatic embryogenesis
5. Study through photographs: endosperm and embryo culture; micropropagation.
6. Study of molecular techniques: PCR and Blotting techniques.
7. Demonstration of Gel electrophoresis.
8. Demonstration and comparison of genetically modified plants.(Bt Cotton, Bt Brinjal and Bt, Tomato)

Suggested Readings

1. Kochhar, S.L. (2011). Economic Botany in the Tropics, MacMillan Publishers India Ltd., New Delhi. 4th edition.
2. Bhojwani, S.S. and Razdan, M.K., (1996). Plant Tissue Culture: Theory and Practice. Elsevier Science Amsterdam. The Netherlands.
3. Glick, B.R., Pasternak, J.J. (2003). Molecular Biotechnology- Principles and Applications of recombinant DNA. ASM Press, Washington.

Fifth Semester B.Sc. (Botany) Elective I

Paper Code: BOTDSET5.2A   **Paper Title :** Cell and Molecular Biology
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Teaching Hours:60   **Credits :**3

Unit 1:

- **Techniques in Biology**
  Principles of microscopy; Light Microscopy; Phase contrast microscopy; Fluorescence microscopy; Confocal microscopy; Sample Preparation for light microscopy; Electron microscopy (EM)- Scanning EM and Scanning Transmission EM (STEM); Sample Preparation for electron microscopy; X-ray diffraction analysis.

- **Cell as a unit of Life**
  The Cell Theory; Prokaryotic and eukaryotic cells; Cell size and shape; Eukaryotic Cell components.

- **Cell Membrane and Cell Wall**
  The functions of membranes; Models of membrane structure; The fluidity of membranes; Membrane proteins and their functions; Carbohydrates in the membrane; Faces of the membranes; Selective permeability of the membranes; Cell wall.

  15 Hours

Unit 2:

- **Mitochondria:** Structure, marker enzymes, composition; Semiautonomous nature; Symbiont hypothesis; Proteins synthesized within mitochondria; mitochondrial DNA.
- **Chloroplast:** Structure, marker enzymes, composition; semi autonomous nature, chloroplast DNA.
- **ER, Golgi body & Lysosomes:** Structures and roles.
- **Peroxisomes and Glyoxisomes:** Structures, composition, functions in animals and plants and biogenesis.
- **Nucleus:** Nuclear Envelope- structure of nuclear pore complex; chromatin; molecular organization, DNA packaging in eukaryotes, euchromatin and heterochromatin, nucleolus and ribosome structure (brief).

  15 Hours

Unit 3:

- **Cell Cycle**

  Overview of Cell cycle, Mitosis and Meiosis; Molecular controls.

- **Genetic material**
  Gene concept: DNA: Miescher to Watson and Crick- historic perspective, Griffith's and Avery's transformation experiments, Hershey-Chase bacteriophage experiment, DNA structure, types of DNA, types of genetic material.

- **DNA replication (Prokaryotes and eukaryotes):** bidirectional replication, semi–conservative, semi discontinuous RNA priming, Ǿ (theta) mode of replication, replication of linear, ds- DNA, replicating the 5́ end of linear chromosome including replication enzymes.

  15 Hours

Unit4:

- **Transcription (Prokaryotes and Eukaryotes)**
  Types of structures of RNA (mRNA, tRNA, rRNA), RNA polymerase- various types; Protein synthesis in Prokaryotes and eukaryotes, genetic code.

- **Regulation of gene expression**
  Gene concept and protein synthesis, Prokaryotes: Lac operon and Tryptophan operon; and in Eukaryotes.

  15 Hours

Practical: Elective I

Paper Code: BOTDSE P5.2A **Paper Title :** Cell and Molecular Biology
Teaching Hours: 3Hrs / Week **Marks:** Th-40+IA-10
Credits :3

1. To study prokaryotic cells (bacteria), viruses, eukaryotic cells with the help of light and electron micrographs.
2. Study of the photomicrographs of cell organelles
3. To study the structure of plant cell through temporary mounts.
4. Study of mitosis and meiosis (temporary mounts and permanent slides).
5. Measure the cell size (either length or breadth/diameter) by micrometry.
6. Study the structure of nuclear pore complex by photograph (from Gerald Karp) Study of special chromosomes (polytene & lampbrush) either by slides or photographs.
7. Preparation of the Karyotype and ideogram from given photograph of somatic metaphase chromosome.
8. Isolation of DNA from plants.

Suggested Readings

1. Karp, G. 2010. Cell and Molecular Biology: Concepts and Experiments. 6th Edition. John Wiley & Sons. Inc.
2. De Robertis, E.D.P. and De Robertis, E.M.F.2006. Cell and Molecular Biology. 8th edition. Lippincott Williams and Wilkins, Philadelphia.
3. Cooper, G.M. and Hausman, R.E.2009.The Cell: A Molecular Approach. 5th edition. ASM Press & Sunderland, Washington, D.C.; Sinauer Associates, MA.
4. Becker, W. M., Kleinsmith, L.J., Hardin.J. and Bertoni,G.P.2009.TheWorld of the Cell.7th edition. Pearson Benjamin Cummings Publishing, San Francisco.

Fifth Semester B.Sc. (Botany) Elective II

Paper Code: BOTDSET 5.2B   **Paper Title :** Genetics, Plant Breeding and evolution
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Teaching Hours:60   **Credits :**3

Unit1: Heredity
1. Brief life history of Mendel
2. Terminologies
3. Laws of Inheritance
4. Modified Mandelian Ratios: 2:1-lethal Genes; 1:2:1-Co-dominance,incomplete dominance; 9:7; 9:4:3; 13:3;12:3:1.
5. Chi Square
6. Pedigree Analysis
7. Cytoplasmic Inheritance: Shell Coiling in Snail, Kappa particles in Paramecium, leaf variegation in Mirabilis jalapa, Male sterility.
8. Multiple allelism
9. Pleiotropism
10. Chromosome theory of Inheritance.

                                         15 Hours

Unit2:
- **Sex-determination and Sex-linked Inheritance**
- **Linkage and Crossing over:** Linkage: concept & history complete & incomplete linkage, bridges experiment, coupling& repulsion, recombination frequency, linkage maps based on two and three factor crosses. Crossing over: concept and significance, cytological proof of crossing over.
- **Mutations and Chromosomal Aberrations:** Types of mutations, effects of physical & chemical mutagens. Numerical chromosomal changes: Euploidy, Polyploidy and Aneuploidy; Structural chromosomal changes: Deletions, Duplications, Inversions &Translocations.   **15 Hours**

Unit 3:
- **Plant Breeding:** Introduction and objectives. Breeding systems: modes of reproduction in crop plants. Important achievements and undesirable consequences of plant breeding.
- **Methods of crop improvement:** Introduction, Centres of origin and domestication of crop plants, plant genetic resources; Acclimatization; Selection methods: For self pollinated, cross pollinated and vegetatively propagated plants; Hybridization: For self, cross and vegetatively propagated plants – Procedure, advantages and limitations.
- **Crop improvement and breeding:** Role of mutations; Polyploidy; Distant hybridization and role of biotechnology in crop improvement.   **15 Hours**

Unit 4:
- **Evolution;** Origin of life: Special creation theory, Theories of spontaneous generation or abiogenesis. Theory of chemical evolution and spontaneous origine of life at molecular level Oparin's hypothesis Miller's experiment, Protenoid microsphere.
- **Process of origin of life:**Structure of cosmos, primitive earth, Prebiotic synthesis, Evolution of progenote, Origine and evolution of protein RNA, DNA, Plasma membrane,
- Origin of prokaryotes and eukaryotes (endo symbiotic hypothesis)
- **Theories of organic evolution:** Lamarkism, Darwinism, Mutational and Modern concept of Evolution.   **15 Hours**

Practical: Elective II

Paper Code: BOTDSEP5.2B	Paper Title : Genetics, Plant Breeding and evolution
Teaching Hours: 3Hrs / Week	Marks: Th-40+IA-10
	Credits :1

1. Mendel's laws through seed ratios. Laboratory exercises in probability and chi-square.
2. Chromosome mapping using point test cross data.
3. Pedigree analysis for dominant and recessive autosomal and sex linked traits.
4. Incomplete dominance and gene interaction through seed ratios (9:7, 9:6:1, 13:3, 15:1, 12:3:1, 9:3:4).
5. Study of aneuploidy: Down's, Klinefelter's and Turner's syndromes through photographs.
6. Photographs/Permanent Slides showing Translocation Ring, Laggards and Inversion Bridge.
7. Hybridization techniques - Emasculation, Bagging (For demonstration only).
8. Induction of polyploidy conditions in plants (For demonstration only).
9. Genetic problems.
10. Genetic problems.

Suggested Readings

1. Gardner E J, Simmons M J, Snustad D P (2008).Principles of Genetics. 8th Ed. Wiley- India.
2. Snustad, D. P. and Simmons, M.J. (2010). Principles of Genetics, John Wiley & Sons Inc., India. 5th edition.
3. Klug W S, Cummings MR, Spencer, C, Palladino, M (2011).Concepts of Genetics, 10th Ed., Benjamin Cummings
4. Griffiths, A.J.F., Wessler, S.R., Carroll, S.B., Doebley, J. (2010). Introduction to Genetic Analysis. W. H. Freemanand Co., U.S.A.10th edition.
5. Pierce B A (2011) Genetics: A Conceptual Approach, 4th Ed., Macmillan Higher Education Learning
6. Singh, B. D. (2005). Plant Breeding: Principles and Methods. Kalyani Publishers. 7th edition.
7. Chaudhari, H.K. (1984). Elementary Principles of Plant Breeding. Oxford – IBH. 2nd edition.
8. Acquaah, G. (2007).Principles of Plant Genetics & Breeding. Blackwell Publishing.

Fifth Semester B.Sc. (Botany) Skill Enhancement Course

Paper Code: BOTSEC5.3   **Paper Title :** Medicinal Botany
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10

Credits :2

Unit1:

- History, Scope and Importance of Medicinal Plants. Indigenous Medicinal Sciences; Definition and Scope-Ayurveda: History, origin, pancha mahabhutas, sapta dhatu and tridosha concepts, Rasayana, plants used in ayurvedic treatments, Siddha:Origin of Siddha medicinal systems, Basis of Siddha system, plants used in Siddha medicine. Unani: History, concept: Umoor-e-tabiya, tumors treatments/therapy, polyherbal formulations.
- Conservation of endangered and endemic medicinal plants. Definition: endemic and endangered medicinal plants, Red list criteria; In situ conservation: Biosphere reserves, sacredgroves, National Parks; Exsitu conservation: Botanic Gardens, Ethnomedicinal plant Gardens.

15 Hours

Unit 2:

- **Propagation of Medicinal Plants**: Objectives of the nursery, its classification, important components of a nursery, sowing, pricking, use of green house for nursery production, propagation through cuttings, layering, grafting and budding.
- **Ethnobotany and Folk medicines. Definition**; Ethnobotany in India: Methods to study ethnobotany; Applications of Ethnobotany: National interacts, Palaeo-ethnobotany. folk medicines of ethnobotany, ethnomedicine, ethnoecology, ethnic communities of India. Application of natural products to certain diseases- Jaundice, cardiac, infertility, diabetics, Blood pressure andskindiseases.   **15 Hours**

Suggested Readings

1. Trivedi P C, 2006. Medicinal Plants: Ethnobotanical Approach, Agrobios, India.

2. Purohit and Vyas, 2008. Medicinal Plant Cultivation: A Scientific Approach, 2nd edn. Agrobios, India.

Sixth Semester B.Sc. (Botany)

Paper Code: BOTDSE6.1   **Paper Title :** Analytical Techniques in Plants
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20

Credits : 3

Unit1:

- **Imaging and related techniques**

  Principles of microscopy; Light microscopy; Fluorescence microscopy; Confocal microscopy; Use of fluorochromes: (a) Flow cytometry (FACS); (b) Applications of fluorescence microscopy: Chromosome banding, FISH, chromosome painting; Transmission and Scanning electron microscopy – sample preparation for electron microscopy, cryofixation, negative staining, shadow casting, freeze fracture, freez eetching.

  15 Hours

Unit 2:

- **Cell fractionation**

  Centrifugation: Differential and density gradient centrifugation, sucrose density gradient, $CsCl_2$ gradient, analytical centrifugation, ultracentrifugation, marker enzymes.

- **Radioisotopes**

  Use in biological research, auto-radiography, pulse chase experiment.

- **Spectrophotometry**

  Principle and its application in biological research.

  15 Hours

Unit3:

- **Chromatography**

  Principle; Paper chromatography; Column chromatography, TLC, GLC, HPLC, Ion- exchange chromatography; Molecular sieve chromatography; Affinity chromatography.

- **Characterization of proteins and nucleic acids**

  Mass spectrometry; X-ray diffraction; X-ray crystallography; Characterization of proteins and nucleic acids; Electrophoresis: AGE, PAGE, SDS-PAGE

  15 Hours

Unit4:

- **Biostatistics**

  Statistics, data, population, samples, parameters; Representation of Data: Tabular, Graphical; Measures of central tendency: Arithmetic mean, mode, median; Measures of dispersion: Range, mean deviation, variation, standard deviation; Chi-square test for goodness of fit.

  15 Hours

Practical

1. Study of Blotting techniques: Southern, Northern and Western, DNA fingerprinting, DNA sequencing, PCR through photographs.

2. To separate Amino acids by paper chromatography.

3. To separate chlorophyll pigments by paper chromatography.

4. To estimate protein concentration through Lowry's methods.

5. Study of different microscopic techniques using photographs/micrographs (freeze fracture, freeze etching, negative staining, positive staining, fluorescence and FISH).

6. Preparation of permanent slides (double staining).

7. Calculation of central tendencies (Mean, Mode and Median)

8. Calculation of standard deviation.

9. Calculation of ANOVA (Analysis of variance- one way ANOVA)

Suggested Readings

1. Plummer, D.T. (1996). An Introduction to Practical Biochemistry. Tata Mc Graw-Hill Publishing Co. Ltd. New Delhi. 3rdedition.

2. Ruzin, S.E. (1999). Plant Microtechnique and Microscopy, Oxford University Press, New York. U.S.A.

3. Ausubel, F., Brent, R., Kingston, R. E., Moore, D.D., Seidman, J.G., Smith, J.A., Struhl, K. (1995). Short Protocols in Molecular Biology. John Wiley & Sons. 3rd edition.

4. Zar, J.H. (2012). Biostatistical Analysis. Pearson Publication. U.S.A. 4thedition.

Sixth Semester B.Sc. (Botany) Elective III

Paper Code: BOTDSET6.2A   **Paper Title :**Research Methodology
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Credits :3

Unit1:

- **Basic concepts of research**

  Research-definition and types of research (Descriptive vs analytical; applied vs fundamental; quantitative vs qualitative; conceptual vs empirical). Research methods vs methodology. Literature-review and its consolidation; Library research; field research; laboratory research.

                                                                    15 hours

Unit2:

- **General laboratory practices**

  Common calculations in botany laboratories. Understanding the details on the label of reagent bottles. Molarity and normality of common acids and bases. Preparation of solutions. Dilutions. Percentage solutions. Molar, molal and normal solutions. Technique of handling micropipettes; Knowledge about common toxic chemicals and safety measures in their handling.

- **Data collection and documentation of observations**

  Maintaining a laboratory record; Tabulation and generation of graphs. Imaging of tissue specimens and application of scale bars. The art of field photography.

                                                                    15 hours

Unit3:

- **Overview of Biological Problems**

  History; Key biology research areas, Model organisms in biology (A Brief overview): Genetics, Physiology, Biochemistry, Molecular Biology, Cell Biology, Genomics, Proteomics-Transcriptional regulatory network.

- **Methods to study plant cell/tissue structure**

  Whole mounts, peel mounts, squash preparations, clearing, maceration and sectioning; Tissue preparation: living vs fixed, physical vs chemical fixation, coagulating fixatives, non- coagulant fixatives; tissue dehydration using graded solvent series; Paraffin and plastic infiltration; Preparation of thin and ultrathin sections.

                                                                    15 hours

Unit 4:

- **Plant microtechniques**

  Staining procedures, classification and chemistry of stains.Staining equipment. Reactive dyes and fluorochromes (including genetically engineered protein labeling with GFP and other tags). Cytogenetic techniques with squashed plant materials.

  - **The art of scientific writing and its presentation**

    Numbers, units, abbreviations and nomenclature used in scientific writing. Writingre ferences. Powerpoint presentation. Poster presentation. Scientific writing and ethics, Introduction to copyright-academic misconduct/plagiarism.

                                                                    15 hours

Practical: Elective III

Paper Code: BOTDSE P 6.2A   **Paper Title :** Research Methodology

Teaching Hours: 3Hrs / Week   **Marks:** Th-40+IA-10

Credits : 1

1. Basic introduction to laboratory safety.
2. Research techniques.
   a. Microscopic techniques.
   b. Chromatography technique.
   c. Separation technique.
3. Experimental design.
4. Sampling techniques.
5. Introduction to research methodology.
6. Introduction to research ethics.
7. Introduction to Intellectual property rights.
8. Skill of writing Scientific/research paper.
9. Research paper communication.
10. Search engines and research databases.
11. Academic misconduct and plagiarism

Suggested Readings

1. Dawson, C. (2002). Practical research methods. UBS Publishers, New Delhi.

2. Stapleton, P., Yondeowei, A., Mukanyange, J., Houten, H. (1995). Scientific writing for agricultural research scientists – a training reference manual. West Africa Rice Development Association, Hong Kong.

3. Ruzin, S.E. (1999). Plant microtechnique and microscopy. Oxford University Press, New York, U.S.A.

Sixth Semester B.Sc. (Botany) Elective IV

Paper Code: BOTDSET6.2B   **Paper Title : Biofertilizers and Organic Farming**
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Teaching Hours:60   **Credits :**3

Unit 1:
- **Manures and Biofertilizers:** Need for fertilizers, manures. Manure composition. Manures for crop productivity.

Differences between fertilizers and biofertilizers: pH changes and water contamination.

- **Organic Farming:** Organic farming – Green manuring and organic fertilizers, Recycling of bio-degradable

municipal, agricultural and industrial wastes, Biocompost making- types, method of vermicomposting, Panchakavya. Biological pest control (neem)

15 Hours

Unit 2:
- **Bacterial Biofertilizers:** General account on the microbes used as bio fertilizer. *Azotobacter*: classification,

characteristics– crop response to *Azotobacter* inoculum, maintenance and mass multiplication. *Rhizobium* – isolation, identification, mass multiplication, carrier based inoculants, Actinorrhizal symbiosis.

15 Hours

Unit 3:
- **Algal Biofertilizers;** *Azospirillum*: isolation and mass multiplication – carrier based

inoculant, associative effect of different microorganisms. *Azolla* and *Anabaena azollae* association, nitrogen fixation, factors affecting growth, *Azolla* in rice cultivation.

15 Hours

Unit 4:
- **Fungal Biofertilizers:** Mycorrhizal association, types of mycorrhizal association, taxonomy, occurrence and

distribution, phosphorus nutrition, growth and yield, colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.

15 Hours

Practical: Elective IV

Paper Code: BOTDSE P 6.2B   **Paper Title : Biofertilizers and Organic Farming**
Teaching Hours: 4Hrs / Week   **Marks:** Th-40+IA-10
     Credits :1

PRACTICAL

1. Isolation and culture of *Rhizobium* and Algae.
2. Anatomy of *Azolla* leaf and identification of *Anabaena azollae*.
3. Mass cultivation of *Azolla*.
4. Isolation and culture of VAM.
5. Compost preparation- green manure, vermicompost.
6. Estimation of mineral content of biomass from vermicompost manure(pH, Nitrate,Nitrite, sulphate, Calcium,   magnesium, Ammonia, Silica)
7. Isolation of cyanobacteria from soil.
8. Isolation of Fungi from soil
9. Isolation of Bacteria from soil

Suggested Readings

1. Dubey R.C. 2005. A Text book of Biotechnology. S.Chand & Co. New Delhi.
2. Kumaresan V. 2005. Biotechnology. Saras Publications. New Delhi.
3. John Jothi Prakash E. 2004. Outlines of Plant Biotechnology. Emkay Publication. New Delhi.
4. Sathe T.V. 2004. Vermiculture and Organic Farming. Daya Publishers. New Delhi.
5. Subha Rao N.S. 2000. Soil Microbiology, Oxford & IBH Publishers. New Delhi.
6. Vayas S.C, Vayas S. and Modi H.A. 1998.Bio-fertilizers and organic Farming Akta Prakashan. Nadiad.

Sixth Semester B.Sc. (Botany) Skill Enhancement Course

Paper Code: BOTSEC6.3   **Paper Title :** Ethnobotany
Teaching Hours: 2 Hrs / Week   **Marks:** Th-40+IA-10
Teaching Hours:30   **Credits :**2

Unit1:

- **Introduction to Ethnobotany:** Introduction, concept, scope and objectives; Ethnobotany as an interdisciplinary science. The relevance of ethnobotany in the present context; Major and minor ethnic groups or Tribals of India, and their life styles. Plants used by the tribals: a)Food plants b)intoxicants and beverages c)Resins and oils and miscellaneous uses.

- **Ethnobotany and legal aspects**

Ethnobotany as a tool to protect interests of ethnic groups. Sharing of wealth concept with few examples from India. Biopiracy, Intellectual Property Rights and Traditional Knowledge.

15 Hours

Unit 2:

- **Methodology of Ethnobotanical studies**

Field work b) Herbarium c) Ancient Literature d) Archaeological findings e) Temples and sacred places.

- **Role of ethnobotany in modern Medicine**

Medico-ethnobotanical sources in India; Significance of the following plants in ethno botanical practices (along with their habitat and morphology) a) *Azadiractha indica* b) *Ocimum sanctum* c) *Vitex negundo*. d) *Gloriosa superba*e) *Tribulus terrestris* f) *Pongamia pinnata* g) *Cassia auriculata* h) *Indigofera tinctoria*. Role of ethnobotany in modern medicine with special example *Rauvolfia sepentina, Trichopus zeylanicus, Artemisia, Withania*.

Role of ethnic groups in conservation of plant genetic resources. Endangered taxa and forest management (participatory forest management). **15 Hours**

Suggested Readings

1) S.K. Jain, Manual of Ethnobotany, Scientific Publishers, Jodhpur, 1995.
2) S. K. Jain (ed.) Glimpses of Indian. Ethnobotny, Oxfordand IBH, New Delhi–1981
3) Lone et al,.Palaeoethnobotany
4) S. K. Jain (ed.)1989.Methods and approaches in ethnobotany. Society of ethnobotanists, Lucknow, India.
5) S. K. Jain, 1990. Contributions of Indian ethnobotny. Scientific publishers, Jodhpur.
6) Colton C.M. 1997. Ethnobotany – Principles and applications. John Wiley and sons – Chichester
7) Rama Ro, N and A.N. Henry (1996). The Ethnobotany of Eastern Ghats in Andhra Pradesh, India. Botanical Survey of India. Howrah. 8) Rajiv K. Sinha – Ethnobotany The Renaissance of Traditional Herbal Medicine–INA–SHREE Publishers, Jaipur-19969)

Question Paper pattern
First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
BOTANY
BOTDSC T11: Biodiversity (Microbes, Algae, Fungi and Archegoniate)

Time: 3 hours   Max. Marks: 80

1.		**Answer any 10 sub question**	**10 x 2 = 20**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
	vii.		
	viii.		
	ix.		
	x.		
	xi.		
	xii.		
2.			
	(a)	5 marks	
	(b)		10 marks
		OR	
3.	(a)	5 marks	
	(b)		10 marks
4	(a)	5 marks	
	(b)		10 marks
		OR	
5	(a)	5 marks	
	(b)		10 marks
6.	(a)	5 marks	
	(b)		10 marks
		OR	
7.	(a)		

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		5 marks	
	(b)		10 marks
8.	(a)		
		5 marks	
	(b)		10 marks
		OR	
9.	(a)		
		5 marks	
	(b)		10 marks

****

Instruction to set the question paper.

1. Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
2. Question number 2 and 3 are from unit I.
3. Question number 4 and 5 are from unit II.
4. Question number 6 and 7 are from unit III
5. Question number 8 and 9 are from unit IV.
6. Student has to answer either question number 2 or 3, 4 or 5, 6 or 7 and 8 or 9.

Note: In case student answered both the questions from the same unit in full or part, highest marks from any one choice has to be considered.

Question paper pattern for skill enhancement course, SEC

Third Semester B.Sc. Degree Examination, December 2021
(CBCS Scheme-2020-21: Regular)
Botany
BOTSEC T32: Skill Enhancement Course

Time: 2 hours   Max. Marks: 40

1.		**Answer any 5 sub question**	**5 x 2 = 10**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
2.			
	(a)	5 marks	
	(b)		10 marks
		OR	
3.	(a)	5 marks	
	(b)		10 marks
4	(a)	5 marks	
	(b)		10 marks
		OR	
5	(a)	5 marks	
	(b)		10 marks

Instruction to set the question paper.

7. Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
8. Question number 2 and 3 is from unit I.
9. Question number 4 and 5 is from unit II.
10. Student has to answer either question number 2 or 3, 4 or 5.

Note: In case student answered both the question from the same unit in full or part, highest marks from any one choice has to be considered.

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

CHEMISTRY

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: CHEMISTRY

Sem	Part	Paper Code	Title of the Paper	Hours / Week	IA	Exam	Total	Subject Credits
			(With effect from the academic year 2020-21 onwards)					
					Marks			
I	Part – 1 DSC	CHEDSCT 1.1	**Chemistry-1**	4	20	80	100	3
		CHEDSCP 1.1	**Practicals-1**	3	10	40	50	1
		Total: Hours / Credits		7			150	4
II	Part – 1 DSC	CHEDSCT 2.1	**Chemistry-2**	4	20	80	100	3
		CHEDSCP 2.1	**Practicals-2**	3	10	40	50	1
		Total: Hours / Credits		7			150	4

| Sem | Part | Paper Code | Title of the Paper | Hours/Week | Marks | | | Subject Credits |
					IA	Exam	Total	
III	Part – 1 DSC	CHEDSCT3.1	**Chemistry-3**	4	20	80	100	3
		CHEDSCP3.1	**Practicals-3**	3	10	40	50	1
	Part – 2 SEC	CHESECT3.2	Chemistry of Cosmetics & Perfumes	2	10	40	50	2
			Total: Hours / Credits	9			200	6
IV	Part – 1 DSC	CHEDSCT4.1	**Chemistry-4**	4	20	80	100	3
		CHEDSCP4.1	**Practicals-4**	3	10	40	50	1
	Part – 2 SEC	CHESECT4.2	Fuel Chemistry	2	10	40	50	2
			Total: Hours / Credits	9			200	6

Table header: (With effect from the academic year 2021-22 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	CHEDSET 5.1	Chemistry-5	4	20	80	100	3
		CHEDSEP 5.1	Practicals-5	3	10	40	50	1
		CHEDSET 5.2A (Elective I)	Chemistry-5A	4	20	80	100	3
		CHEDSEP 5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		CHEDSET 5.2B (Elective II)	Chemistry-5B	4	20	80	100	3
		CHEDSEP 5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	CHESECT5.3	Basic Analytical Chemistry	3	10	40	50	2
			Total: Hours / Credits	17			350	10

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
VI	Part – 1 DSE	CHEDSET 6.1	Chemistry-6	4	20	80	100	3
		CHEDSEP 6.1	Practicals-6	3	10	40	50	1
		CHEDSET 6.2A (Elective III)	Chemistry-6A	4	20	80	100	3
		CHEDSEP 6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		CHEDSET 6.2B (Elective IV)	Chemistry-6B	4	20	80	100	3
		CHEDSEP 6.2B (Elective IV)	Practicals-6B	3	10	40	50	1
	Part – 2 SEC	CHESECT 6.3	Pharmaceutical Chemistry	3	10	40	50	2
			Total: Hours / Credits	17			350	10

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).
Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h.

Schema of Evaluation for Practical Examination

	Particulars	Marks Allotted
1	**Experimental preparation involving the following ***	**30**
2	**Journal (record) assessment**	**05**
3	**Oral performance (Viva-voce)**	**05**
	Total	**40**
*	Brief description & tabulation	04
	Basic reactions involved & Mechanism, if any	04
	Preparation of required solutions and Experimental set-up	04
	Record of observation and performance of experiment	10
	Calculation including drawing graph	06
	Accuracy of result with unit	02

Question Paper pattern
First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
Chemistry
CHEDSCT 1.1: Chemistry-1

Time: 3 Hours   Max. Marks: 80

Q. No. I. Answer any TEN of the following   2X10= 20 Marks
1)
2)
3)
4)
5)
6)
7)
8)
9)
10)
11)
12)

Q. NO. II. Answer the following questions   5X3=15 Marks
a)
b)
c)
OR
d)

Q. No. III. Answer the following questions   5x3= 15 Marks
a)
b)
c)
OR
d)

Q. No. IV. Answer the following questions   5x3=15 Marks
a)
b)
c)
OR
d)

Q. No. V. Answer the following questions   5x3=15 Marks
a)
b)
c)
OR
d)

First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
Chemistry

CHESECT 3.2: Title of the Paper

Time: 3 Hours   Max. Marks: 40

Q. No. I. Answer any **FIVE** of the following   2X5= 20 Marks

1)

2)

3)

4)

5)

6)

Q. NO. II Answer the following questions   5X3=15 Marks

a)

b)

c)

OR

d)

Q. No. III. Answer the following questions   5x3= 15 Marks

a)

b)

c)

OR

d)

Instruction to set the DSC/DSE question paper.

- Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
- Question number II are from unit I.
- Question number III are from unit II.
- Question number IV are from unit III
- Question number V are from unit IV.

Instruction to set the SEC question paper.

- Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
- Question number I is from unit I.
- Question number II is from unit II.

Paper Code: CHEDSCT 1.1   **Paper Title:** Chemistry-1
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I: Atomic Structure   (15 Hours)

Review of Bohr's theory and its limitations, dual behaviour of matter and radiation, de Broglie's relation, Heisenberg Uncertainty principle. Hydrogen atom spectra. Need of a new approach to atomic structure -Introduction to Quantum mechanics: Time independent Schrodinger equation and meaning of various terms in it (no derivation). Significance of ψ and ψ^2. Significance of quantum numbers, orbital angular momentum and quantum numbers $m_l$and m_s. Shapes of *s*, *p* and *d* atomic orbitals, nodal planes. Discovery of spin, spin quantum number (*s*) and magnetic spin quantum number (m_s).

Rules for filling electrons in various orbitals, Electronic configurations of the atoms. Stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations.

UNIT-II: Chemical Bonding and Molecular Structure   (15 Hours)

Ionic Bonding: Ionic bonding, lattice energy, Statement of Born-Landé equation for calculation of lattice energy, Born-Haber cycle and its applications, polarizing power and polarizability. Fajan's rules, ionic character in covalent compounds, bond moment, dipole moment and percentage ionic character.

Covalent bonding: *VB Approach:* Shapes of some inorganic molecules and ions on the basis of VSEPR and hybridization with suitable examples of linear, trigonal planar, square planar, tetrahedral, trigonal bipyramidal and octahedral arrangements.*MO Approach*: Rules for the LCAO method, bonding and antibonding MOs and their characteristics for *s-s*, *s-p* and *p-p* combinations of atomic orbitals, nonbonding combination of orbitals, MO treatment of homonuclear diatomic molecules of 1st and 2nd periods (including idea of *s-p* mixing) and heteronuclear diatomic molecules such as CO, NO and NO^+. Comparison of VB and MO approaches.

UNIT-III: Fundamentals of Organic Chemistry and Alkenes   (15Hours)

Fundamentals of Organic Chemistry: Physical Effects, Electronic Displacements: Inductive Effect, Electromeric Effect, Resonance and Hyperconjugation. Cleavage of Bonds: Homolysis and Heterolysis.

Structure, shape and reactivity of organic molecules: Nucleophiles and electrophiles. Reactive Intermediates: Carbocations, Carbanions and free radicals.

Strength of organic acids and bases: Comparative study with emphasis on factors affecting pK values. Aromaticity: Benzenoids and Hückel's rule.

Alkenes: Methods of preparation of alkenes by (i) dehydration of alcohols (ii) dehydro halogenation. Saytezaff's elimination (Formation of highly substituted alkene, 2-butene), Hofmann orientation (Formation of least substituted alkene, 1-pentene).

Chemical reactions of alkenes- Peroxide effect and its mechanism, hydroboration, oxidation, oxy-mercuration–reduction and mechanism, ozonolysis with respect to2-butene and 2-methyl-2-butene, oxidation with $KMnO_4$.

Dienes: Classification, Nomenclature and Preparation of 1,3 butadiene; Reactions of 1,2 and 1,4 addition reactions (addition of halogens and halogen acids), Diel's-Alder reaction, polymerization of 1,3 butadiene.

Alkynes: Acidity of Alkynes, reactions of acetylene –metal ammonia reduction, oxidation and polymerization

UNIT-IV: Purification of organic compounds and Stereochemistry   (15 Hours)

Purification of organic compounds:

Methods of purification of solids: Crystallization, fractional crystallization and sublimation.

Method of purification of liquids: Distillation, fractional distillation, distillation under reduced pressure, steam distillation.

Chromatography: General principles, types, brief outline of thin layer chromatography, paper chromatography and column chromatography, solvent extraction.

Criteria of purity: Melting point and boiling point.

Stereochemistry:

Cycloalkanes: Baeyer's strain theory, calculation of angle strain, Sachse Mohr theory of strain less rings. Chair and boat forms of cyclohexane. Axial and equatorial bonds.

Conformational isomerism: Basic concept of conformational analysis with reference to ethane and butane.

Geometrical isomerism: definition, E and Z notation for 2-butene and butenedioic acid, rules for assigning notations. Determination of configuration of butenedioic acid by anhydride formation, dipole moment measurement, melting point and stability.

Optical isomerism: Chirality, van't Hoff-Lebel hypothesis, optical activity, D and L configurations, R and S notations, sequence and priority rules, enantiomers, distereoisomers, epimers, anomers, racemic and meso (with suitable examples like lactic and tartaric acids.), racemisation, resolution of racemic mixture by chemical method, asymmetric synthesis, Walden inversion.

References:

1. Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991.

2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley.

3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons.

4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.

5. Graham Solomon, T.W., Fryhle, C.B. & Dnyder, S.A. *Organic Chemistry,* John Wiley & Sons (2014).

6. McMurry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.

7. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry,* Orient Longman, New Delhi (1988).

8. Eliel, E.L. *Stereochemistry of Carbon Compounds*, Tata McGraw Hill education, 2000.

9. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.

10. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.

11. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry,* S. Chand, 2010.

First Semester B.Sc. (Chemistry)

Paper Code: CHEDSCP 1.1   **Paper Title:** Practicals-1
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 45 h   **Credits :**1

Section A: Inorganic Chemistry - Volumetric Analysis   **(40 Marks)**

1. Estimation of sodium carbonate and sodium hydrogen carbonate present in a mixture.

2. Estimation of oxalic acid by titrating it with $KMnO_4$.

3. Estimation of water of crystallization in Mohr's salt by titrating with $KMnO_4$.

4. Estimation of Fe (II) ions by titrating it with $K_2Cr_2O_7$ using internal indicator.

5. Estimation of Cu (II) ions iodometrically using $Na_2S_2O_3$ (demo only).

6. *Determination of the percentage loss in weight of I) Zinc carbonate II) mixture of barium sulphate and ammonium chloride*

Section B: Organic Chemistry Estimations:

7. Estimation of Phenol.

8. Estimation of Aniline.

9. Estimation of Amide.

10. Estimation of Glucose.

Reference Books:

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.

2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.

3. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.

4. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.

Paper Code: CHEDSCT 2.1   **Paper Title:** Chemistry-2

Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20

Total hours: 60   **Credits:** 3

UNIT-I Chemical Energetics and Ionic Equilibria: I   (15Hours)

Chemical Energetics: Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature – Kirchhoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances. Joule-Thomson effect, derivation of Joule Thomson coefficient for an ideal gas and inversion temperature.

Ionic Equilibria-I: Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect.

UNIT-II: Ionic Equilibria: II and Chemical Equilibrium   (15Hours)

Ionic Equilibria-II: Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts – applications of solubility product principle.

Chemical Equilibrium: Free energy change in a chemical reaction. Thermodynamic derivation of the law of chemical equilibrium (VantHoff reaction isotherm). Distinction between ΔG and ΔG^o, Le Chatelier's principle. Relationships between K_p, K_c and K_x for reactions involving ideal gases. Variation of equilibrium constants with temperatures.

UNIT-III: Spectroscopy, Alkyl and Aryl Halides   (15 Hours)

Spectroscopy: Introduction to conventional methods of elucidation of structure of organic compounds (chemical degradation) and comparison with spectroscopic methods, electromagnetic spectrum.

UV spectroscopy: Principle, types of transitions, chromophores, concept of auxochromes and their effect on λ_{max}, bathochromic shift, hypsochromic shift, hypochromic and hyperchromic shift. Woodward and Fieser rules and illustration of calculation of λ_{max} taking myrcene and B-phelladrene as examples.

Alkyl and Aryl Halides

Functional group approach for the following reactions (preparations & reactions) to be studied in context to their structure.

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Alkyl Halides: Types of Nucleophilic Substitution (S_N1, S_N2 and S_Ni) reactions.

Preparation of alkyl halides from alkenes and alcohols.

Reactions: hydrolysis, nitrite & nitro formation, nitrile & isonitrile formation. Williamson's ether synthesis.

Aryl Halides: Preparation of aryl halides (Chloro, bromo and iodo-benzene) from phenol, Sandmeyer & Gattermann reactions.

Reactions (Chlorobenzene): Aromatic nucleophilic substitution (replacement by –OH group) and effect of nitro substituent. Benzyne Mechanism: KNH_2/NH_3 (or $NaNH_2/NH_3$).

Reactivity and Relative strength of C-Halogen bond in alkyl, allyl, benzyl, vinyl and aryl halides.

UNIT-IV: Aldehydes and ketones, Carboxylic Acids, Ethers and Epoxides(15Hours)

Aldehydes and ketones (aliphatic and aromatic): (Formaldehyde, acetaldehyde, acetone and benzaldehyde) *Preparation:* from acid chlorides and from nitriles.

Reactions – Reaction with HCN, ROH, $NaHSO_3$, NH_2-G derivatives. Iodoform test. Aldol Condensation, Cannizzaro's reaction, Wittig reaction, Benzoin condensation. Clemensen reduction.

Carboxylic Acids: Nomenclature, structure and bonding, acid strengths of mono, di and tri chloroacetic acids and nitro, chloro and hydroxy substituted benzoic acids, mechanism of esterification and hydrolysis of ester (Aac2 and Bac2).Reactions of carboxylic acids - i) Conversion into acid derivatives(acid chlorides, amides, esters and anhydrides), ii) Curtius rearrangement, iii) Reaction with organometallic compounds and iv) Hell-Volhard-Zelinsky reaction.

Ethers: Nomenclature of ethers and their methods of preparation, chemical reactions - Reaction with HI, hot and cold taking symmetric and unsymmetrical ethers. Crown ethers: Definition, examples, use of crown ethers as phase transfer catalysts.

Epoxides: Synthesis of 1,2-epoxy ethane and 1,2-epoxycyclopentane, acid catalyzed ring opening of 1,2-epoxycyclopentane in aqueous solution.

Reference:

1. Graham Solomon, T.W., Fryhle, C.B. & Dnyder, S.A. *Organic Chemistry,* John Wiley & Sons (2014).

2. McMurry, J.E. *Fundamentals of Organic Chemistry*, 7th Ed. Cengage Learning India Edition, 2013.

3. Sykes, P. *A Guidebook to Mechanism in Organic Chemistry,* Orient Longman, New Delhi (1988).

4. Finar, I.L. *Organic Chemistry* (Vol. I & II), E.L.B.S.

5. Morrison, R.T. & Boyd, R.N. *Organic Chemistry*, Pearson, 2010.

6. Bahl, A. & Bahl, B.S. *Advanced Organic Chemistry,* S. Chand, 2010.

7. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).

8. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).

9. Kotz, J.C., Treichel, P.M. & Townsend, J.R. *General Chemistry* Cengage Learning India Pvt. Ltd., New Delhi (2009).

10. Mahan, B.H. *University Chemistry* 3rd Ed. Narosa (1998).

11. Petrucci, R.H. *General Chemistry* 5th Ed. Macmillan Publishing Co.: New York (1985).

Paper Code: CHEDSCP 2.1   **Paper Title:** Practicals-2
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:45   **Credits:** 1

SECTION A. Organic Spotting

Identification of following organic compounds and preparation of their derivatives and confirmation by melting points:

S. L	Name of compound	S. L	Name of compound
1	Phthalic acid	9	Acetone
2	Benzoic Acid	10	Ethyl benzoate
3	Salicylic Acid	11	Benzaldehyde
4	Aniline	12	Acetanilide
5	*p*-Nitroaniline	13	Naphthalene
6	Phenol	14	Urea
7	1-Naphthol	15	Benzamide
8	2-Naphthol		

Section B: Identification by

1.   Element detection, 2. Solubility, 3. Functional group, 4. Physical constant,

5. Preparation of derivatives and finding melting points.

Reference Books

1.   Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.

2.   Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.

3.   Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry,* R. Chand & Co.: New Delhi (2011).

Paper Code: CHEDSCT 3.1	**Paper Title:** Chemistry-3
Teaching Hours: 4 H / Week	**Marks:** Th-80+IA-20
Total hours:60	**Credits:** 3

UNIT-I: Solutions and Liquids   (15Hours)

Solutions: Thermodynamics of ideal solutions: Ideal solutions and Raoult's law, deviations from Raoult's law – non-ideal solutions. Vapour pressure-composition and temperature-composition curves of ideal and non-ideal solutions. Distillation of solutions.

Partial miscibility of liquids: Critical solution temperature; effect of impurity on partial miscibility of liquids. Immiscibility of liquids- Principle of steam distillation. Nernst distribution law and its applications, solvent extraction.

Liquids: Surface tension and its determination using stalagmometer. Viscosity of a liquid and determination of coefficient of viscosity using Ostwald viscometer. Effect of temperature on surface tension and coefficient of viscosity of a liquid (qualitative treatment only).

UNIT II: Electrochemistry and Phase Equilibrium   15Hours)

Electrochemistry: Reversible and irreversible cells. Concept of EMF of a cell. Measurement of EMF of a cell. Nernst equation and its importance. Types of electrodes. Standard electrode potential. Electrochemical series. Thermodynamics of a reversible cell, calculation of thermodynamic properties: ΔG, ΔH and ΔS from EMF data. Calculation of equilibrium constant from EMF data. Concentration cells with transference and without transference. Liquid junction potential and salt bridge. pH determination using hydrogen electrode and quinhydrone electrode. Potentiometric titrations -qualitative treatment (acid-base and oxidation-reduction only).

Phase Equilibrium: Phases, components and degrees of freedom of a system, criteria of phase equilibrium. Phase diagrams of one-component systems (water and sulphur) and two component systems involving eutectics, congruent and incongruent melting points (KI/H_2O, Bi-Cd).

UNIT-III: Orientation, Alcohols and Phenols   (15Hous)

Orientation: Review of inductive, electromeric, resonance and hyperconjugation effects, activating and deactivating groups, orientation of substituent in aromatic compounds with different functional groups like –OH, -NH2, -Cl, -NO2, -CH3, and -COOH in halogenation and nitration reactions (only electronic interpretation).

Alcohols: Introduction and nomenclature of dihydric and trihydric alcohols, preparation of glycol from ethene, oxidative cleavage of ethylene glycol with lead tetra acetate and per iodic acid, pinacol–pinacolone rearrangement, preparation of glycerol from propene, synthesis and uses of nitroglycerine, composition and uses of dynamite and cordite, distinction between primary, secondary and tertiary alcohols by Lucas reagent.

Phenols: Classification and nomenclature, acidic character of phenol compared to alcohol and cyclohexenol, mechanism of Fries rearrangement, Claisen rearrangement, Elbs persulphate oxidation and Lederer-Manasse reaction, synthesis and uses of n-hexyl resorcinol and picric acid, structure and uses of dettol.

Unit-IV: Spectroscopy and Aromatic Hydrocarbons. (15Hours)

Infrared spectroscopy: Principle, types of vibrations, identification of following organic compounds by stretching frequencies–Alkanes, alkenes, alkynes, benzene, aldehydes, ketone, alcohol, thiols, acids, esters, amines, problems based on molecular formula and stretching frequency.

Mass Spectroscopy: Principle, instrumentation, definitions of parent peak and base peak, McLafferty rearrangement with respect to butyraldehyde.

Aromatic Hydrocarbons: Resonance in benzene, Aromaticity–Huckel's 4n +2 rule with respect to benzene, furan, pyridine and [10]–annulene. Mechanism of electrophilic aromatic substitution–halogenation, nitration, sulphonation and Friedel-Craft's reaction (evidences for two step mechanism and evidences for formation of electrophile).

Poly nuclear hydrocarbons: Classification, examples, constitution of naphthalene, Haworth synthesis, nitration and sulphonation of naphthalene.

Reference Books:

1. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).
2. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).
3. Kotz, J.C., Treichel, P.M. & Townsend, J.R. *General Chemistry*, Cengage Learning India Pvt. Ltd.: New Delhi (2009).
4. Mahan, B.H. *University Chemistry*, 3rd Ed. Narosa (1998).
5. Petrucci, R.H. *General Chemistry*, 5th Ed., Macmillan Publishing Co.: New York (1985).
6. Morrison, R. T. & Boyd, R. N. *Organic Chemistry*, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
7. Finar, I. L. *Organic Chemistry* (*Volume 1*), Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
8. Finar, I. L. *Organic Chemistry* (*Volume 2)*, Dorling Kindersley (India) Pvt. Ltd. (Pearson Education).
9. Nelson, D. L. & Cox, M. M. *Lehninger's Principles of Bioch*emistry 7th *Ed.,* W. H. Freeman.
10. Berg, J.M., Tymoczko, J.L. & Stryer, L. *Biochemistry*, W.H. Freeman, 2002.

Paper Code: CHEDSCP 3.1   **Paper Title: Practicals-3**
Teaching Hours: 3 H / Week   **Marks: Th-40+IA-10**
Total hours: 45   **Credits: 1**

Section A: Physical Chemistry Experiments   **(40 Marks)**

1. To study the effect of acid strength on hydrolysis of methyl acetate using HCl and H_2SO_4.

2. To determine the rate constant of second order reaction $KI+K_2S_2O_8$ (a=b) and effect of concentration on rate constant of second order reaction.

3. Adsorption of acetic acid on animal charcoal.

4. Determination of surface tension and parachor of benzene series.

5. Determination of surface tension and parachor of alcohol series.

6. Determination of viscosity of liquids of Ostwald's method.

7. Determination of viscosity of binary liquid mixtures and finding the percentage composition unknown.

8. Determination of molecular weight of urea by Landbergers method.

9. Determination of degree of dissociation of KCl by Landbergers method.

10. Determination of equilibrium constant of distribution of iodine between KI and CCl4.

Section B: Inorganic volumetric experiments:

11. Preparation of aqueous iron solutions and estimation of iron using standard$K_2Cr_2O_{7.}$(Internal indicator method).

12. Preparation of aqueous solution of copper and zinc from brass andestimation of percentage of copper using standard sodium thiosulphatesolution.

13. Preparation of calcium solution from lime stone and estimation ofpercentage of calcium using oxalate method.

14. Estimation of zinc using standard solution of potassium ferro cyanide(Standardization of the titrant be done using standard zinc sulphatesolution.

Reference Books:

1. Vogel, A.I., Tatchell, A.R., Furnis, B.S., Hannaford, A.J. & Smith, P.W.G., *Textbook of Practical Organic Chemistry*, Prentice-Hall, 5th edition, 1996.

2. Mann, F.G. & Saunders, B.C. *Practical Organic Chemistry* Orient-Longman, 1960.

3. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry,* R. Chand & Co.: New Delhi (2011).

4. Ahluwalia, V.K. & Aggarwal, R. *Comprehensive Practical Organic Chemistry,* Universities Press.

Paper Code: CHESECT 3.2   **Paper Title:** Chemistry of Cosmetics & Perfumes
Teaching Hours: 3h / Week   **Marks:** Th-40+IA-10
Total hours:30   **Credits:** 2

CHEMISTRY OF COSMETICS & PERFUMES   15 hours

A general study including preparation and uses of the following: Hair dye, hair spray, shampoo, suntan lotions, face powder, lipsticks, talcum powder, nail enamel, creams (cold, vanishing and shaving creams), antiperspirants and artificial flavours. Essential oils and their importance in cosmetic industries with reference to Eugenol, Geraniol, sandalwood oil, eucalyptus, rose oil, 2-phenyl ethyl alcohol, Jasmone, Civetone, Muscone.

Practicals   15 hours

1. Preparation of talcum powder.

2. Preparation of shampoo.

3. Preparation of enamels.

4. Preparation of hair remover.

5. Preparation of face cream.

6. Preparation of nail polish and nail polish remover.

Reference Books:

1. E. Stocchi: *Industrial Chemistry*, Vol -I, Ellis Horwood Ltd. UK.

2. P.C. Jain, M. Jain: *Engineering Chemistry*, Dhanpat Rai & Sons, Delhi.

3. Sharma, B.K. & Gaur, H. *Industrial Chemistry,* Goel Publishing House, Meerut(1996).

Paper Code: CHEDSCT 4.1   **Paper Title:** Chemistry-4
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT I: Transition Elements (3d series) and Coordination Chemistry   (15Hours)

Transition Elements (3d series): General group trends with special reference to electronic configuration, variable valency, colour, magnetic and catalytic properties, ability to form complexes and stability of various oxidation states (Latimer diagrams) for Mn, Fe and Cu.

Lanthanoids and actinoids: Electronic configurations, oxidation states, colour, magnetic properties, lanthanide contraction, separation of lanthanides (ion exchange method only).

Coordination Chemistry: Valence Bond Theory (VBT): Inner and outer orbital complexes of Cr, Fe, Co, Ni and Cu (coordination numbers 4 and 6). Structural and stereoisomerism in complexes with coordination numbers 4 and 6. Drawbacks of VBT. IUPAC system of nomenclature.

UNIT- II: Chemistry of d-block and f-block elements, Chelates, Environmental Chemistry   (15Hours)

Chemistry of d and f block elements: General characteristics of d block elements- Electronic configuration, oxidation states, metallic property, colour, reactivity, reducing property, magnetic, catalytic and complex formation properties. General characteristics of f block elements - Electronic configuration, cause and consequences of lanthanide contraction. General features of actinides- electronic configuration, oxidation state, extraction of uranium from pitchblende.

Chelates: definition, characteristics, factors influencing the stability of metal chelates and importance of chelates.

Environmental Chemistry

*Air pollution***:** Types of pollutants, sources and control measures- CO, CO_2, SOx, NOx, H_2S, hydrocarbons, CFC's and particulates, pesticides, and their adverse effects.

Water pollution: Types of pollutants, sources and adverse effects (sewage, infectious agents, organic chemicals and inorganic mineral, oils and sediments) Parameters of water pollution – Dissolved oxygen (DO), biological oxygen demand (BOD) and chemical oxygen demand (COD), definitions and their determinations. Treatment of sewage and industrial effluents - Preliminary, primary and secondary treatment (Aerated lagoons, trickling filters and activated sludge).

UNIT-III Kinetic Theory of Gases and Conductance   **(15Hours)**

Kinetic Theory of Gases: Derivation of the kinetic gas equation. Deviation of real gases from ideal behaviour, compressibility factor, causes of deviation. van der Waals equation of state for real gases. Boyle temperature (derivation not required). Critical phenomena, critical constants and their calculation from van der Waals equation. Andrews isotherms of CO_2.Maxwell Boltzmann distribution laws of molecular velocities and molecular energies (graphic representation – derivation not required) and their importance. Temperature dependence of these distributions. Most probable, average and root mean square velocities (no derivation). Collision cross section, collision number, collision frequency, collision diameter and mean free path of molecules. Viscosity of gases and effect of temperature and pressure on coefficient of viscosity (qualitative treatment only).

Conductance: Conductivity, equivalent and molar conductivity and their variation with dilution for weak and strong electrolytes. Kohlrausch law of independent migration of ions. Transference number and its experimental determination using Hittorf and Moving boundary methods. Ionic mobility. Applications of conductance measurements: determination of degree of ionization of weak electrolyte, solubility and solubility products of sparingly soluble salts, ionic product of water, hydrolysis constant of a salt. Conductometric titrations (only acid-base).

UNIT-IV Theory of Solids and Chemical Kinetics   **(15 Hours)**

Solids: Forms of solids. Symmetry elements, unit cells, crystal systems, Bravais lattice types and identification of lattice planes. Laws of Crystallography - Law of constancy of interfacial angles, Law of rational indices. Miller indices. X–Ray diffraction by crystals, Bragg's law. Structures of NaCl, KCl and CsCl (qualitative treatment only). Defects in crystals. Glasses and liquid crystals.

Chemical Kinetics: The concept of reaction rates. Effect of temperature, pressure, catalyst and other factors on reaction rates. Order and molecularity of a reaction. Derivation of integrated rate equations for zero, first and second order reactions (both for equal and unequal concentrations of reactants). Half–life of a reaction. General methods for determination of order of a reaction. Concept of activation energy and its calculation from Arrhenius equation.

Theories of Reaction Rates: Collision theory and Activated Complex theory of bimolecular reactions. Comparison of the two theories (qualitative treatment only).

Reference Books:

1. Barrow, G.M. *Physical Chemistry* Tata McGraw-Hill (2007).
2. Castellan, G.W. *Physical Chemistry* 4th Ed. Narosa (2004).

3. Kotz, J.C., Treichel, P.M. & Townsend, J.R. *General Chemistry* Cengage Learning India Pvt. Ltd., New Delhi (2009).

4. Mahan, B.H. *University Chemistry* 3rd Ed. Narosa (1998).

5. Petrucci, R.H. *General Chemistry* 5th Ed. Macmillan Publishing Co.: New York (1985).

6. Cotton, F.A. & Wilkinson, G. *Basic Inorganic Chemistry,* Wiley.

7. Shriver, D.F. & Atkins, P.W. *Inorganic Chemistry*, Oxford University Press.

8. Wulfsberg, G. *Inorganic Chemistry,* Viva Books Pvt. Ltd.

9. Rodgers, G.E. *Inorganic & Solid-State Chemistry,* Cengage Learning India Ltd., 2008.

Paper Code: CHEDSCP 4.1   **Paper Title:** Practicals-4
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 45   **Credits:** 1

Section A: Inorganic Chemistry   **(40 Marks)**

Semi-micro Qualitative analysis of two simple inorganic Salts

ANIONS: CO_3^{-2}, S^{-2}, Cl^-, Br^-, I^-, NO_3^-, SO_4^{-2}

CATIONS: Pb^{+2}, Cu^{+2}, Al^{+3}, Fe^{+2}, Fe^{+3}, Mn^{+2}, Co^{+2}, Ni^{+2}, Zn^{+2}, Ca^{+2}, Ba^{+2}, Mg^{+2}, Na^+, K^+ and NH_4^+

Section B: *Inorganic Chemistry*

1. Determination of dissolved oxygen present in water by Winkler's method.

2. Determination of C.O.D in polluted water.

Reference Books:

1. Svehla, G. *Vogel's Qualitative Inorganic Analysis*, Pearson Education, 2012.

2. Mendham, J. *Vogel's Quantitative Chemical Analysis*, Pearson, 2009.

3. Khosla, B. D.; Garg, V. C. & Gulati, A. *Senior Practical Physical Chemistry,* R. Chand & Co.: New Delhi (2011).

Paper Code: CHESEC 4.2   **Paper Title:** Fuel Chemistry
Teaching Hours: 3 H / Week   **Marks:** Th-80+IA-20
Total hours:30   **Credits :**2

UNIT-I: FUEL CHEMISTRY: 15 hours

Review of energy sources (renewable and non-renewable). Classification of fuels and their calorific value.

Coal: Uses of coal (fuel and nonfuel) in various industries, its composition, carbonization of coal. Coal gas, producer gas and water gas—composition and uses. Fractionation of coal tar, uses of coal tar bases chemicals, requisites of a good metallurgical coke, Coal gasification (Hydro gasification and Catalytic gasification), Coal liquefaction and Solvent Refining.

Petroleum and Petrochemical Industry: Composition of crude petroleum, Refining and different types of petroleum products and their applications.

UNIT-II   15 hours

Fractional Distillation (Principle and process), Cracking (Thermal and catalytic cracking), Reforming Petroleum and non-petroleum fuels (LPG, CNG, LNG, bio-gas, fuels derived from biomass), fuel from waste, synthetic fuels (gaseous and liquids), clean fuels. Petrochemicals: Vinyl acetate, Propylene oxide, Isoprene, Butadiene, Toluene and its derivatives Xylene.

Lubricants: Classification of lubricants, lubricating oils (conducting and non-conducting) Solid and semisolid lubricants, synthetic lubricants. Properties of lubricants (viscosity index, cloud point, pore point) and their determination.

Reference:

1. Stocchi, E. *Industrial Chemistry*, Vol-I, Ellis Horwood Ltd. UK (1990).

2. Jain, P.C. & Jain, M. *Engineering Chemistry* Dhanpat Rai & Sons, Delhi.

3. Sharma, B.K. & Gaur, H. *Industrial Chemistry,* Goel Publishing House, Meerut (1996).

Fifth Semester B.Sc. (Chemistry)

Paper Code: CHEDSET 5.1   **Paper Title**: Chemistry-5
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I: Nanomaterials, Theory of gravimetric analysis and Inorganic polymers   **(15Hours)**

Nano materials: Overview of nanostructures and nanomaterials: classification. Preparation of gold and silver metallic nanoparticles, self-assembled nanostructures-control of nanoarchitecture-one dimensional control. Carbon nanotubes and inorganic nanowires. Bio-inorganic nanomaterials.

Theory of gravimetric analysis: Principles of gravimetric analysis- super saturation, von Weimar equation, conditions of precipitation, coprecipitation and post precipitation. Separation of precipitate from mother liquor, washing, properties of wash liquid, drying and ignition of precipitate, weighing form.

Inorganic polymers: Inorganic polymers, Types, comparison with organic polymers, silicones, phosphonitrilic halides- formation, structure and applications.

UNIT-II: Heterocyclic Compounds, Green Chemistry, Alkaloids   **(15Hours)**

Heterocyclic Compounds: Classification, molecular orbital picture and Aromatic character of furan, thiophene, pyrrole and pyridine, synthesis of the following compounds.

i). Furan, thiohene and pyrrole from 1,4- diketones. ii) Pyridine by Hantzch synthesis.

Electrophilic substitution reactions of pyrrole, furan and pyridine (chlorination and nitration), comparison of basicities of pyridine, piperidine and pyrrole.

Green Chemistry: The need for green chemistry and eco-efficiency, green methods, green products, recycling of wastes, 12 principles of green chemistry.

Alkaloids: Definition, source, classification and general characteristics, Hofmann exhaustive methylation with pyridine as an example. Isolation, constitution and confirmation by synthesis – Coniine, hygrine and nicotine.

UNIT III: Microwave Spectroscopy & Vibrational spectrum   **(15Hours)**

Microwave Spectroscopy: Classification of molecules, rotational spectra of rigid diatomic molecules, criteria for showing the spectra, energy levels of rigid rotator, selection rules (final equations only), determination of bond length and moment of inertia of HCl molecule.

Vibrational spectrum: Simple harmonic oscillator, Hooke's law, energy level of simple harmonic oscillator model of diatomic molecule (final equations only), selection rules, zero-point energy determination of force constant and qualitative relation between force constant and bond dissociation energies. Vibrational degrees of freedom of molecules (Linear and nonlinear).

UNIT IV Retro synthesis and Properties of Polymers   **(15Hours)**

Retrosynthesis: Introduction to retrosynthetic analysis, synthons, synthetic equivalents, functional group interconversions, one and two group C-X disconnection (definitions and examples only). Retrosynthesis of benzocaine and 4-methoxy acetophenone.

Properties of Polymers (Physical, thermal, Flow & Mechanical Properties): Brief introduction to preparation, structure, properties and application of the following polymers: polyolefins, polystyrene and styrene copolymers, poly (vinyl chloride) and related polymers, poly (vinyl acetate) and related polymers, acrylic polymers, fluoro polymers, polyamides and related polymers. Phenol formaldehyde resins (Bakelite, Novalac), polyurethanes, silicone polymers, polydienes, Polycarbonates, Conducting Polymers, [polyacetylene, polyaniline, poly (p-phenylene sulphide polypyrrole, polythiophene)].

Paper Code: CHEDSEP 5.1	**Paper Title:** Practicals-5
Teaching Hours: 3 H / Week	**Marks:** Th-40+IA-10
Total hours: 45	**Credits:** 1

Section A: Organic Chemistry   **(40 Marks)**

Analysis of binary Organic mixture

Systematic qualitative analysis of binary mixture (solid+solid and liquid+liquid).
Type of mixture to be given

a. Acid+Base: Benzoic acid+*p*-Nitroaniline / Cinnamic acid+*m*-Nitroaniline

b. Acid+ Neutral: Benzoic acid+Naphthalene / Phthalic acid+Acetanilde

c. Base+Neutral: *o*-Nitroaniline+Acetanilide / p-Nitroaniline+Naphthalene

d. Phenol+Neutral: 1-Naphthol+Benzamide / 2-Naphthol+Acetanilide

e. Phenol+Base: 2-Naphthol+*p*-Nitroaniline / 1-Naphthol+*m*-Nitroaniline

f. Neutral+Neutral (liquid+liquid): Acetone+Ethyl benzoate / Nitrobenzene+Acetone

Section B: *Organic Chemistry*

a. Fractional crystallization: Separation of mixture of naphthalene and biphenyl

b. Fractional distillation: Separation of mixture of benzene and toluene.

Note: Only experiments in Section A are to be given in practical examination. Student shall separate the mixture and analyze one compound as suggested by examiner and he has to prepare the derivative for the same.

Paper Code: CHEDSET 5.2A   **Paper Title:** Chemistry-5A
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I: Industrial Chemistry-I   (15Hours)

Alloys-Significance, types of alloys (ferrous and non-ferrous alloys), preparation (fusion and electro-deposition) and their applications.

Abrasives- Classification, Mohr scale of hardness, Manufacture and application of carborundum, alundum, tungsten carbide.

Glass - physical and chemical properties of glass, raw materials, manufacture using tank furnace, annealing of glass, types, composition and uses of glasses.

Industrial Chemistry-II

Cement: Raw materials, composition of Portland cement, manufacture by rotary kiln method, mechanism of setting.

Fuels: characteristic and calorific values of fuels, advantages of gaseous fuels, Manufacture of water gas and biogas.

UNIT-II Reagents and Reactions and Dyes   (15Hours)

Reagents and Reactions: Preparation, mechanism of action and applications DCC (Amide formation), $LiAlH_4$ (reduction of aldehyde, carboxylic acid and ester), DDQ (Benzylic oxidation of tetralin, aromatization of tetralin), Lead Tetra Acetate(oxidation of 1,2-diols), NBS(allylic bromination), OsO_4 (hydroxylation of alkenes), PCC(Pyridinium chlorochromate) in the oxidation of primary alcohols.

Dyes: Classification, requirement of a dye, colour and constitution. The synthesis of each of the following Class of dyes: Azo dyes-Congo red, Vat dyes–Indigo, Anthraquinone dyes–Alizarin Triphenylemethane dyes–Malachite green, Crystal violet, Phthalein dyes-Fluoroscein, Eosin; Synthesis of each dyes.

UNIT-III Surface Chemistry and Second law of thermodynamics   (15Hours)

Surface Chemistry: Adsorption, derivation of Frendlich and Langmuir's adsorption isotherms. Forms of Langmuir's adsorption isotherms at high- and low-pressure regions, BET equation (No derivation), determination of surface area using BET equation.

Catalysis–Theories of catalysis-intermediate and adsorption theory, enzyme catalysis-Michaelis–Menten equation, industrial applications of catalysis.

Second law of thermodynamics: Statement, cyclic process, Carnot's cycle, heat engine and its efficiently, Carnot's theorem, entropy and its significance, entropy changes in reversible and irreversible process for ideas gases, free energy, dependence of free energy on pressure

and temperature, Gibb's–Helmholtz equation, Clausius-Clapeyron equation and its applications, problems on above, partial molal quantities, chemical potential of on ideal gas.

UNIT IV: Simple collision theory of reaction rates and Industrial Metallurgy   (15hours)

Simple collision theory of reaction rates: Derivation of rate constants of unimolecular (Lindemann hypothesis) and bimolecular reaction rates, limitations of collision theory.

Transition state theory: Theory Comparison of transition state theory and collision theory, steric factor.

Chemical kinetics of complex reactions-first order reaction, opposing, consecutive and parallel reactions.

Industrial Metallurgy

General Principles of Metallurgy: Chief modes of occurrence of metals based on standard electrode potentials. Ellingham diagrams for reduction of metal oxides using carbon as reducing agent. Hydrometallurgy, Methods of purification of metals (Al, Pb, Ti, Fe, Cu, Ni, Zn): electrolytic, oxidative refining, Kroll process, Parting process, van Arkel-de Boer process and Mond's process. Preparation of metals (ferrous and nonferrous) and ultrapure metals for semiconductor technology.

Reference

1. Industrial chemistry B.K. Sharma
2. Engineering Chemistry Jain and Jain
3. Reaction Mechanism P.S. Kalsi
4. Mass Spectroscopy Y.R. Sharma
5. Synthetic Organic Chemistry Gurdeep Chatwal
6. Organic Chemistry P.L. Soni
7. Organic syntheses Jagadamba Singh and Yadav
8. Fundamentals of Organic Synthesis (Retrosynthesis) Ratan Kumar Kar
9. Electrochemistry Glasstone
10. Physical Chemistry Atkins
11. Engineering Chemistry Jain

Paper Code: CHEDSEP 5.2A   **Paper Title:** Practicals-5A
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:45   **Credits:** 1

Physical Chemistry experiments:

1. Determination of the concentration of HCl by conductometric titrationusing the standard NaOH.

2. Determination of the concentration of CH_3COOH by conductometrictitration using the standard NaOH.

3. Verification of Beer–Lambert's Law by colorimetric method and calculationof molar extension coefficient of $FeCl_3$.

4. Determination of dissociation constant of (weak acid) acetic acidconductometrically.

5. Determination of concentration of strong acid HCl by potentiometrictitration against strong solution of NaOH.

6. Determination of heat of neutralization of strong acid by strong base bywater equivalent calorimetric method.

7. Determination of specific rotation of glucose solution by polarimeter.

8. Determination of solubility of sparingly soluble salt($BaSO_4$)Conductometrically.

Section B: Instrumental Analysis

1. Estimation of Fe^{+3} spectrophotometrically through phenanthroline complex.

2. Determination of pH of biological fluids like milk, orange juice, citric acid, solution and sodium carbonate solution.

Note: Only experiments in Section A are to be given in practical examination.

Paper Code: CHEDSET 5.2B   **Paper Title:** Chemistry-5B
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I   (15 Hours)

Basics: Constants, variables, bits, bytes, binary and ASCII formats, arithmetic expressions, hierarchy of operations, inbuilt functions. Elements of the BASIC language. BASIC keywords and commands. Logical and relative operators. Strings and graphics. Compiled versus interpreted languages. Debugging. Simple programs using these concepts. Matrix addition and multiplication. Statistical analysis.

UNIT-II Numerical methods: (15 Hours)

Roots of equations: Numerical methods for roots of equations: Quadratic formula, iterative method, Newton-Raphson method, Binary bisection and Regula-Falsi.

UNIT-III   (15 Hours)

Differential calculus: Numerical differentiation.

Integral calculus: Numerical integration (Trapezoidal and Simpson's rule), probability distributions and mean values.

UNIT-IV   (15 Hours)

*Simultaneous equations:*Matrix manipulation: addition, multiplication. Gauss-Siedal method.

Interpolation, extrapolation and curve fitting: Handling of experimental data.

Conceptual background of molecular modelling: Potential energy surfaces. Elementary ideas of molecular mechanics and practical MO methods.

Reference:

1. Harris, D. C. *Quantitative Chemical Analysis*. 6th Ed., Freeman (2007) Chapters 3-5.

2. Levie, R. de, *How to use Excel in analytical chemistry and in general scientific dataanalysis*, Cambridge Univ. Press (2001) 487 pages.

3. Noggle, J. H. *Physical chemistry on a Microcomputer.* Little Brown & Co. (1985).

4. Venit, S.M. *Programming in BASIC: Problem solving with structure and style.* JaicoPublishing House: Delhi (1996).

Paper Code: CHEDSET 5.2B
Teaching Hours: 3 H / Week
Total hours: 45

Paper Title: Practicals-5B
Marks: Th-40+IA-10
Credits: 1

APPLICATIONS OF COMPUTERS IN CHEMISTRY (60 Hours)

1. Computer programs based on numerical methods for Roots of equations: (e.g. volume of van der Waals gas and comparison with ideal gas, pH of a weak acid).

2. Numerical differentiation (e.g., change in pressure for small change in volume of a van der Waals gas, potentiometric titrations).

3. Numerical integration (e.g. entropy/ enthalpy changes from heat capacity data), probability distributions (gas kinetic theory) and mean values.

4. Matrix operations. Application of Gauss-Siedel method in colourimetry.

5. Simple exercises using molecular visualization software.

Reference Books:

1. McQuarrie, D. A. *Mathematics for Physical Chemistry* University Science Books(2008).

2. Mortimer, R. *Mathematics for Physical Chemistry*. 3rd Ed. Elsevier (2005).

3. Steiner, E. *The Chemical Maths Book* Oxford University Press (1996).

4. Yates, P. *Chemical Calculations*. 2nd Ed. CRC Press (2007).

5. Harris, D. C. *Quantitative Chemical Analysis*. 6th Ed., Freeman (2007) Chapters 3-5.

6. Levie, R. de, *How to use Excel in analytical chemistry and in general scientific dataanalysis*, Cambridge Univ. Press (2001) 487 pages.

Fifth Semester B.Sc. (Chemistry) Skill Enhancement Course

Paper Code: CHESECT 5.3	**Paper Title: Basic Analytical Chemistry**
Teaching Hours: 3 H / Week	**Marks:** Th-40+IA-10
Total hours:30	**Credits :**2

UNIT-I   **15 Hours**

Introduction: Introduction to Analytical Chemistry and its interdisciplinary nature. Concept of sampling. Importance of accuracy, precision and sources of error in analytical measurements. Presentation of experimental data and results, from the point of view of significant figures.

Analysis of soil: Composition of soil, Concept of pH and pH measurement, Complexometric titrations, Chelation, Chelating agents, use of indicators. Determination of pH of soil samples. Estimation of Calcium and Magnesium ions as Calcium carbonate by complexometric titration.

Analysis of water: Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods. Determination of pH, acidity and alkalinity of a water samples. Determination of dissolved oxygen (DO) of a water sample.

Analysis of food products: Nutritional value of foods, idea about food processing and food preservations and adulteration. Identification of adulterants in some common food items like coffee powder, asafetida. chili powder, turmeric powder, coriander powder and pulses, etc. Analysis of preservatives and colouring matter.

UNIT-II   **15 Hours**

Chromatography: Definition, general introduction on principles of chromatography, paper chromatography, TLC etc. Paper chromatographic separation of mixture of metal ion (Fe^{3+} and Al^{3+}). To compare paint samples by TLC method

Ion-exchange: Column, ion-exchange chromatography etc. Determination of ion exchange capacity of anion / cation exchange resin (using batch procedure if use of column is not feasible.

Analysis of cosmetics: Major and minor constituents and their functional. Analysis of deodorants and antiperspirants, Al, Zn, boric acid, chloride, subphases. Determination of constituents of talcum powder: Magnesium oxide, Calcium oxide, Zinc oxide and Calcium carbonate by complexometric titration

Suggested Applications (Any one):

a. To study the use of phenolphthalein in trap cases.

b. To analyze arson accelerants.

c. To carry out analysis of gasoline

Suggested Instrumental demonstrations

Estimation of macro nutrients: Potassium, Calcium, Magnesium in soil samples by flame photometry.

1. Spectrophotometric determination of Iron in Vitamin / Dietary Tablets.

2. Spectrophotometric Identification and Determination of Caffeine and Benzoic Acid in Soft Drink.

Reference Books:

1. Willard, H.H., Merritt, L.L., Dean, J. & Settoe, F.A. Instrumental Methods of Analysis. 7th Ed. Wadsworth Publishing Co. Ltd., Belmont, California, USA, 1988.

2. Skoog, D.A. Holler F.J. & Nieman, T.A. Principles of Instrumental Analysis, Cengage Learning India Ed.

3. Skoog, D.A.; West, D.M. & Holler, F.J. Fundamentals of Analytical Chemistry 6th Ed., Saunders College Publishing, Fort Worth (1992).

4. Harris, D. C. Quantitative Chemical Analysis, W. H. Freeman.

5. Dean, J. A. Analytical Chemistry Notebook, McGraw Hill.

6. Day, R. A. & Underwood, A. L. Quantitative Analysis, Prentice Hall of India.

7. Freifelder, D. Physical Biochemistry 2nd Ed., W.H. Freeman and Co., N.Y. USA (1982).

8. Cooper, T.G. The Tools of Biochemistry, John Wiley and Sons, N.Y. USA. 16 (1977).

9. Vogel, A. I. Vogel's Qualitative Inorganic Analysis 7th Ed., Prentice Hall.

10. Vogel, A. I. Vogel's Quantitative Chemical Analysis 6th Ed., Prentice Hall.

Paper Code: CHEDSET 6.1   **Paper Title**: Chemistry-6
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I Coordination compounds –II and Bioinorganic Chemistry   **(15 hours)**

Coordination compounds –II: Crystal field theory(CFT) with reference to octahedral, distorted octahedral(Jahn- Tellar distortion), tetrahedral and square planar complexes, calculation of crystal field stabilization energy, factors affecting 10Dq, consequences of crystal field splitting on ionic radii of M+2 ions, enthalpy of hydration of M+2 ions, explanation of colour and magnetic properties of magnetic complexes, limitations of crystal field theory, calculation of magnetic moment using Gouy's method.

Bioinorganic Chemistry: Essential and trace elements in biological process, metalloporphyrins with respect to haemoglobin and chlorophyll (structure and function), biological role of Na, K, Fe and Zn. **(4 hours)**

UNIT-II Carbohydrates, Vitamins and Amino acids, Peptides and Proteins (15 hours)

Carbohydrates: Haworth and conformational formulae of glucose and fructose, mutarotation and its mechanism, osazone formation, Killani's synthesis, Ruff's degradation, epimers and epimerisation with respect to monosaccharides, interconversions of glucose and fructose.

Vitamins: Vitamins: Classification and importance of vitamin-A, B6, B12, C, D and E. Synthesis of Vitamin-C from D(+)-glucose, synthesis of vitamin-A by Vandropetal.

Amino acids, Peptides and Proteins: Classification, structure and stereochemistry(D and L) of amino acids, acid-base behaviour, iso-electric point and electrophoresis, peptides-nomenclature and structure of peptides, synthesis of a dipeptide(Bergmann synthesis), Classification of proteins, levels of protein structure(primary, secondary and tertiary structure), protein denaturation and renaturation.**(06 hours)**

UNIT-III Electronic Spectrum, Physical properties and molecular structure and Quantum Chemistry (15 hours)

Electronic Spectrum: Concept potential energy curves for bonding and antibonding molecular orbitals, qualitative description of selection rules, energy levels and respective transitions, Frank–Condon principle. **(06 hours)**

Physical properties and molecular structure: Introduction-dipole moment, induced dipole moment, measurement of dipole moment by temperature variation method and its applications. **(04 hours)**

Quantum Chemistry: Photoelectric effect - Einstein's photoelectric equation, wave particle duality, de- Broglie hypothesis, de-Broglie equation(derivation), experimental verification-Davisson-Germer experiment. **(05 Hours)**

UNIT-IV: Terpenoids, Organometallic Chemistry, Organic Synthesis via enolates and Organic reagents in inorganic analysis. (15 hours)

Terpenoids: Introduction, classification of terpenes, Ingold's isoprene rule, constitution of citral with synthesis, synthesis of α and β ionones, synthesis of α-terpeniol.

Organometallic Chemistry: Introduction, classification of organotransition metal complexes, 18 electron rule with respect to $[Fe(CO)_5]$, $[Ni(CO)_5]$, $[Mn(CO)_5]^+$, ferrocene, structure and bonding in metal olefins (Zeise's Salt).

Organic Synthesis via enolates: Acidity of α-hydrogens, synthesis of ethyl acetoacetate (EAA) by Claisen condensation and its mechanism, synthesis of diethyl malonate, keto-enol tautomerism of EAA

Synthesis of following compounds using EAA and diethyl malonate:

i) ketones ii) carboxylic acids iii) heterocyclic compounds iv) dicarboxylic acids.

Organic reagents in inorganic analysis: Sensitivity, selectivity and specificity, advantages of organic reagents over inorganic reagents - Dimethyl glyoxime, 8-hydroxyquinoline(oxime).

Paper Code: CHEDSET 6.2A   **Paper Title:** Chemistry-6A
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT-I Analytical Chemistry, Soil Analysis and Fertilizer (15 Hours)

Chromatography: Principle, types, stationary and mobile phases, physical factors of separation, brief account of paper chromatography, calculation of Rf value, brief account of column chromatography and its applications.

Flame photometry: Principle, Limitations, Instrumentation, Flame photometric determination of Na and K.

Thermogravimetry: Principle and applications of thermogravimetric methods (TG and DTA).

Electrogravimetry: Principle, Instrumentation, Electrogravimetric determination of Copper.

Soil Analysis: Macro nutrients, trace metals and organic matter in soil. Determination of pH, Determination of nitrogen by alkaline permanganate method and phosphorus by Bray's and Olsen's method present in the soil.

Fertilizers: Different types of fertilizers, manufacture of the following fertilizers: Urea, ammonium nitrate, superphosphate of lime.

UNIT-II: Electronic spectra of transition metal complexes and Acids and Bases (15 Hours)

Electronic spectra of transition metal complexes: Russel-Sandar's coupling in defining ground states of spectrochemical series, derivation of spectroscopic ground terms(d1 to d10 without J values), types of electronic transitions(d-d transitions, charge transfer transitions-MLCT and LMCT), selection rule for d-d transitions, Orgel- energy level diagram-d1 and d2 states, discussion of the electronic spectrum of $[Ti(H_2O)_6]^{3+}$ complex ion.

Acids and Bases: Arrhenius, Bronsted-Lowry, Lux-Flood, solvent system and Lewis concepts of acids and bases. Hard and soft acids and bases (HSAB) - classification of acids and bases as hard and soft, Pearson's HSAB concept.

UNIT-III: Chemotherapy, Soaps and Detergents, Reaction Mechanism (15 Hours)

Chemotherapy: Introduction, requirement of an ideal synthetic drug, classification, synthesis and uses of the following-

Antipyretics–antipyrine, paracetamol Anaesthetics-novacaine (local) and pentothal sodium(general) Antihistamines–chlorpheniramine maleate (CPM) Antimalarials–paludrine, chloroquine Antibiotics-chloromycetin, penicillin, tetracyclin.

Para pharmaceutical reagents–Benedict's reagent, sodium citrate, Barfoed reagent.

Soaps and Detergents:

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Soaps: Introduction, manufacture by modern process, cleaning action of soap.

Detergents: anionic, cationic, nonionic, with suitable examples, distinction between soaps and detergents, emulsifiers, stabilisers and builders.

Reaction Mechanism

a) Beckmann rearrangement

b) Favorskii rearrangement

c) Benzidine rearrangement

d) Benzillic acid rearrangement

UNIT-IV: NMR Spectroscopy, Photochemistry and Solvents   (15 Hours)

NMR Spectroscopy: Principle of Proton Magnetic Resonance(1H NMR) spectroscopy, nmr spectrum, chemical shift, nuclear shielding and deshielding, spin-spin coupling(n+1) rule, intensity(height) of the signal, TMS as internal standard-advantages, interpretation of PMR spectra of simple organic molecules such as ethyl bromide, n-propyl bromide, iso propyl bromide, ethanol, acetaldehyde and benzene

Photochemistry: Photochemical reactions, laws of photochemistry – Beer's law, Lambart's Law, Beer- Lambart's Law, Grothus-Draper Law and Einstein's Law of photochemical equivalence, quantum efficiency or yield, reasons for high and low quantum efficiencies with examples, fluorescence, phosphorescence, photosensitization and chemiluminescence.

Solvents: Types, properties of good solvents, non-aqueous solvents - Liquid NH3 and liquid HF, (properties like solvation, acid-base, redox, complex formation and precipitation), water as universal solvent, leveling effect.

Reference:

1. Advance Inorganic Chemistry Vol-I and II Gurudeep Raj
2. Advance Inorganic Chemistry Satya Prakash
3. Modern Inorganic Chemistry R.D. Madan
4. Inorganic Chemistry   James Huheey
5. Concise Inorganic Chemistry J.D. Lee

- **Sixth Semester B.Sc. (Chemistry)**

Paper Code: CHEDSEP 6.2A

Paper Title: Practical-6A

Teaching Hours: 3 H / Week

Marks: Th-40+IA-10

Total hours: 45

Credits: 1

Section A: Inorganic Chemistry:

Gravimetric experiments: (30 Marks)

1. Estimation of barium as Barium sulphate.

2. Estimation of aluminium as aluminium oxide.

3. Estimation of Iron as ferric oxide.

4. Estimation of led as led sulphate.

Section B:

Dissertation/Tour report/Project report (10Marks)

The Dissertation/Tour report/Project Report should be submitted at the time of **Chemistry**

Practical Examination.

Student shall be assigned either dissertation /Tour report/Project report. The topics for dissertation shall be selected either from the V and VI semester theory syllabi or general topics related to chemistry. For Tour report, student shall visit an Industry or Academic/Research institutions like BARC, IISC etc.

Note: For examination: Gravimetric experiments and Dissertation/Tour report/Project work are Compulsory.

Paper Code: CHEDSET 6.2B   **Paper Title:** Chemistry-6B
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours: 60   **Credits:** 3

UNIT-I Literature Survey: **(15 Hours)**

Print: Sources of information: Primary, secondary, tertiary sources; Journals: Journal abbreviations, abstracts, current titles, reviews, monographs, dictionaries, text-books, current contents, Introduction to Chemical Abstracts and Beilstein, Subject Index, Substance Index, Author Index, Formula Index, and other Indices with examples.

Digital: Web resources, E-journals, Journal access, TOC alerts, Hot articles, Citation index, Impact factor, H-index, E-consortium, UGC infonet, E-books, Internet discussion groups and communities, Blogs, Preprint servers, Search engines, Scirus, Google Scholar, Chem-Industry, Wiki- Databases, Chem-Spider, Science Direct, Sci-Finder, Scopus.

UNIT-II Methods of Scientific Research and Writing Scientific Papers: **15 Hours**

Reporting practical and project work. Writing literature surveys and reviews. Organizing a poster display. Giving an oral presentation. Writing scientific papers – justification for scientific contributions, bibliography, description of methods, conclusions, the need for illustration, style, publications of scientific work. Writing ethics. Avoiding plagiarism

UNIT-III Chemical Safety and Ethical Handling of Chemicals: **15 Hours**

Safe working procedure and protective environment, protective apparel, emergency procedure and first aid, laboratory ventilation. Safe storage and use of hazardous chemicals, procedure for working with substances that pose hazards, flammable or explosive hazards, procedures for working with gases at pressures above or below atmospheric – safe storage and disposal of waste chemicals, recovery, recycling and reuse of laboratory chemicals, procedure for laboratory disposal of explosives, identification, verification and segregation of laboratory waste, disposal of chemicals in the sanitary sewer system, incineration and transportation of hazardous chemicals.

UNIT-IV Data Analysis   **15 Hours**

The Investigative Approach: Making and Recording Measurements. SI Units and their use. Scientific method and design of experiments.

Analysis and Presentation of Data: Descriptive statistics. Choosing and using statistical tests Chemometrics. Analysis of variance (ANOVA), Correlation and regression, Curve fitting, fitting of linear equations, simple linear cases, weighted linear case, analysis of residuals,

General polynomial fitting, linearizing transformations, exponential function fit, *r* and its abuse. Basic aspects of multiple linear regression analysis.

Reference:

1. Dean, J. R., Jones, A. M., Holmes, D., Reed, R., Weyers, J. & Jones, A. (2011) *Practical skills in chemistry*. 2nd Ed. Prentice-Hall, Harlow.

2. Hibbert, D. B. & Gooding, J. J. (2006) *Data analysis for chemistry*. Oxford University Press.

3. Topping, J. (1984) *Errors of observation and their treatment.* Fourth Ed., Chapman Hall, London.

4. Harris, D. C. *Quantitative chemical analysis*. 6th Ed., Freeman (2007) Chapters 3-5.

5. Levie, R. de, *How to use Excel in analytical chemistry and in general scientific data analysis.* Cambridge Univ. Press (2001) 487 pages.

6. Chemical safety matters – IUPAC – IPCS, Cambridge University Press, 1992.OSU safety manual 1.01

Sixth Semester B.Sc. (Chemistry)

Paper Code: CHEDSEP 6.2B **Paper Title:** Practical-6B
Teaching Hours: 3 H / Week **Marks:** Th-40+IA-10
Total hours: 45 **Credits:** 1

Section A: Physical Chemistry (40 Marks)

1. Determination of concentration of given acids mixture (HCl+CH$_3$COOH) conductometrically using standard NaOH.

2. Determination of percentage composition of unknown mixture of A & B liquids using Abbe's refractometer by formula method.

3. Determination of percentage composition of unknown mixture of A & B liquids using Abbe's refractometer by graphical method.

4. Verification of Beer-Lamberts Law by colorimetric method and calculation of molar extension coefficient of copper sulphate.

5. Potentiometric titration of FeSO$_4$ against K$_2$Cr$_2$O$_7$.

6. Determination of the solubility and solubility product of sparingly soluble salts (Silver halides) by potentiometrically.

7. Conductometric precipitation titration of NaCl vs AgNO$_3$.

8. Determination of dissociation constant of weak acid (acetic acid) Potentiometrically.

Section B: Organic Preparations (Two step) (40 Marks)

1. Preparation of phthalimide from phthalic anhydride and Urea.

2. Preparation of p-bromoaniline from acetanilide.

3. Preparation of p-nitroaniline from acetanilide.

4. Preparation of Benzidine from Nitrobenzene.

Sixth Semester B.Sc. (Chemistry) Skill Enhancement Course

Paper Code: CHEDSET 6.3   **Paper Title:** Pharmaceutical Chemistry

Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10

Total hours: 30   **Credits:** 2

Unit-I   **15 Hours**

Drugs & Pharmaceuticals

Drug discovery, design and development; Basic Retrosynthetic approach. Synthesis of therepresentative drugs of the following classes: analgesics agents, antipyretic agents, anti-inflammatory agents (Aspirin, paracetamol, lbuprofen); antibiotics (Chloramphenicol);antibacterial and antifungal agents (Sulphonamides; Sulphanethoxazol, Sulphacetamide,Trimethoprim); antiviral agents (Acyclovir), Central Nervous System agents (Phenobarbital,Diazepam),Cardiovascular (Glyceryl trinitrate), antilaprosy (Dapsone), HIV-AIDS relateddrugs (AZT- Zidovudine).**(18Hours)**

UNIT-II   **15 Hours**

Fermentation

Aerobic and anaerobic fermentation. Production of (i) Ethyl alcohol and citric acid, (ii) Antibiotics; Penicillin, Cephalosporin, Chloromycetin and Streptomycin, (iii) Lysine, Glutamic acid, Vitamin B2, Vitamin B12 and Vitamin C.**(11 Hours)**

Practical's (04Hours)

1. Preparation of Aspirin and its analysis.
2. Preparation of magnesium bisilicate (Antacid).

Reference Books:

1. G.L. Patrick: Introduction to *Medicinal Chemistry, Oxford University* Press, UK.

2. Hakishan, V.K. Kapoor: *Medicinal and Pharmaceutical Chemistry,* Vallabh Prakashan, Pitampura, New Delhi.

3.William O. Foye, Thomas L., Lemke , David A. William: *Principles of Medicinal Chemistry*, B.I. Waverly Pvt. Ltd. New Delhi.

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

COMPUTER SCIENCE

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: Computer Science Optional

	BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS (w.e.f. 2020-21 onwards)							

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	CPSDSCT1.1	Digital Logic & Comp. Design	4	20	80	100	3
		CPSDSCP1.1	Digital Logic & Comp. Design – Lab	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	CPSDSCT2.1	Programming in C	4	20	80	100	3
		CPSDSCP2.1	Programming in C - Lab	3	10	40	50	1
		Total : Hours / Credits		7			150	4

	BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS (w.e.f. 2021-22 onwards)							

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	CPSDSCT3.1	Data-Structures using C	4	20	80	100	3
		CPSDSCP3.1	Data-Structures using C – Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECP3.2	Internet and e-Resources	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	CPSDSCT4.1	Operating System	4	20	80	100	3
		CPSDSCP4.1	Operating System using Unix Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECP4.2	Multimedia Technology	2	10	40	50	2
		Total : Hours / Credits		9			200	6

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Computer Science Optional Subject

Sem	Part	Paper Code	Title of Paper	Hours/ Week	IA	Exam	Total	Subject Credits
			BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS (w.e.f. 2022-23 onwards) Marks					
V	Part – 1 DSE	CPSDSET5.1	Computer Networks	4	20	80	100	3
		CPSDSEP5.1	Computer Networks Lab	3	10	40	50	1
		CPSDSET5.2A	Elective-1 RDBMS	4	20	80	100	3
		CPSDSEP5.2A	Elective-1 RDBMS Lab	3	10	40	50	1
		CPSDSET5.2B	Elective-II Java Programming	4	20	80	100	3
		CPSDSEP5.2B	Elective-II Java Programming Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECT5.3	Fundamental of e-Governance	2	10	40	50	2
			Total : Hours / Credits	17			350	10

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/ Week	IA	Exam	Total	Subject Credits
VI	Part – 1 DSE	CPSDSET6.1	Web Technology	4	20	80	100	3
		CPSDSEP6.1	Web Technology Lab	3	10	40	50	1
		CPSDSET6.2A	Elective-III Python	4	20	80	100	3
		CPSDSEP6.2A	Elective-III Python Lab	3	10	40	50	1
		CPSDSET6.2B	Elective-IV PHP	4	20	80	100	3
		CPSDSEP6.2B	Elective-IV PHP-Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECT6.3	Cyber Laws	2	10	40	50	2
			Total : Hours / Credits	17			350	10

Note: Students have to choose either Elective-III or Elective-IV

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities
AECC: Ability Enhancement Compulsory Course,
DSC: Discipline Specific Course
DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Paper Code: CPSDSCT1.1	Paper Title: Digital Logic & Comp. Design
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT I

Digital Systems and Binary Numbers: Digital Systems, Number systems and base conversions, Representation of signed Binary Numbers, Binary codes, binary logic.   **12Hrs**

UNIT-II

Boolean algebra: Introduction to Boolean algebra, Axioms and Laws of Boolean Algebra, Boolean functions, Canonical and Standard Forms.
Gate – Level Minimization: The Map method, Two, Three, Four Variable K-map's, Don't Care Conditions, NAND and NOR implementation, Exclusive OR function.   **12Hrs**

UNIT-III

Combinational Logic: Combinational logic circuits, analysis and design procedure, Binary adder and subtractor, decimal adder, binary multiplier, Magnitude comparator, Decoders, Encoders, Multiplexers.   **12Hrs**

UNIT-IV

Synchronous Sequential Logic: Sequential circuits, Latches, Flip Flops, SR, JK, T, D Flip Flops, Flip Flop excitation tables.
Registers and Counters: Registers, Shift registers, Ripple counters, Synchronous counters, other counters.   **12Hrs**

UNIT - V

Memory and Programmable Logic: Random access memory, memory decoding, error detection and correction, Read-Only memory, Programmable logic array, Programmable array logic, sequential programmable devices.   **12Hrs**

References:
1. M. M. Moris and Michael D. Ciletti, Digital Design, 5thEdition,Pearson.
2. M. Moris Mano, Digital Logic and Computer Design, 4th Edition,Pearson.
3. Paul Malvino, Digital Principles and Applications by Leach, 57th Edition, TataMcGrawHill.

AdditionalReading:
4. Charles H.Roth, Fundamentals of Digital Logic Design, 5th Edition, Cengage
5. G.K. Kharate, Digital Electronics, Oxford University Press
6. A. Anand Kumar, Switching Theory and Logic Design, 2nd Edition,PHI.

1. For the following functions, construct a truth table and draw a circuit diagram.
   1. y(A,B) = (AB)' +B'
   2. y(A,B,C) = (A + B)' C
   3. y(A,B,C) = (AC)' + BC
   4. y(A,B,C) = (A ⊕ B)C'
   5. y(A,B) = A' + B
   6. y(A,B,C) = ((A+B)'(B+C)')'
2. Study and verify the truth table of various logicgates
   - NOT, AND, OR, NAND, NOR, EX-OR, and EX-NOR
3. Simplify Boolean expressions and realizeit.
4. Verification of Boolean Theorems using basic gates
5. Design a 4-input NAND gate using two 2-input NAND gates and one 2-input NOR gate. Hint: Use De-Morgan's law
6. Construct the K-map for each of the followingfunctions
   (a) f(A,B,C) = AB + A'BC' +AB'C
   (b) g(A,B,C) = A'C + ABC +AB'
   (c) h(A,B,C,D) = A'BC' + (A ⊕ B)C + A'B'CD' +ABC
7. For g(A,B,C) = A'C + ABC + AB', design the circuit for the minimal SOP expression found in problem 4 using just NAND gates and inverters. Label the pin-outs on the circuit diagram. Build the circuit and demonstrate the workingcircuit.
8. For the functions listed below, construct a K-map and determine the minimal SOP expression.
   a. f(a,b,c) = a'b'c' + a'bc' + abc' +abc
   b. g(a,b,c) = ab'c' + abc' + abc + don't cares(a'bc + ab'c) Build the circuit required for.
9. Design and verify a half/fulladder
10. Design and verify half/fullsubstractor
11. Design a 4 bit magnitude comparator using combinationalcircuits.
12. Design and verify the operation of flip-flops using logicgates.
13. A two bit counter is to be built that will count forward, 00 → 01 → 10 → 11 → 00, when a logical input is set high and counts in reverse order when it islow.
    (a) Draw the state transition diagram for this statemachine.
    (b) Assuming a state machine were to be built using D flip-flops, determine the value of the next state for each of the flip-flops. Build and demonstrate the state machines.
14. Verify the operation of acounter.
15. Verify the operation of a 4 bit shiftregister
16. Using SPIM, write and test an adding machine program that repeatedly reads in integers and adds them into a running sum. The program should stop when it gets an input that is 0, printing out the sum at thatpoint.
17. Using SPIM, write and test a program that reads in a positive integer using the SPIM system calls. If the integer is not positive, the program should terminate with the message "Invalid Entry"; otherwise the program should print out the names of the digits of the integers, delimited by exactly one space. For example, if the user entered "128," the output would be "One TwoEight."
- Any open source simulator like Logisimhttps://sourceforge.net/projects/circuit/) can beused.
- SPIM is a self-contained simulator that will run MIPS R2000/R3000 assembly language programs. (Available athttps://sourceforge.net/projects/spimsimulator)

Paper Code: CPSDSCT2.1	Paper Title: Programming in C
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I

Computer Programming concept: Modular Programming and structured programming. Programming Languages and its Classification, Compiler, Interpreter, Linker, Loader.
Problem Solving: Problem Identification, Analysis, flowcharts, Decision Tables, Pseudo codes and algorithms, Program Coding, Program Testing and Execution, Documentation.   **12Hrs**

UNIT-II

Overview of C: History of C, Importance of C, Elements of C: C character set, identifiers and keywords, Data types, Constants and Variables, Assignment statement, Symbolic constant, Structure of a C Program, Operators & Expression: Arithmetic, relational, logical, bitwise, unary, assignment, shorthand assignment operators, conditional operators and increment and decrement operators, Arithmetic expressions, evaluation of arithmetic expression, type casting and conversion, operator hierarchy & associativity.   **12Hrs**

UNIT-III

Decision making & branching: Decision making with IF statement, IF-ELSE statement, Nested IF statement, ELSE-IF ladder, switch statement, goto statement. Decision making & looping: For, while, and do-while loop, jumps in loops, break, continue statement, Nested loops.
Functions: Standard Mathematical functions, Input/output: Unformatted & formatted I/O function inC. User defined functions: Introduction/Definition, prototype, Local and global variables, passing parameters.   **12Hrs**

UNIT-IV

Arrays and Strings: Definition, types, initialization, processing an array, passing arrays to functions, Array of Strings. String constant and variables, Declaration and initialization of string, Input/output of string data, String handling library functions.
Storage classes in C: auto, extern, register and static storage class, their scope, storage, & lifetime.   **12Hrs**

UNIT-V

Structure and Union: Structure definition, declaring structure, Accessing structure elements, Array of structure. Definition of union. Declaring and using union. Differences between structure and union
File Management in C: Defining and Opening & Closing File, Input & Output Operations on Files, Error Handling During I/O Operations, Command Line Arguments.   **12Hrs**

References:
1. Gill Nasib Singh, Computing Fundamentals and Programming in C, Khanna Books Publishing Co., NewDelhi.
2. Balagurusamy E., Computing Fundamentals and C Programming, Tata McGrawHill.
3. Kenneth. A., C problem solving and programming, PrenticeHall.
4. R.G. Dromey, How to Solve it by Computer, PearsonEducation

Additional reading
5. Anil V. Chouduri, The Art of Programming through Flowchart and Algorithms, LaxmiPub.
6. Gottfried, Byron S., Programming with C, Tata McGrawHill.
7. E. Balaguruswamy, Programming in ANSI C,McGrawhill.
8. Ashok N. Kamthane, Programming in C, PearsonEducation.

Paper Code: CPSDSCP2.1	Paper Title: Programming in C-Lab
Practical Hours: 3 Hrs / Week	Marks: Practical- 40+IA-20 Marks
Credits: 01	

Student shall gain hands-on experience of drawing flow chart, writing algorithm, and writing c programming and executing the c program. Following assignments shall be implemented using c.
Note: Students shall draw the flow chart and write algorithm for a minimum of 12 assignments from the below list as identified by the course teacher.

1. Write a program to enter length and breadth of a rectangle and find its perimeter and area.
2. Write a program to enter P, T, R and calculate Simple Interest.
3. Write a program to find maximum between three numbers.
4. Write a program to check whether year is leap year or not using conditional/ternary operator.
5. Write a program to function as a basic calculator; it should ask the user to input what type of arithmetic operation he would like, and then ask for the numbers on which the operation should be performed. The calculator should then give the output of the operation.
6. Write a program that takes in three arguments, a start temperature (in Celsius), an end temperature (in Celsius) and a step size. Print out a table that goes from the start temperature to the end temperature, in steps of the step size; Celsius to Farenheit.
7. Write a program to sort array elements in ascending order.
8. Write a program to subtract/add/multiply two matrices.
9. Write a program to check whether an alphabet is vowel or consonant using switch case.
10. Write a program to display all possible permutations of a given input string--if the stringcontains duplicate characters, you may have multiple repeated results. Input should be of theform permute *string* and output should be a word per line.
    Here is a sample for the input *cat*
            cat   cta   act   atc   tac   tca
11. Write a function that accepts a number, n, and prints all prime numbers between 1 to n.
12. Write an iterative function calculate factorial of a given integer.
13. Write a program to find HCF (GCD) of two numbers by passing two numbers to functioncompGCD().
14. Write a program to find maximum and minimum element in an array by passing array tofunction.
15. Write a program to input electricity unit charges and calculate total electricity bill accordingto the given condition:
        For first 50 units Rs. 0.50/unit
        For next 100 units Rs. 0.75/unit
        For next 100 units Rs. 1.20/unit
        For unit above 250 Rs. 1.50/unit
        An additional surcharge of 20% is added to the bill
16. Write a program to input marks of five subjects Physics, Chemistry, Biology, Mathematicsand Computer. Calculate percentage and grade according to following. Use structure to createarray of students and compute percentage and grade by passing structure to function.
        Percentage >= 90% : Grade A
        Percentage >= 80% : Grade B
        Percentage >= 70% : Grade C
        Percentage >= 60% : Grade D
        Percentage >= 40% : Grade E
        Percentage < 40% : Grade F
17. Write a C program to add two complex numbers by passing structure to a function. Considerthe following structure definition for complex number.
        typedefstruct complex

```
{
float real;
floatimag;
} complex;
```

18. Write a C program to illustrate difference between structure and union by definingemp_Name, slaray, job as members and displaying the size of the defined structure and union.(ie. In terms of memory allocation)
19. Write a C program to compare two strings without using library function.
20. Write a C program to illustrate string library functions (copy, concat, uppercase to lower caseand vice-versa, length of string, sort set of strings(use strcmp()).

Paper Code: CPSDSCT3.1	Paper Title: Data-Structure using C
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I
Advanced C: Dynamic memory allocation and pointers in C- Declaring and initializing pointers,Pointer& Functions, Pointer & Arrays, Pointer & Strings, Pointer& Structure, Pointer to Pointer.Static and Dynamic memory allocations. Memory allocation functions:malloc, calloc, free and realloc.   **12Hrs**

UNIT-II
Introduction to Data structures: Definition, Classification of data structures: primitive and non-primitive. Operationson data structures. **Search:** Basic Search Techniques- Sequential search, Binary search- Iterative and Recursive methods.
Sort: General Background: Definition, different types: Bubble sort, Selection sort, Merge sort, Insertion sort, Quick sort.   **12Hrs**

UNIT-III
Recursion: Definition, Recursion in C, Writing Recursive programs – Binomial coefficient, Fibonacci,GCD, towers of Hanoi.
Stack: Definition, Array representation of stack, Operations on stack-push and pop, Infix, prefixandpostfix notations, Conversion of an arithmetic expression from Infix to postfix, applications of stacks.   **12Hrs**

UNIT-IV
Queue: Definition, Array representation of queue, Types of queue: Simple queue, circular queue,double ended queue (deque) priority queue, operations on all types of Queues.   **12Hrs**

UNIT-V
Linked list: Definition, components of linked list, representation of linked list, advantages anddisadvantages of linked list, Arrays versus linked list, **Types of linked list:** Singly linked list, doublylinked list, Circular linked list and circular doubly linked list. **Operations on singly linked list:**creation, insertion, deletion, search and display. Implementation of stack and queues using linked list.   **12Hrs**

References
1. A. K. Sharma, Data Structures Using C, 2nd edition, PearsonEducation.
2. Achuthsankar S. Nair, T. Makhalekshmi, Data Structures in C,PHI.
3. Mark Allen Weiss, Data Structures and Algorithm Analysis in C, PearsonEducation.
4. Samanta. D., Classic Data Structures, PrenticeHall

Additional Reading
5. Richard F. Gilberg, Behrouz A. Forouzan, Data structures-A Pseudocode Approach with C, ThomsonLearning.
6. A. M. Tenenbaum, Y, Langsam, M. J. Augustein, R. L. Kruse, B. P. Leung and C. L. Tondo, Data Structures using C,PHI.
7. Tannenbaum, Data Structure Using C & C++, Tannenbaum,PHI
8. C. Loudon, Mastering Algorithms, SPD/O'REILLY

Paper Code: CPSDSCP3.1	Paper Title: Data-Structure using C-Lab
Practical Hours: 3 Hrs / Week	Marks: Practical- 40+IA-10 Marks
Credits: 01	

1. Write a C program to demonstrate the Dynamic Memory Allocation for Structure by reading and printing n student details.
2. Write a C program to read a one dimensional array, print sum of all elements along withinputted array elements using Dynamic Memory Allocation.
3. Write a C program to add two matrices using pointer to an array concept.
4. Write a program to sort array of integers using array of pointers concept.
5. Write a program that takes a file as an argument and counts the total number of lines. Lines are defined as ending with a newline character. Program usage should be count filename.txt and the output should be the line count.
6. Write a C program to read a text file and convert the file contents in capital (upper-case) and write the contents in an output file.
7. Write a C program to find n Fibonacci numbers using recursion.
8. Write a C program to find factorial of any number using recursion.
9. Write a C program to search for an element in an array using Sequential search
10. Write a C program to search for an element in an array using Binary search
11. Write a C program to sort a list of N elements using Bubble sort Technique
12. Write a C program to sort a list of N elements using Merge sort Technique
13. Write a C program to sort a list of N elements using Quick sort Technique
14. Write a C program to sort a list of N elements using Insertion sort Technique
15. Write a C program to demonstrate the working of stack of size N using an array. The elements of the stack may assume to be of type integer or real, the operations to be supported are 1.PUSH 2. POP 3. DISPLAY. The program should print appropriate messages for STACKoverflow, under flow and empty, use separate functions to detect these cases.
16. Write a C program to simulate the working of an ordinary Queue using an array. Provide theoperations QINSERT, QDELETE and QDISPLAY. Check the Queue status for empty andfull.
17. Using dynamic variables and pointers Write a C program to construct a singly linked listconsisting of the following information in each node; Roll – No (Integer), Name (Characterstring). The operations to be supported are :
    1. LINSERT Inserting a node in the front of the list
    2. LDELETE Deleting the node based on Roll – No
    3. LSEARCH Searching a node based on Roll-No
    4. LDISPLAY displaying all the nodes in the list
18. Write a C program to implement stack operations using linked list.
19. Write a C program to evaluate postfix expression using stack.
20. Write a C program to convert infix expression to postfix expression using stack

Paper Code: CPSSECP3.2	Paper Title: Internet and e-Resources
Practical Hours: 2 Hrs / Week	Marks: Practical- 40+IA-10 Marks
Total Hours: 30 Hrs	Credits: 02

UNIT-I
Internet: Internet and its history, defining and describing the Internet, Brief history, discussing the future of the Internet.   **6Hrs**

UNIT-II
Internet Resources: Email, Parts of email, Email software, Web-based email, Email address,Listservers, Newsgroups, Newsgroups names, Newsgroups readers,Chat rooms, Conferencing, Games, File transfer protocol,Telnet, Gopher, World Wide Web.   **6Hrs**

UNIT-III
Accessing the Internet: Types of access, Online services, Internet services providers, How and where to look for the service, Browsing the Web, Hypertext and hyperlinks, Using browsers, Uniform resource locator, Following links, Returning to the home page , Favorites and Bookmarks.   **6Hrs**

UNIT IV
e-Resources: Introduction, Purpose of e- resources, Need of Electronic Resources, Structure of E- - resources, Basic requirement for accessing e-resources, Type of e-resources, Features of E-resources
                                             6Hrs

UNIT V
How to access E-Resources, Rules for access Electronic Resources, Copy right issue about e-resources, Useful websites for librarians, Impact of E resources on library services and user studies
                                             6Hrs

Paper Code: CPSDSCT4.1	Paper Title: Operating System
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I

Introduction: Basics of Operating Systems: Definition, types of Operating Systems, OS Service, System Calls, OS structure: Layered, Monolithic, Microkernel Operating Systems – Concept of VirtualMachine.   **12Hrs**

UNIT-II

Process Management: Process Definition , Process Relationship , Process states, Process State transitions , Process Control Block , Context switching , Threads, Concept of multithreads , Benefits of threads, Types ofthreads.

Process Scheduling: Definition, Scheduling objectives, Types of Schedulers, CPU scheduling algorithms, performance evaluation of the scheduling.   **12Hrs**

UNIT-III

Inter-process Communication Race Conditions, Critical Section, Mutual Exclusion, Hardware Solution, Strict Alternation, Peterson's Solution, The Producer Consumer Problem, Semaphores, Event Counters, Monitors, Message Passing, and Classical IPC Problems.

Deadlocks: Definition, Deadlock characteristics, Deadlock Prevention, Deadlock Avoidance (concepts only).   **12Hrs**

UNIT-IV

Memory Management: Logical and Physical address map, Memory allocation, Internal and External fragmentation and Compaction, Paging. Virtual Memory: Demand paging, Page Replacement policies.   **12Hrs**

UNIT-V

I/O Management Principles of I/O Hardware: Disk structure, Disk scheduling algorithm. **File Management:** Access methods, File types, File operation, Directory structure, File System structure, Allocation methods, Free-space management, and directory implementation.

Structure of Linux Operating System, Exploring the Directory Structure, Naming Files and Directories, Concept of shell, Types of shell, Editors for shell programming (e.g. vi), basics of Shell programming. Concept of shell, Types of shell, Editors for shell programming (e.g. vi), basics of Shell programming.   **12Hrs**

References:
1. Silberschatz, Peter B. Galvin and Greg Gagne, Operating System Concepts, 9th Edition, WileyIndianEdition.
2. Andrew S Tanenbaum, Modern Operating Systems, Third Edition, Prentice HallIndia.
3. Sumitabha Das, UNIX Concepts and Applications,4th Edition, Tata McGrawHill.

Additional Reading:
4. Milankovic, Operating Systems, Tata McGrawHill.
5. NareshChauhan, Principles of Operating Systems, OxfordPress.
6. D.M. Dhamdhere, Operating Systems: A concept based approach, 2nd edition, Tata McGraw Hill.

Paper Code: CPSDSCP4.1	Paper Title: Operating System using Unix Lab
Practical Hours: 3 Hrs / Week	Marks: Practical- 40+IA-10 Marks
Credits: 01	

Revisit: Understands shell concept in UNIX/Linux environment and study of Basiccommands of Linux/UNIX. Study of Advance commands and filters of Linux/UNIX.
Study of UNIX Shell and Environment Variables usingvi editor for writing shell scripts.

1. Write a shell script to generate mark-sheet of a student by reading five subject marks, calculate and display total marks, percentage and Class obtained by the student.
2. Write a shell script which will accept a number b and display first n prime numbers as output.
3. Write a shell script which will generate first n Fibonacci numbers
4. Write a shell script to read n numbers as command arguments & sort them in descending order.
5. Write a shell script to display all executable files, directories and zero sized files from currentdirectory.
6. Write a shell script to check entered string is palindrome or not.
7. Shell programming using filters (including grep, egrep, fgrep)
8. Write an awk program using function, which convert each word in a given text into capital.
9. Write a program for process creation using C (Use of gcc compiler).
10. Write a shell script to determine whether a given file exists or not, file name is supplied as command line argument
11. Write a shell script to search and replace string in a file.
12. Write a shell script that accepts a list of file names as its arguments, counts and reports theoccurrence of each word that is present in the first argument file on other argument files.
13. Write an awk script to count the number of lines in a file that do not contain vowels Following shall be executed in Linux environment using gcc/similar compiler.
14. Write a C program that implements a producer-consumer system with two processes.
15. Write a C program to allow cooperating processes to lock a resource for exclusive use, using Semaphores
16. Write a C program that illustrates two processes communicating using shared memory.
17. Simulate the following CPU scheduling algorithms
      a) Round Robin   b)SJF   c) FCFS   d) Priority
18. Simulate all file allocation strategies
      a) Sequential   b) Indexed   c) Linked
19. Simulate all page replacement algorithms a) FIFO   b) LRU   c) LFU
20. Simulate Paging Technique of memory management.

Paper Code: CPSSECP4.2	**Paper Title: Multimedia Technology**
Practical Hours: 2 Hrs / Week	**Marks:** Practical- 40+IA-10 Marks
Total Hours: 30 Hrs	**Credits:** 02

Unit-I
What is Multimedia: Definitions - CD-ROM and the Multimedia Highway - Where to use Multimedia - Introduction to Making Multimedia: The stages of a Project - What You Need - Multimedia Skills and Training: The Windows Multimedia PC Platform.   **6Hrs**

Unit-II
Basic Tools: Text Editing and Word Processing Tools - OCR Software - Painting and Drawing Tools - 3-D Modeling and Animation Tools - Image-Editing Tools - Sound Editing Tools - Animation, Video and Digital Movie Tools.   **6Hrs**

Unit-III
Text: The Power of Meaning - About Fonts and Faces - Using Text in Multimedia - Computers and Text - Font Editing and Design Tools - Hypermedia and Hypertext.   **6Hrs**

Unit-IV
Sound: The Power of Sound - Multimedia System Sounds - MIDI Versus Digital Audio - Digital Audio - Making MIDI Audio - Audio File Formats - Working with Sound on the Macintosh - Notation Interchange File Format (NIFF) - Adding Sound to Your Multimedia Project - Toward Professional Sound: The Red Book Standard - Production Tips   **6Hrs**

Unit-V
Images: Making Still Images -Color - Image File Formats. Animation: The Power of Motion - Principles of Animation - Making Animations That Work - Video: Using Video - How Video works - Broadcast Video Standards - Integrating Computers and Television - Shooting and Editing Video - Video Tips - Recording Formats - Digital Video.   **6Hrs**

References:

1. Tay Vaughan - Multimedia: Making it Work. - Fourth Edition - Tata McGraw-Hill Edition - 1999.
2. Walterworth John A - Multimedia Technologies and Application - Ellis Horwood Ltd. - London - 1991.
3. John F Koegel Buford - Multimedia Systems - Addison Wesley - First Indian Reprint - 2000.

Paper Code: CPSDSET5.1	Paper Title: Computer Networks
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I

Introduction: Data Communications, Networks, the internet, protocols and standards, networkmodels – OSI model, TCP/IP protocol suite, addressing.   **12Hrs**

UNIT-II

Data and Signals: Periodic analog signals, digital signals, transmission impairment, data rate limits, performance.

Digital transmission: Digital to digital conversion, analog-to-digital conversion, transmission modes.   **12Hrs**

UNIT-III

Physical Layer and Media: Analog transmission: Digital-to-analog conversion, analog-to-analog conversion. Multiplexing and Spread spectrum. Transmission media – Guided media and unguided media.   **12Hrs**

UNIT-IV

Switching: Circuit-switched networks, datagram networks, virtual-circuit networks, structure of a switch. Telephone networks, dialup modems, digital subscriber line, cable-TV networks.

Detection and Correction: Errors, redundancy, detection versus correction, block coding, linear block codes, cyclic codes, checksum.   **12Hrs**

UNIT-V

Data Link Control: Framing, flow and error control, noiseless and noisy channels, HDLC, point-to- point control.

Multiple Access: Random access ALOHA, controlled access, channelization.

Wired LANs: Ethernet.Wireless LANs. Connecting LANs, Backbone Networks, and Virtual LANs
                12Hrs

References:
1. Behrouza A Forouzan, Data Communication & Networking, Tata McGrawHill.
2. Andrew S. Tanenbaum, Computer Networks, 5th Ed, PearsonEducation
3. William Stallings, Data and Computer Communications, 7th Edition,PHI.
4. http://highered.mheducation.com/sites/0072967757/index.html

Additional Reading:
5. Proakin, Digital Communications, McGrawHill.
6. W. Stalling, Wireless Communication and Networks,Pearson.
7. Brijendrasingh, Data Communication and Computer Networks,PHI.
8. Dr. Prasad, Data Communication & Network, WileyDreamtech

Paper Code: CPSDSEP5.1	Paper Title: Computer Networks Lab
Practical Hours: 3 Hrs / Week	**Marks:** Practical- 40+IA-10 Marks
Credits: 01	

Data Communication:

Equipment: DCT-03 Kit 9 Pin D connector Cables – 2 Nos. Computers–2 nos.Connecting Chords.Power Supply. Students shall study basics of serial communication ports and protocols. Study serial port communication in Windows environment.

Networking: NS-3 has been developed to provide an open, extensible network simulation platform, for networking research and education. That is, provides models of how packet data networks work and perform, and provides a simulation engine for users to conduct simulation experiments. This lab gives in depth view of how computer networks works in real time. Simulation of various topologies shall be performed using ns3 tool. The shall install Ubunto, Fedora Linux, NS3, on their machines.

1. Program in NS3 to connect twonodes
2. Program in NS3 for connecting three nodes considering one node as a centralnode.
3. Program in NS3 to implement startopology
4. Program in NS3 to implement a bustopology.
5. Program in NS3 for connecting multiple routers and nodes and building a hybridtopology.
6. Installation and configuration ofNetAnim
7. Program in NS3 to implement FTP using TCP bulktransfer.
8. Program in NS3 for connecting multiple routers and nodes and building a hybrid topology and then calculating networkperformance

Paper Code: CPSDSET5.2A	Paper Title: Elective- RDBMS
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I

Introduction: Purpose of Database Systems, View of Data, Database Languages, Database Design, Data Storage and Querying, Transaction Management, Database Architecture, Database Users and Administrators. **12Hrs**

UNIT-II

Introduction to the Relational Model: Structure of Relational Databases, Database Schema, Keys, Schema Diagrams, Relational Query Languages, Relational Operations.

Formal Relational Query Languages: The Relational Algebra, The Tuple Relational Calculus, The Domain Relational Calculus. **12Hrs**

UNIT-III

Database Design and the E-R Model: Overview of the Design Process, The Entity-Relationship Model, Constraints, Removing Redundant Attributes in Entity Sets, Entity-Relationship Diagrams, Reduction to Relational Schemas, Entity-Relationship Design Issues, Extended E-R Features.

Relational Database Design: Features of Good Relational Designs, Atomic Domains and First Normal Form, Decomposition Using Functional Dependencies, Functional-Dependency Theory, Algorithms for Decomposition, Decomposition Using Multivalued Dependencies, More Normal Forms, Database-Design Process, Modeling Temporal Data. **12Hrs**

UNIT-IV

Data Storage: Overview of Physical Storage Media, Magnetic Disk and Flash Storage, RAID, File Organization, Organization of Records in Files, Data-Dictionary Storage, Database Buffer, Indexing and Hashing concepts, Ordered Indices, B+-Tree Index Files, Multiple-Key Access, Static Hashing, Dynamic Hashing, Bitmap Indices. **12Hrs**

UNIT V

Introduction to SQL: SQL Data Definition, Basic Structure of SQL Queries, Basic Operations- Set Operations, Null Values, Aggregate Functions, Nested Subqueries, Modification of the Database, Join Expressions, Views, Transactions, Integrity Constraints, SQL Data Types and Schemas, Authorization.

Advanced SQL: Accessing SQL from a Programming Language, Functions and Procedures, Triggers, Recursive Queries. **12Hrs**

References:
1. Abraham Silberschatz, Henry F. and S. Sudarshan, Database System Concepts, 6th edition, McGrawHill.
2. AtulKahate, Introduction to Data Base Management Systems, PearsonEducation
3. Elmasari&Navathe, Fundamentals of Database System, Pearson Education
4. Feuerstein, Oracle PL/SQL Programming,SPD/O'REILLY

Additional Reading:
5. Korth, Data Base System Concepts,TMH
6. Bipin Desai, An introduction to Database System, GalgotiaPublications
7. S. K. Singh, Database System: concept, Design &Applicatio, PearsonEducation
8. P.S. Deshpande, SQL PL/SQL for Oracle 8 & 8i, WileyDreamtech

1. Draw E-R diagram and convert entities and relationships to relation table for a givenscenario.
2. Write relational algebra queries for a given set ofrelations.
3. Perform thefollowing:
    a. Viewing all databases, Creating a Database, Viewing all Tables in a Database, Creating Tables (With and Without Constraints), Inserting/Updating/Deleting Records in a Table, Saving (Commit) and Undoing(rollback)
4. Perform thefollowing:
    a. Altering a Table, Dropping/Truncating/Renaming Tables, Backing up / Restoring a Database.
5. For a given set of relation schemes, create tables and perform thefollowing
    Simple Queries, Simple Queries with Aggregate functions, Queries with Aggregate functions (group by and having clause), Queries involving- Date Functions, String Functions , Math Functions
    Join Queries- Inner Join, Outer Join
    Subqueries- With IN clause,With EXISTS clause
6. For a given set of relation tables perform thefollowing
    a. Creating Views (with and without check option), Dropping views, Selecting from a view
7. Write a Pl/SQL program using FOR loop to insert ten rows into a databasetable.
8. Given the table EMPLOYEE (EmpNo, Name, Salary, Designation, DeptID) write a cursor to select the five highest paid employees from thetable.
9. Illustrate how you can embed PL/SQL in a high-level host language such as C and demonstrates how a banking debit transaction might bedone.
10. Given an integer i, write a PL/SQL procedure to insert the tuple (i, 'xxx') into a givenrelation

Paper Code: CPSDSET5.2B	Paper Title: Elective-11 Java Programming
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I
Fundamentals of Object Oriented Programming(OOP), difference between Procedural andObject oriented programming , basic OOP concept - Object, classes, abstraction, encapsulation,inheritance, polymorphism .History of Java, features of Java, JDK Environment, Java Virtual Machine, JavaRuntime environment.   **12Hrs**

UNIT-II
Identifiers and Keywords, data types, Java coding Conventions, expressions, control structures,decision making statements, Arrays and its methods, Garbage collection & finalize() method.Java classes, define class with instance variables and methods, object creation, accessing member ofclass, argument passing, Constructors, Method overloading, static data, static methods, static blocks,this keyword, Nested & Inner classes, Wrapper Classes, String (String Arrays, StringMethods, StringBuffer)   **12Hrs**

UNIT-III
Inheritance: Super class & subclass, abstract method and classes, method overriding, final keyword,super keyword, down casting and up casting, dynamic method dispatch.
Packages and Interfaces: Importing classes, user defined packages, modifiers & access control(Default, public, private, protected, private protected), implementing interfaces, userdefined interfaces, Adapter classes   **12Hrs**

UNIT-IV
Exception handling: Types of Exceptions, try, catch, finally, throw, throws keywords, creating yourown exception, nested try blocks, multiple catch statements, user defined exceptions.
Java Input Output: Java IO package, File, Class Byte/Character Stream, Buffered reader / writer, Filereader / writer Print writer File Sequential / Random Serialization and de serialization.
Multithreading: Multithreading Concept, thread life cycle, creating multithreading application, threadPriorities, thread synchronization, and inter thread communication.   **12Hrs**

UNIT-V
Abstract Window Toolkit: Components and Graphics, Containers, Frames and Panels, LayoutManagers, AWT all Components, Event Delegation Model, Working with Graphics and Text.   **12Hrs**

References:
1. Herbert Schildt, The Java 2 : Complete Reference, Fourth edition, TMH,
2. Balaguruswamy, Programming with JAVA, A primer, TATA McGraw-Hill Company.
3. Cay S Horstmann, Fary Cornell, Core Java 2 Volume – I and II, Sun Microsystems Press
4. https://docs.oracle.com/javase/tutorial/

Additional Reading:
5. Peter Van der Liden, Just Java, Prentice Hall
6. H. M. Deitel, P. J. Deitel, Java: how to program, 5th edition, Prentice Hall of India.

<table>
<tr><td>

Paper Code: CPSDSEP5.2B

Practical Hours: 3 Hrs / Week

Credits: 01
</td><td>

Paper Title: Elective-11 Java Programming Lab

Marks: Practical- 40+IA-10 Marks
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Students are encouraged to use Linux-Open Source OS for executing java –programs usingjavac compiler available in Linux.

1. Define a class that will hold the set of integers from 0 to 31. An element can be set with the set member function and cleared with the clear member function. It is not an error to set an element that's already set or clear an element that's already clear. The function test is used to tell whether an element is set.

2. Write a Java program that creates an object and initializes its data members using constructor. Use constructor overloading concept.

3. Write your own simple Account class. You should be able to make deposits and withdrawals and read out the balance — a private double variable. Member functions should be: void Account::withdraw (const double &amount); //Take from account void Account::deposit(const double &amount); // Put into account double account::balance(void); //Return the balance Make sure that the Account constructor function initializes the balance to zero. If you like, add an overloaded constructor function to set an initial balance.

4. Write a derived class DepositAccount that inherits from the Account class. The account should pay interest at an annual rate that is private member data, but impose a £10 fee for every withdrawal. You should overload the member functions of Account where necessary. How will you determine when to pay interest?

5. Write a java program to calculate gross salary & net salary taking the following data. Input: empno, empname, basic Process: DA=50%of basic HRA=12%of basic CCA=Rs240/- PF=10%of basic PT=Rs100/-

6. Write a Java program to sort the elements using bubble sort.

7. Write a Java program to search an element using binary search.

8. Write a Java program that counts the number of objects created by using static variable.

9. Write a Java program to count the frequency of words, characters in the given line of text.

10. Write a java program to identify the significance of finally block in handling exceptions.

11. Write a java program to access member variables of classes defined in user created package.

12. Write a Java Program to implement multilevel inheritance by applying various access controls to its data members and methods.

13. Write a Java Program to implement Vector class and its methods.

14. Write a program to demonstrate use of user defined packages.

15. Write a java program to implement exception handling using multiple catch statements.

16. Design stack and queue classes with necessary exception handling. Test the classes by writing atester program.

17. Write a Java program to illustrate AWT controls frame, panel, layout manager, command button and text boxes.

18. Write a Java program to illustrate basic calculator using grid layout manager.

19. Illustrate creation of thread by extending Thread class

20. Illustrate thread creation by implementing runnable interface.

Paper Code: CPSDSET5.3	Paper Title: Fundamental of E-Governance
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10 Marks
Total Hours: 30 Hrs	Credits: 02

UNIT-I
Overview of E-Government and E-Governance,Stages of E-Governance, National E-Governance Plan (NeGP), Mission Mode Projects and their implementation status, E-Governance , Introduction to E-governance, Role of ICT's in e-governance, Need, importance of E-governance.

6 Hrs

UNIT-II
Categories of E-governance, Key Issues of E-Governance, Technology, Policies, Infrastructure, Training, Copyrights , Consulting Funds, E-governance Models, Model of Digital Governance, Broadcasting /Wider Dissemination Model. **6 Hrs**

UNIT-III
Critical Flow Model, Interactive-service model/Government –to-Citizen-to-Government Model (G2C2G), Major areas of E-governance Services, Public Grievances: Telephone, Ration card, transportation, Rural services Land Records, Police: FIR registration, Lost and found, Social services: Death, domicile, school certificates. **6 Hrs**

UNIT-IV
Public information:employment, hospitals, railway, Agricultural sector: Fertilizers, Seeds, Utility payments Electricity, water, telephone. **6 Hrs**

UNIT- V
Commercial:income tax, custom duty, excise duty-Governance Infrastructure, stages in evolution and strategies for success, -Governance Infrastructure, stages in evolution and strategies for success.

6 Hrs

Paper Code: CPSDSET6.1	Paper Title: Web Technology
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I
Applet Programming - Creating and executing Java applets, inserting applets in a web page, Java security. Review of AWT Classes, Event Handling, Swing classes, Java swing - JApplet, icons and labels, text fields, buttons, combo boxes, tabbed and scroll panes, trees, tables.   **12Hrs**

UNIT-II
JDBC-Setting the JDBC connectivity with a backend database. RMI -Two tier and Multitier Architecture, Object serialization, RMI Fundamentals, Programming using Java RMI Classes and interfaces.   **12Hrs**
JAVA Script: Basics, variables, string manipulation, mathematical functions, statements, operators, arrays, functions, data and objects, regular expressions, exceptional handling, built in objects, cookies, events, dynamic HTML with Java Script.   **12Hrs**

UNIT-III
HTML and Style sheets: Document body, text, hyperlinks, formatting, lists, color, images, tables, multimedia objects, tables, forms, basic XHTML.
Cascading style sheets(CSS), properties and values in styles, formatting blocks of information, design of CSS2, styling for paged media, using aural presentation, counters and numbering.**12Hrs**

UNIT-IV
Perl and CGI: Basic Perl program, scalars, arrays, hashes, control structures, processing text, regular expressions, using files, subroutines, bits and pieces.
Developing CGI application, processing CGI, CGI.pm methods, creating HTML pages dynamically, carp, cookies.   **12Hr**

UNIT-V
XML: Basic XML, Document Type Definition, XML Schema, Document Object Model, presenting XML, XML parser, handling XML and DOM.   **12Hr**

References:
1. Patrick NaughtonAnd Herbert Schildt, Java The Complete Reference, TMH Publication.
2. Cay S. Horstmann and Gary Cornell, Core JAVA 2, Volume-II, 7/e, PearsonEducation.
3. Web Programming -Building Internet Applications, Chris Bates, Wiley Studentedition
4. Ivan Bayross, Web enabled commercial application development using HTML, DHTML, JavaScript, PERL-CGI, BPBPub.
5. http://html.com/,https://javascript.info/

Additional Reading:

6. PHP5 and MySQL Bible, Tim Converse and Joyce Park with Clark Morgan, Wiley Publishing.
7. Steven M. Schafer, HTML, CSS, JavaScript, Perl, Python and PHP - Web standards Programmer's Referencell, Wiley Publishing, Inc..
8. Thomas A. Powell, The Complete Reference HTML & XHTML, Tata McGraw Hill.

1. Write a java program to demonstrate key events by using Delegation eventmodel.
2. Write a java program to implement mouse events like mouse pressed, mouse released andmouse moved by means of adapterclasses.
3. Write a java program to demonstrate window events onframe.
4. Write an applet to display a simple message on a coloredbackground.
5. Write an applet that computes the payment of a loan based on the amount of the loan, interest rate and the number ofmonths.
6. Write an applet to perform the 4 basic arithmetic operations as buttons in a form accepting two integers in textboxes and display theirresult.
7. Write a java program to design a registration form for creating a new eMailaccount.
8. HTML (five assignments may beidentified)
    a. Program to illustrate various HTML tags: body and pre-tag, font tag, text formatting tags, ordered/unordered list tags, image tag, anchor tag, table tag, frame tag, form tag, span tag. Use suitable examples to illustrate various tags incombination.
    b. Illustrate importance ofCSS.
    c. Illustrate embedded multimedia i.e. To create a Html multimedia support to play different audio and video formats in abrowser
9. Develop and demonstrate a XHTML document that illustrates the use external style sheet, ordered list, table, borders, padding, color, and the <span>tag
10. Develop and demonstrate a XHTML file that includes Javascript script for the following problems:
    a) Input : A number n obtained using prompt Output : The first n Fibonaccinumbers
    b) Input : A number n obtained using prompt Output : A table of numbers from 1 to n and their squares using alert
11. Develop and demonstrate a XHTML file that includes Javascript script that uses functions for the followingproblems:
12. Parameter: A string Output: The position in the string of the left-mostvowel
13. Parameter: A number Output: The number with its digits in the reverseorder
14. Design an XML document to store information about a student in an affiliated college affiliated to RCUB. The information must include USN, Name, and Name of the College, Brach, Year of Joining, and e-mail id. Make up sample data for 3 students. Create a CSS style sheet and use it to display thedocument.
15. Write a Perl program to display various Server Information like Server Name, Server Software, Server protocol, CGI Revisionetc
16. Write a Perl program to accept LINUX command from a HTML form and to display the output of the command executed.
17. Write a Perl program to keep track of the number of visitors visiting the web page and to display this count of visitors, with properheadings
18. Write a Perl program to insert name and age information entered by the user into a table created using MySQL and to display the current contents of thistable

Paper Code: CPSDSET6.2A	Paper Title: Elective-111 Python
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT -I

Introduction to Python: Working with python, Variables, expressions, and statements, accepting user input, Conditional execution, Alternative execution, Chained conditionals, Nested conditionals, Iteration, Function Basics- Built-in Functions, Declaring and calling user defined functions, Parameters and default arguments, Fruitful functions and void functions, Recursion, Scope :Global, Local variables. Modules: Creating and importing modules- importing all or specific classes from module. **12Hrs**

UNIT-II

Lambda -- functions as objects, map() function, Strings, indexing, Slicing, Built-in String methods, Lists, Dictionaries and Tuples, Files: Opening the file – modes : read, write, append. Reading from and writing to a file, closing, deleting a file. **12Hrs**

UNIT-III

Exception: Exceptions in Python, Handling Exceptions: try block, except block, else block, finally block, Raising an exception, User defined exception, Assertions. Object-Oriented Programming: Classes : defining classes with __init__() and methods, creating objects, class variables and instance variables, Inheritance _super() function. **12Hrs**

UNIT IV

Regular Expressions: Concept of regular expression, meta characters, using match() function, search(), findall(), sub() and split() functions. GUI Programming in Python (using Tkinter): Introduction to GUI library. Layout management with pack, grid and place, Widgets with their attributes: Frame, Label, Button, Checkbutton, Radiobutton, Entry, Listbox, Text. Events and bindings, Drawing on canvas (line, oval, rectangle, arc.). **12Hrs**

UNIT V

Database connectivity in Python: Installing mysql connector, Accessing connector module, Using connect, cursor, execute & close functions, Reading single & multiple results of query execution, Executing different types of SQL statements, Executing transactions, Handling exceptions in database connectivity. **12Hrs**

References:
1. Charles R. Severance, "Python for Everybody: Exploring Data Using Python 3", 1st Edition, Create Space Independent Publishing Platform, 2016.
2. John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall ofIndia
3. Paul Gries , Jennifer Campbell, Jason Montojo, Practical Programming: An Introduction to Computer Science Using Python 3, Pragmatic Bookshelf,2/E
4. Lukaszewski, MySQL for Python: Database Access Made Easy, PactPublisher
5. Allen B. Downey, "Think Python: How to Think Like a Computer Scientist", 2nd Edition, Green Tea Press, 2015
6. Magnus Lie Hetland, Beginning Python: From Novice to Professional, Apress

Additional Reading:
7. James Payne , Beginning Python: Using Python 2.6 and Python 3, WileyIndia,
8. Python Programming,http://en.wikibooks.org/wiki/Python_Programming
9. The Python Tutorial,http://docs.python.org/release/3.0.1/tutorial/
10. Learn Python the Hard way,http://learnpythonthehardway.org/
11. Swaroop C H. A Byte of Python,http://www.swaroopch.com/notes/python
12. https://www.tutorialspoint.com/python3

Paper Code: CPSDSEP6.2A	Paper Title: Elective-111 Python Lab
Practical Hours: 3 Hrs / Week	Marks: Practical- 40+IA-10 Marks
Credits: 01	

1. Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument.
2. Write a Python program to get the sum of digits of a non-negative integer.
3. Write a Python program to create a module Calculation.py that contains functions to perform basic arithmetic operations. Demonstrate importing the module.
4. Write a Python program to read a file line by line store it into an array.
5. Write a Python GUI program to design Student Registration Form using any 5 widgets.
6. Write a Python program to demonstrate modification of an existing table data from MySQL database.
7. Write a Python class named Circle constructed by a radius and two methods which will compute the area and the perimeter of a circle.
8. Write a Python class named Rectangle constructed by a length and width and a method which will compute the area and perimeter of rectangle. Inherit a class Box that contains additional method volume. Override the perimeter method to compute perimeter of a Box.
9. Write a program to show use of Regular expressions with match(), search(), findall(), sub() and split().
10. Write a python program to demonstrate Exception handling using 'try', 'except', 'finally' and 'else' block.

Practice Programs:
1. Write a Python program to solve the Fibonacci sequence using recursion.
2. Write a Python function to check whether a number is perfect or not.
3. Write a Python program to converting an Integer to a string in any base.
4. Write a Python program to count the number of lines in a text file.
5. Write a Python program to copy the contents of a file to another file.
6. Write a Python class to reverse a string word by word. Input string : 'hello .py' Expected Output : '.py hello'
7. Write a Python program to read a random line from a file
8. Write a Python class to implement pow(x, n).
9. Write a Python program to demonstrate operations on tuple.

Paper Code: CPSDSET6.2B	Paper Title: Elective-1V PHP
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20 Marks
Total Hours: 60 Hrs	Credits: 03

UNIT-I
Introducing PHP –Basic development Concepts –Creating first PHP Scripts –Using Variable and Operators –Storing Data in variable –Understanding Data types –Setting and Checking variables–Data types –Using Constants –Manipulating Variables with Operators.   **12Hrs**

UNIT-II
Controlling Program Flow: Writing Simple Conditional Statements -Writing More Complex Conditional Statements –Repeating Action with Loops –Working with String and Numeric Functions.   **12Hrs**

UNI- III
Working with Arrays: Storing Data in Arrays –Processing Arrays with Loops and Iterations –Using Arrays with Forms -Working with Array Functions –Working with Dates and Times.   **12Hrs**

UNIT-IV
Using Functions and Classes: Creating User-Defined Functions -Creating Classes –Using Advanced OOP Concepts. Working with Files and Directories: Reading Files-Writing Files-Processing Directories.   **12Hrs**

UNIT-V
Working with Database and SQL : Introducing Database and SQL-Using MySQL-Adding and modifying Data-Handling Errors –Using SQLite Extension and PDO Extension. Introduction XML—Simple XML and DOM Extension.   **12Hrs**

REFERENCE BOOKS:

1. PHP A Beginner's Guide, VIKRAM VASWANI,Tata McGraw-Hill, 2008.
2. The PHP Complete Reference, Steven Holzner –Tata McGraw-HillEdition,2010
3. Spring into PHP5, Steven Holzer, Tata McCraw HillEdition,2005

Paper Code: CPSDSEP6.2B	Paper Title: Elective-1V PHP-Lab
Practical Hours: 3 Hrs / Week	**Marks:** Practical- 40+IA-10 Marks
Credits: 01	

1. Develop a PHP program to display prime numbers between the given range and display the total number of prime numbers.
2. Develop a PHP program and check message passing mechanism between pages.
3. Write a PHP program to implement simple calculator operations.
4. Develop a PHP program to demonstrate String functions. (any 6).
5. Write a PHP program to illustrate built in Array manipulation functions.(any 6)
6. Write a PHP program that displays a different message based on time of day. For example page should display "Good Morning" if it is accessed in the morning.
7. Write a PHP program that accepts two numbers using a web form and calculates greatest common divisor (GCD) and least common multiple (LCM) of entered numbers.(Use recursive function)
8. Develop a PHP program to demonstrate inheritance.
9. Develop a PHP program to demonstrate constructors and destructors.
10. Write a PHP program that writes contents of one file to another.
11. Develop a PHP code to read the values entered into the form and test them against the values in the Mysql database. Perform necessary exception handling.
12. Write a PHP program to sort the student records which are stored in the database using selection sort.
13. Develop a PHP program to design a college admission form using MYSQL database.
14. Develop a PHP program using session.
15. Develop a PHP program using cookie and session.

Paper Code: CPSSECT6.3	Paper Title: Cyber Laws
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10 Marks
Total Hours: 30 Hrs	Credits: 02

UNIT-I

Introduction -Cyberspace vs. Physical space; Scope of Cyber Laws.Components of Cyber Laws in India - Information Technology Act, 2000; Relevant provisions from Indian Penal Code, Indian Evidence Act, Bankers Book Evidence Act, Reserve Bank of India Act, etc. **6 Hrs**

UNIT-II

Information Technology Act– a brief overview; Documents or transactions to which IT Act shall not be applicable; meaning of Computer, Computer system and Computer network; E – commerce; E – governance; Concept of Electronic Signature; Concept of Cyber contraventions and Cyber Offences. **6 Hrs**

UNIT-III

E- Contract –legal provisions regulating the e – contract with special reference to the provisions of IT Act, 2000. Copyright issues in Cyberspace – relevant provisions under Copyright Act, 1957 regulating copyright issues in Cyberspace; Online Software Piracy – legal issues involved; Analysis of sufficiency of provisions of Copyright Act to deals with Online Software Piracy. **6 Hrs**

UNIT-IV

Concept of Cyber Crimes –'Cyber Contraventions' & 'Cyber Offences' "Study of Some Specific Kinds of Cyber Crimes"- Unauthorized Access' & 'Accessing the Protected System-meaning with referenceto an idea of Cyber Hacking; the legal issues involved. **6 Hrs**

UNIT-V

Introducing Computer contaminant or virus –legal issues involved. Denial of Access To Authorized Person– e.g. - Denial of Service (DoS) Attacks; E mail bombing – legal issues involved. Web jacking, Web Defacement & Salami Attacks- legal issues involved. **6 Hrs**

References:
1. Pavanduggal – cybercrime and jurisdiction in India
2. Rohasnagpal "cyber terrorism in the context of globalization", the it and law initiative (symbiosis publication)
3. Rohasnagpal, ipr& cyberspace – Indian perspective
4. Indian penal code 1860
5. Indian evidence act 1972
6. Bankers book evidence act 1891
7. Rbi of india act 1934
8. Information technology act 2000, it amendment bill 2006, it amendment bill 2008.
9. Copy rights act and trademark act 10. E-contract

Theory and Practical Evaluation Scheme

(i) Internal Test– 20 Marks: Two tests shall be conducted and average of the two shall beconsidered as final. Duration: 45 mins.

Teachers are encouraged to conduct the test either using any open source learning management system such as Moodle (Modular object-oriented dynamic learning environment) Or a test based on an equivalent online course on the contents of the concerned course (subject) offered by or build using MOOC (Massive Open Online Course) platform.

(ii)External Theory Examination- 80 Marks: Duration - 3 Hours.

Theory question paper pattern:-

Question 1 is compulsory Answer any four from the remaining questions	
Question	Marks
SECTION A Q1. Answer all the questions 10 sub questions(a - j)	2 marks x 10 = 20
SECTION B Q2. through Q6: Answer any four questions	5 marks x 4 = 20
SECTION C Q7. through Q11: Answer any four questions	10 marks x 4 = 40

Note: Each Question (from 7 through 11) may be sub-divided into sub questions as {a and b} and allocate marks based on weightage of the topic (eg. a : 4 marks and b: 6).

(iii) Practical Examination – 50 marks

<u>Internal Test– 10 Marks:</u>Two tests shall be conducted and average of the two shall be considered as final. **Duration: 45 mins.**

Students shall design and implement the programs/assignments given from the set of assignments provided at the beginning of the course commencement.

Course teacher are encouraged to test the students by giving the students from the course topic other than the set of assignments to strengthen student's ability in problem solving

(iv) External Practical Examination- 40 Marks   Duration - 3 Hours.

Certified Journal is compulsory for appearing at the time of Practical Examination

Students shall be given two programming assignments taking into consideration of duration of the time allotted to students for typing and executing the programs.

    Algorithm/programdesign includes program code   : 15 marks

    Execution (correctness and correct executionresults)   :15 marks

    Journal   : 05 marks

    Viva-Voce   : 05 marks

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

ELECTRONICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

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CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: ELECTRONICS

<table>
<tr><td colspan="9">B.Sc., ELECTRONICS Syllabus under CBCS scheme
(With effect from the academic year 2020-21 onwards)</td></tr>
<tr><td rowspan="2">Sem</td><td rowspan="2">Part</td><td rowspan="2">Paper Code</td><td rowspan="2">Title of the Paper</td><td rowspan="2">Hours/ Week</td><td colspan="3">Marks</td><td rowspan="2">Subject Credits</td></tr>
<tr><td>IA</td><td>Exam</td><td>Total</td></tr>
<tr><td rowspan="3">I</td><td rowspan="2">Part – 1

DSC</td><td>ELEDSCT1.1</td><td>Network Analysis And Analog Electronics</td><td>4</td><td>20</td><td>80</td><td>100</td><td>3</td></tr>
<tr><td>ELEDSC P1.1</td><td>Practical I</td><td>3</td><td>10</td><td>40</td><td>50</td><td>1</td></tr>
<tr><td colspan="3">Total : Hours / Credits</td><td>7</td><td></td><td></td><td>150</td><td>4</td></tr>
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<tr><td rowspan="3">II</td><td rowspan="2">Part – 1

DSC</td><td>ELEDSCT2.1</td><td>Electronic Circuits And Special Purpose Devices</td><td>4</td><td>20</td><td>80</td><td>100</td><td>3</td></tr>
<tr><td>ELEDSC P2.1</td><td>Practical II</td><td>3</td><td>10</td><td>40</td><td>50</td><td>1</td></tr>
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<tr><td rowspan="4">III</td><td rowspan="2">Part – 1

DSC</td><td>ELEDSCT3.1</td><td>Linear Integrated Circuits And 'C' Programming</td><td>4</td><td>20</td><td>80</td><td>100</td><td>3</td></tr>
<tr><td>ELEDSCP3.1</td><td>Practical III</td><td>3</td><td>10</td><td>40</td><td>50</td><td>1</td></tr>
<tr><td>Part – 2
SEC</td><td>ELESECT3.2</td><td>Weather Forecasting</td><td>2</td><td>10</td><td>40</td><td>50</td><td>2</td></tr>
<tr><td colspan="3">Total : Hours / Credits</td><td>9</td><td></td><td></td><td>200</td><td>6</td></tr>
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<tr><td rowspan="4">IV</td><td rowspan="2">Part – 1

DSC</td><td>ELEDSCT4.1</td><td>Digital Electronics</td><td>4</td><td>20</td><td>80</td><td>100</td><td>3</td></tr>
<tr><td>ELEDSCP4.1</td><td>Practical IV</td><td>3</td><td>10</td><td>40</td><td>50</td><td>1</td></tr>
<tr><td>Part – 2
SEC</td><td>ELESECT4.2</td><td>Renewable Energy sources and Energy Harvesting</td><td>2</td><td>10</td><td>40</td><td>50</td><td>2</td></tr>
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CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: ELECTRONICS

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	ELEDSET5.1	Communication-I	4	20	80	100	3
		ELEDSEP5.1	Practical V	3	10	40	50	1
		ELEDSET5.2A (**Elective I**)	Microprocessor -8085, Signals And Systems	4	20	80	100	3
		ELEDSEP5.2A (**Elective I**)	Practical VIA	3	10	40	50	1
		ELEDSET5.2B (**Elective II**)	Microprocessor -8085 & 8086	4	20	80	100	3
		ELEDSEP5.2B (**Elective II**)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	ELESECT5.3	Basic Instrumentation Skills	2	10	40	50	2
			Total : Hours / Credits	**16**			**350**	**10**

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
VI	Part – 1 DSE	ELEDSET6.1	Communication-II	4	20	80	100	3
		ELEDSEP6.1	Practical VII	3	10	40	50	1
		ELEDSET6.2A (**Elective III**)	Microcontroller -8051 &Embedded System	4	20	80	100	3
		ELEDSEP6.2A (**Elective III**)	Practical VIIIA	3	10	40	50	1
		ELEDSET6.2B (**Elective IV**)	Microcontroller&MATLAB	4	20	80	100	3
		ELEDSEP6.2B (**Elective IV**)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	ELESECT6.3	Electrical Circuits And Network Skills	2	10	40	50	2
			Total : Hours / Credits	**16**			**350**	**10**

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).
Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

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Schema of Evaluation for Practical Examination

S.No	Particulars	Marks Allotted
1.	Basic formula with description, nature of graph if any & indication of unit	04
2.	Tracing of schematic ray diagram/Circuit diagram with description	04
3.	Tabulation	04
4.	Experimental skill & connection	04
5.	Record of observation and performance of experiment	08
6.	Calculation including drawing graph	06
7.	Accuracy of result with unit	02
8.	Journal assessment	04
9.	Oral performance	04
	Total	**40**

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First Semester B.Sc. (Electronics)

Paper Code: ELEDSCT1.1   **Paper Title:** Network Analysis And Analog Electronics

Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits :**3

Unit I

- DC and AC response of electronic passive components: Review of passive components – R, L & C.
- Voltage and current sources–ideal and practical, conversion from voltage source to current source and vice versa.
- **DC Transient Analysis:** Series RC Circuit- Charging and discharging with initial charge, RC time constant.
  Series RL circuit, current at any instant during growth and decay–equations (qualitative analysis only). graphical representation, RL time constant, AC applied to Series RC and RL circuits: Impedance of series RC & RL circuits (qualitative study-no derivations). AC applied to Series and parallel RLC circuit (qualitative study–no derivations), series and parallel resonance, condition for resonance, resonant frequency, band width, significance of quality factor, Comparison between series and parallel resonance numerical problems.
- **Transformer:** Principle, construction and working.
- **Switches:** SPST, SPDT, DPST and DPDT, fuse and electromagnetic relay, MCB and ELCB, RCCB–Qualitative studies only.

                                                               15Hours

Unit II

- **Network theorems (DC analysis only):** Review of Kirchhoff's laws, voltage divider and current divider theorems, open and short circuits. Superposition Theorem. Thevenin's Theorem. Norton's Theorem. Reciprocity Theorem. Maximum Power Transfer Theorem. Problems.
- **Two Port Networks:** h, y and z parameters and their conversion.

                                                               15Hours

Unit III

- T and pi Networks, Network transformation T to pi and vice versa. Characteristic impedance.
- **Filters**-Concept of filters, Constant K-type filters- Low pass filter, high pass filters, band pass filters & band elimination. Derivation (Design impedance, Characteristic impedance, Cut off Frequencies, Attenuation constant and Phase constant) and design of filters.

                                                               15Hours

Unit IV

- **Junction Diode and its applications:** PN junction diode (Ideal and practical) constructions, Formation of Depletion Layer, Diode Equation and I-V characteristics. Idea of static and dynamic resistance, Zener diode, Reverse saturation current, Zener and avalanche breakdown.
- **Rectifiers**- Half wave rectifier, Full wave rectifiers (center tapped and bridge), circuit diagrams, working and waveforms (Definition of TUF, PIV and expression for efficiency (η), ripple factor(γ) and voltage regulation), Comparison between HWR & FWR.
- **Filter**- Inductor filter, Capacitor filter, LC filter (Inductor Input) and π-section filter

(Capacitor Input) Qualitative study only.

- **Regulation**- Line and load regulation, Zener diode as voltage regulator, explanation for load and line regulation.
- **Switching Circuits:** Clipping circuits (Positive, Biased, Combination), Clamping circuits (Positive & Negative).

15Hours

REFERENCE BOOKS:

1. Electronic Devices and circuit theory, Robert Boylstead and Louis Nashelsky, 9th Edition, 2013, PHI

2. Basic electronics- B.L. Theraja - S. Chand and Co. 3rd edition -2012.

3. Electronics text lab manual, Paul B. Zbar.

4. Electric circuits, JoesephEdminister, Schaums series.

5. Electric circuits Book 1, Schaums series - Syed. A. Nasar. Mc-Graw hill edition.

6. Basic Electronics and Linear circuits, N.N. Bhargava, D.C. Kulshresta and D.C Gupta-TMH.

7. Electronic devices, David A Bell, Reston Publishing Company/DB Tarapurwala Publ.

8. Principles of Electronics By- V.K. Mehta, S. Chand& Co.

9.Electronic devices, applications and Integrated circuits, Mathur, KulshreshtaandChadha, Umesh Publications.

Practical

Paper Code:ELEDSCP1.1 **Paper Title:** Practical – I
Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10
Credits :1

Demonstration experiments- not for evaluation
1. To familiarize with basic electronic components (R, C, L, diodes, transistors), digital Multimeter, Function Generator and Oscilloscope.
2. Measurement of Amplitude, Frequency & Phase difference using Oscilloscope.

Experiments to be performed
1. Series Resonance
2. Verification of (a) Thevenin's theorem and (b) Norton's theorem.
3. Verification of (a) Superposition Theorem and (b) Reciprocity Theorem.
4. Verification of the Maximum Power Transfer Theorem.
5. Study of Low pass filter T/π section.
6. Study of High pass filter T/π section.
7. Study of the I-V Characteristics of (a) P-N junction Diode, and (b) Zener diode.
8. Study of (a) Half wave rectifier and (b) Full wave rectifier (FWR).
9. Power supply using bridge rectifier (Internal resistance and voltage regulation).
10. Power supply using bridge rectifier with -π section filters (Internal resistance and voltage regulation).
11. Study the effect of (a) C- filter and (b) Zener regulator on the output of FWR.
12. Study of Clipping and Clamping circuits

Note: 1. Experiments are of three hours duration. 2.Minimum of eight experiments to be performed.

Second Semester B.Sc. (Electronics)

Paper Code: ELEDSCT2.1   **Paper Title:** Electronic Circuits And Special Purpose Devices
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Total hours :60   **Credits :**3

Unit I

- **Bipolar Junction Transistor:** Bipolar Junction Transistor: Construction, working and characteristics of three modes (CB, CE and CC), relation between α, β and γ. Regions of operation (active, cut off and saturation). Problems.
- **Transistor biasing:** Need for biasing, DC load line, operating point, thermal runaway, stability and stability factor. Different types of biasing– Fixed bias, collector to base bias, Emitter feedback bias, voltage divider bias, (Explanation Q point derivation. advantages& disadvantages in each case). Transistor as a switch – circuit and working. Problems.

15Hours

Unit II

- **Small Signal Amplifiers:** Classification of amplifiers based on different criteria, small signal CE amplifier-circuit, working, frequency response.
- **Hybrid model**: h-parameter, Determination of h-parameter of transistor for CE configuration, derivation for Av, expressions for Zin and Zout using h-parameters. Numerical problems on Av, Zin and Zout.
- **Cascaded Amplifiers: Two stage RC Coupled Amplifier and its Frequency Response.**
- **Power amplifier:** Introduction, Classification of power amplifiers, Conversion efficiency of class A amplifier, class B amplifier and class Camplifier (Qualitative only). Transformer coupled push pull amplifier.
- **FET:** Introduction, FET types, JFET – construction, working, characteristics, parameters and their relationships. Comparison of BJT & FET.
- **JFET Amplifier:** CS – mode, operation and expression for Zi, Zo& Av. Problems
- **MOSFET**-Types, circuit symbols of depletion type MOSFET (both N channel and P Channel). Circuit symbols of enhancement type MOSFET (both N channel and P channel). N channel enhancement type MOSFET-construction, working, characteristic curves (without experimental circuit).

15Hours

Unit III

- **Feedback:** Concept of feedback, types of feedback-positive & negative feedback, advantages and disadvantages for each, negative feedback configurations. Voltage series, voltage shunt, current series and current shunt (block diagram representation for each). Voltage Series negative feedback-effect of negative feedback on voltage gain-derivation, effect of negative feedback (no derivations) on Zi, Zo, BW, noise & distortion and stability. Numerical problems.
- **Sinusoidal Oscillators**-damped and undamped oscillations, basic principle of oscillator, positive feedback, Barkhausen criterion. Classification of oscillators-LC, RC

and crystal oscillators, Colpitts& Hartley oscillators using transistors – circuit diagrams, working (no derivations). Equivalent circuit of a piezo electric crystal, working of Colpitt's crystal oscillator. Types of RC oscillators (mention only) numerical problems.

- **Multivibrator**: Types, block diagrams of astable, monostable &bistablemultivibrators with waveforms. Circuit diagram and working of astable multivibrator using transistors (no derivation).

15Hours

Unit IV

- **UJT-** Basic construction, equivalent circuit, intrinsic standoff ratio, working, characteristics and relaxation oscillator-expression of frequency. Numerical problems.
- **SCR**-construction, working, characteristic curves, explanation of working by using equivalent circuit, full wave-controlled rectifier-derivations for average values of load current and voltage, numerical problems.
- **Triac and Diac** – Circuit symbol, construction, working, characteristic curves and applications (mention only).
- **LED**– Circuit symbol, operation and applications (mention only) and 7 segment display-common cathode and common anode (mention only).
- **LCD –**Types, applications (mention only), advantages over LED.
- **Special purpose devices:** Tunnel diode, Varactor diode, Photo diode, Photo transistor & Solar cell – circuit symbol, working, characteristics, applications (mention only).

15Hours

REFERENCE BOOKS:

1.Basic electronics- B.L. Theraja - S. Chand and Co. 3rd edition -2012.

2. Electronics text lab manual, Paul B. Zbar.

3. Basic Electronics and Linear circuits, N.N. Bhargava, D.C. Kulshresta and D.C

4. Gupta-TMH.

5. Electronic devices, David A Bell, Reston Publishing Company/DB TarapurwalaPubl.

6. Principles of Electronics By V.K. Mehta, S. Chand& Co.

7. Electronic devices, applications and Integrated circuits, Mathur, Kulshreshta and Chadha, Umesh Publications.

Practical

Paper Code: ELEDSCP2.1   **Paper Title:** Practical – II

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

         Credits :1

Section-A: –Demonstration experiment - not for Evaluation

1. Measurement of voltage, time period and frequency using C.R.O.

Section-B: –Performance experiments

1. CE Amplifier – frequency response
2. CC amplifier – voltage gain at one frequency, input and output impedances
3. FET characteristics
4. MOSFET characteristics
5. Common source FET amplifier
6. Study of Hartley oscillator
7. Study of Colpitt's oscillator
8. UJT characteristics
9. UJT relaxation oscillator.
10. SCR characteristics.
11. LED Characteristics
12. Solar cell characteristics

Note:
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

Third Semester B.Sc. (Electronics)

Paper Code: ELEDSCT3.1   **Paper Title:** Linear Integrated Circuits And 'C' Programming
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Total Hours: 60   **Credits :**3

Unit I

- **OPERATIONAL AMPLIFIER:** Qualitative study of Differential Amplifier, four modes of Differential Amplifier, Basic information of Op-amp (Types of IC Manufactures designations Package Types, Temperature ranges and pin identifications etc.), Mention 3 different op-amp ICs, Mono, dual and quad op-amp ICs (mention only). 741, OP 07, LM 308, etc. and their comparison with respect to parameters, limitations of op-amp in open loop mode. block diagram of Op-amp, ideal version of operational amplifier. Op-amp as inverting & non-inverting amplifier (open loop), Operational amplifier parameters input offset voltage, input offset current, input bias current, Total output offset voltage Thermal drift, CMRR and Slew Rate Explanation of voltage offset null circuit for 741. Concept of virtual ground. Voltage series (non-inverting) and Voltage-shunt (Inverting) negative feedback circuits derivation of voltage gain input resistance, output resistance bandwidth and Total output offset voltage, numerical problems.

                                                    15 Hours

Unit II

- **APPLICATIONS OF OP-AMPLIFIER:** Op-amp adder, Subtractor. Current to Voltage converter and Voltage to Current converter circuits, Low voltage DC voltmeter, Integrator, Differentiator, Qualitative study of op-amp as comparator. Peaking amplifier.
- **Filter:** First order active filters- low pass & high pass Circuit diagrams, derivation for cut-off frequency. Study of band pass, band reject filters. (Qualitative only).
- **Timer (IC 555):** Functional block diagram, Multivibrator–types (mention only), Astable Multivibrator – circuit with 555 timer and working, derivation of frequency of oscillations, numerical problems. Monostable multivibrator using 555 working and derivation of time period T, numerical problems.

                                                    15 Hours

Unit III

- Computer programming Preliminaries, Algorithm, Flowcharts and their symbols, some simple examples.
- **INTRODUCTION TO C-PROGRAMMING:** Characteristics of C language, Applications of C. Basic Structure of C program, Execution of C. C tokens, key words, identifiers, Constants, Variables and data types. Declaration of variables, assigning values to variables, defining symbolic constants. Operators and expressions (All type), conditional operator.

                                                    15 Hours

Unit IV

- **DECISION MAKING & BRANCHING:** Conditional & control statements: if statement, if-else statement, Nested if statement, Switch statement and goto- statement.
- **Loop control structures**: while, do-while and for statements. Break and continue statements.
- **ARRAY AND STRING HANDLING PROGRAMS:** One- and two-dimensional arrays, Declaration and initialization of arrays, multidimensional arrays. Strings, Declaring and initializing of string variables, reading and writing of strings, String handling functions.

15 Hours

REFERENCE BOOKS:

1. Liner Integrated circuits by Roy Choudhury, New age international, 4th edition,2010
2. Basic electronics- B.L. Theraja - S. Chand and Co. 3rd edition -2012.
3. Electronics text lab manual, Paul B. Zbar.
4. Electronic devices, David A Bell, Reston Publishing Company/DB Tarapurwala Publ.
5. Electronic devices, applications and Integrated circuits, Mathur, Kulshreshta and Chadha, Umesh Publications.
6. Computer concepts and C Programming techniques by Padma Reddy, Nandi publications, 4th edition, 2010.

Practical

Paper Code: ELEDSCP3.1   **Paper Title:** Practical -**III**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

Note: Experiments on Linear Integrated circuits (AT LEAST 05 EXPERIMENTS)

1. To design inverting amplifier using Op-amp & study its frequency response
2. To design non-inverting amplifier using Op-amp & study frequency response
3. Op-amp as Adder and subtractor.
4. Op-amp as an Integrator.
5. Op-amp as a Differentiator.
6. Study of first order low-pass filter and high-pass filter.
7. Astable multivibrator using IC-555.
8. Monostable multivibrator using IC-555.

Experiments on 'C' Programming (AT LEAST 03 EXPERIMENTS)
1. Write a C program To Find the Roots of quadratic equation.
2. Write a C program To Find the Factorial of the given number.
3. Write a C program To Find the largest of three numbers.
4. Write a C program To find the leap year.
5. Write a C program to generate first N Fibonacci numbers and print the result.
6. Write a C program to find the area of a triangle

Note:
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed**.**

Third Semester B.Sc. (Electronics) Skill Enhancement Course

Paper Code: ELESECT3.2   **Paper Title:** Weather Forecasting
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10
Total Hours :30   **Credits :**2

The aim of this course is not just to impart theoretical knowledge to the students butto enable them to develop an awareness and understanding regarding the causes andeffects of different weather phenomenon and basic forecasting techniques

Unit I

- **Introduction to atmosphere:** Elementary idea of atmosphere: physical structure and composition; compositional layering of the atmosphere; variation of pressure and temperature with height; air temperature; requirements to measure air temperature; temperature sensors: types; atmospheric pressure: its measurement; cyclones and anticyclones: its characteristics.

    9 Hours

- **Measuring the weather:** Wind; forces acting to produce wind; wind speed direction: units, its direction; measuring wind speed and direction; humidity, clouds and rainfall, radiation: absorption, emission and scattering in atmosphere; radiation laws.

    4 Hours

- **Weather systems:** Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification; tornadoes; hurricanes.

    3 Hours

Unit II

- **Climate and Climate Change:** Climate: its classification; causes of climate change; global warming and its outcomes; air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate.

    6 Hours

- **Basics of weather forecasting:** Weather forecasting: analysis and its historical background; need of measuring weather; types of weather forecasting; weather forecasting methods; criteria of choosing weather station; basics of choosing site and exposure; satellites observations in weather forecasting; weather maps; uncertainty and predictability; probability forecasts.

    8 Hours

Demonstrations and Experiments:

1. Study of synoptic charts & weather reports, working principle of weather station.
2. Processing and analysis of weather data:
(a) To calculate the sunniest time of the year.
(b) To study the variation of rainfall amount and intensity by wind direction.
(c) To observe the sunniest/driest day of the week.
(d) To examine the maximum and minimum temperature throughout the year.
(e) To evaluate the relative humidity of the day.
(f) To examine the rainfall amount month wise.

3. Exercises in chart reading: Plotting of constant pressure charts, surfaces charts, upper wind charts and its analysis.
4. Formats and elements in different types of weather forecasts/ warning (both aviation and non aviation)

REFERENCE BOOK:

1. Aviation Meteorology, I.C. Joshi, 3rd edition 2014, Himalayan Books
2. The weather Observers Hand book, Stephen Burt, 2012, Cambridge University Press.
3. Meteorology, S.R. Ghadekar, 2001, Agromet Publishers, Nagpur.
4. Text Book of Agro meteorology, S.R. Ghadekar, 2005, Agromet Publishers, Nagpur
5. Atmosphere and Ocean, John G. Harvey, 1995, The Artemis Press.

Fourth Semester B.Sc. (Electronics)

Paper Code: ELEDSCT4.1   **Paper Title:** Linear Integrated Circuits And 'C' Programming

Teaching Hours: 4Hrs / Week   **Marks:** Th-40+IA-10

Total hours :60   **Credits 3**

Unit I

- **Number System and Codes:** Binary, decimal, hexadecimal – conversion from binary to decimal and vice-versa, binary to hexadecimal and vice-versa, decimal to hexadecimal and vice versa, addition and subtraction of binary numbers and hexadecimal numbers. Subtraction using 2's complement, signed number arithmetic – addition. Types of codes–BCD code, gray code, gray to binary conversion and vice versa, excess – 3 Code - self complementing property, ASCII and EBCDIC, numerical problems.

                                                 15Hours

Unit II

- **Logic Gates:** Truth Tables of OR, AND, NOT, NOR, NAND, XOR, XNOR, Universal Gates. Pin configuration of IC (7400, 7402, 7404, 7408, 7432, 7486,7466).

- **Boolean algebra:** Basic postulates and fundamental theorems of Boolean algebra. Principle of Duality, De Morgan`s theorems. Simplification of Boolean Expressions, logic circuit for the Boolean expression and vice – versa.

- **Combinational Logic Analysis and Design:** Standard representation of logic functions (SOP and POS), Minimization Techniques (Karnaugh map minimization up to 4 variables for SOP), numerical problems.

                                                 15 Hours

Unit III

- **Arithmetic Circuits:** Binary Addition. Half and Full Adder. Half and Full Subtractor, 4bit binary Adder/Subtractor.

- **Data processing circuits:** Multiplexers (2x1,4 x 1 & 8x1), De-multiplexers- (1 x 4 &1x8)Applications of IC 74154, Decoders (3 to 8 line -IC 74X138) ,2:4 decoder using AND gates, 3:8 decoder using NAND gates, BCD to decimal decoderIC-7445, BCD to 7 segment decoders-IC 7447, 4:1, 8:1 Encoders (Decimal to BCD encoder IC 74XX147, priority encoder-IC 74XX148). Magnitude comparator -Two-bit comparator, 4-bit comparator (IC 7485).

- **Sequential Circuits:** SR, D, T and JK Flip-Flops. Clocked (Level and Edge Triggered) Flip-Flops. Preset and Clear operations. Race-around conditions in JK Flip-Flop. Master-slave JK Flip-Flop.   **15Hours**

Unit IV

- **Shift registers:** Serial-in-Serial-out, Serial-in-Parallel-out, Parallel-in-Serial-out and Parallel-in-Parallel-out Shift Registers (only up to 4 bits).

- **Counters (4 bits):** Ring Counter, Johnson counter, Asynchronous Counters-Logic diagram, Truth table and timing diagrams of 3-bit ripple counter, 3 bit Up-Down counter, Decade Counter. Synchronous Counter.

- **D-A and A-D Conversion:** 4 bit binary weighted and R-2R D-A converters, circuit and working. Accuracy and Resolution. A-D conversion characteristics, successive approximation ADC. (Mention of relevant ICs for all).   **15Hours**

REFERENCE BOOKS:

1. Digital Principles and applications: Malvino and Leach-TMH 3rd edition
2. Digital Systems: Ronald J Tocci, PHI.
3. Design with TTL ICs, Robert L Morries, TMH.
4. Digital Logic and Computer design: M. Morris Mano- PHI, new edition
5. Digital Design: M. Morris Mano- PHI 2nd edition, 2000.
6. Digital computer Electronics: Malvino-TMH
7. Digital computer Fundamentals: Thomas C. Bartee-TMH
8. Experiments in digital principles: Malvino and Leach-TMH

Practical

Paper Code: ELEDSC P4.1   **Paper Title:** Practical -**IV**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

1. Realization of logic gates using IC-7400 (AND, OR, NOT, XOR. NOR, NAND)
2. Verification of Boolean Expressions and De Morgan's theorems using NAND gates
3. Half adder and full adder using logic gates.
4. Half subtractor and full subtractor using logic gates.
5. Gray to binary conversion and binary to gray conversion using XOR gates.
6. Multiplexer using logic gates
7. Demultiplexer using logic gates.
8. RS/ JK/ D / T flip-flop using logic gates.
9. Decade counter using JK flip-flop.
10. 4- bit up and down counters
11. Shift Registers using D-flip-Flop (Serial in – Serial out).
12. Shift Registers using D-flip-Flop (Parallel in – Parallel out).

Note:
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

Fourth Semester B.Sc. (Electronics) Skill Enhancement Course

Paper Code: ELESECT4.2   **Paper Title:** Renewable Energy sources and Energy Harvesting
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10
Total hours: 30   **Credits 2**

The aim of this course is not just to impart theoretical knowledge to the students but to provide them with exposure and hands-on learning wherever possible.

Unit I

- **Fossil fuels and Alternate Sources of energy:** Fossil fuels and nuclear energy, theirlimitation, need of renewable energy, non-conventional energy sources. An overview of
  developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, OceanThermal Energy Conversion, solar energy, biomass, biochemical conversion, biogasgeneration, geothermal energy tidal energy, Hydroelectricity.

                                                                              3 Hours

- **Solar energy**: Solar energy, its importance, storage of solar energy, solar pond, non-convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems, PVmodels and equivalent circuits, and sun tracking systems.

                                                                              6 Hours

- **Wind Energy harvesting**: Fundamentals of Wind energy, Wind Turbines and different
   electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies.

                                                                              3 Hours

- **Ocean Energy**: Ocean Energy Potential against Wind and Solar, Wave Characteristics
   and Statistics, Wave Energy Devices.

                                                                              3 Hours

- Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy, Osmotic Power, Ocean Bio-mass.

                                                                              2 Hours

Unit II

- **Geothermal Energy**: Geothermal Resources, Geothermal Technologies.

                                                                              2 Hours

- **Hydro Energy**: Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

                                                                              2 Hours

- **Piezoelectric Energy harvesting**: Introduction, Physics and characteristics of piezo- electric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modelling piezoelectric generators, Piezoelectric energy harvesting applications, Human power

                                                                              4 Hours

- **Electromagnetic Energy Harvesting**: Linear generators, physics mathematical models, recent applications.

2 Hours

- Carbon captured technologies, cell, batteries, power consumption.

2 Hours

- Environmental issues and Renewable sources of energy, sustainability.

1 Hours

Demonstrations and Experiments
1. Demonstration of Training modules on Solar energy, wind energy, etc.
2. Conversion of vibration to voltage using piezoelectric materials
3. Conversion of thermal energy into voltage using thermoelectric modules.

REFERENCE BOOKS:

- Non-conventional energy sources, B.H. Khan, McGraw Hill
- Solar energy, Suhas P Sukhative, Tata McGraw - Hill Publishing Company Ltd.
- Renewable Energy, Power for a sustainable future, Godfrey Boyle, 3rd Edn.,2012, Oxford University Press.
- Renewable Energy Sources and Emerging Technologies, Kothari et.al., 2nd Edition, PHI Learning.
- Solar Energy: Resource Assessment Handbook, P Jayakumar, 2009.
- J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).
- http://en.wikipedia.org/wiki/Renewable_energy.

Fifth Semester B.Sc. (Electronics)

Paper Code: ELEDSET5.1   **Paper Title:** Communication-I
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits 3**

Unit I: Transmission lines & Analog Modulation

- **Noise** -Introduction, internal and external noises, signal to noise ratio and noise figure-numerical examples.
- **Transmission lines** - Introduction, different types of transmission lines (parallel and co-axial lines) current and voltage relation on RF transmission lines.
- Electromagnetic radiation, different layers of Ionosphere and wave propagation through them. Skip-distance, Maximum usable frequency. Virtual height, Critical frequency, Critical angle, Secant law and fading.
- **Analog Modulation techniques**
  Block diagram of electronic communication system. Modulation-need and types of modulation-AM, FM & PM.
- **Amplitude modulation** – representation, modulation index, expression for instantaneous voltage, power relations, frequency spectrum, DSBFC, DSBSC and SSBSC (mention only), AM collector modulator. Limitations of AM.
- **Frequency Modulation**- definition, modulation index, FM frequency spectrum diagram, bandwidth requirements, frequency deviation and carrier swing, FM generator-varactor diode modulator.

15Hours

Unit II: Transmitters and Radio receivers
- **Transmitters**: Block diagram of AM transmitter and FM transmitter with AFC, qualitative study of pre-emphasis. Comparison of AM and FM, Diode modulator, Transistor modulator (collector to base), numerical examples.
- **Demodulation:** AM detection-principles of detection, Diode AM detector, transistor AM detector, FM detector- slope detector-circuit working, balanced slope detector, Foster-Seeley discriminator and ratio detector (Qualitative).
- **AM super heterodyne receiver**– principle, block diagram, function of each stage.
- **FM super heterodyne receiver**– principle, block diagram, function of each stage.
- **Radio receiver characteristics:** Characteristics of radio receivers-qualitative study of sensitivity, selectivity, signal to noise ratio, fidelity, stability, image frequency and its rejection.

15Hours

Unit III: Antenna& Transducers

- **Antenna:** Radiation mechanism, Hertzian Dipole, Theory of dipole antenna, polar diagrams of dipole antenna, radiation resistance, efficiency, study of yagi and dish antenna. Feed mechanism, Cassegrain feed antenna.
- Qualitative study of Helical antenna, Loop antenna, Parabolic reflector, Horn antenna and Micro strip antenna.

- **Transducers**: Introduction - General measurement system – characteristics - definition – static& dynamic transducers, Different types - resistive transducer - strain gauge –capacitive - inductive transducers - LVDT (variable inductive transducers), temperature transducers, thermo couple, thermistors.
- Microphones (Carbon, Condenser), Loud Speakers (Moving Coil) Types of Speakers based on frequency (Woofer, Tweeter).

15Hours

Unit IV: Optical Fiber Communication

- Introduction – need for OFC. Block diagram of OFC system. Fiber optic cables, light propagation through fiber – step index fiber, graded index fiber, Snell's law, numerical aperture (derivation). Types of optical fiber cables, light sources – requirements, LEDs and semiconductor laser diodes. Photo detectors – PN, PIN and avalanche photodiodes. Losses in optical fibers – Rayleigh scattering, absorption, leaky modes, bending, joint junction losses. Advantages and disadvantages of OFC over metallic cables.

15Hours

REFERENCE BOOKS:

1. Electronic Communication Systems - by Kennedy and Davis (TATA McGraw –HILL EDITION

2. Electronic Communication, Roddy and Coolen, 4th edition, PHI

3. Transducers and Instrumentation by- DVS Murthy, PHI 1995

4. Optical Fiber Communication by- Gerd Keyser

5. Instrumentation Measurements and Communication by -B C Kakra and K KChoudhary, TMH1985

6. Hand Book of Electronics by -Gupta and Kumar

7. Electronics Instrumentation by- Kalsi

Practical

Paper Code: ELEDSC P5.1   **Paper Title:** Practical **– V**
Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10
     Credits :1

: Practical

1. Amplitude modulator and Amplitude demodulator
2. Frequency modulation and demodulation
3. Diode as a detector (Sketch input and output wave forms)
4. Straight radio receiver (Selectivity, Sensitivity)
5. Selectivity of a super heterodyne radio receiver
6. Time Division Multiplexing and de multiplexing
7. Frequency Multiplexing
8. Radiation pattern studies of different dipole Antenna
9. Studies on Antenna equivalent circuits.

10. Temperature transducers (Application of Thermistor)
11. Speaker characteristics and comparison (Tweeter, Woofer)
12. Microphones characteristics and comparison (Carbon, Diaphragm)
13. Numerical aperture of OFC
14. Characteristics of OFC

Note:
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

Fifth Semester B.Sc. (Electronics) Elective - I

Paper Code: ELEDSET5.2A   **Paper Title:** Microprocessor-8085, Signals And Systems

Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits 3**

Unit I: MICROPROCESSOR ARCHITECTURE AND INSTRUCTIONS

- **Microprocesso**r – Introduction Intel 8085, application, basic block diagram, speed, word size, memory capacity and classification.
- **Microprocessor 8085** – Features and architecture. Pin diagram of 8085.
- **Supporting circuits;** clock circuits, request circuits, generation of control signals. Bus drivers.
- **Instruction set**-Classification, Addressing modes, Status flags and instruction formats, Operation code, Operand, Mnemonics.

15Hours

Unit II: STACK OPERATIONS AND PROGRAMMING

- Program counter, Stack, Stack pointer operations, subroutine, calls and return operations. Interrupts. Delay loops, Timing diagrams- instruction cycle, machine cycle and T-states. Timing diagrams of Opcode fetch cycle, Memory read cycle & Memory write cycle.
- Programming preliminaries, Assembler concept, Programs of data transfer and memory operation (direct and indirect addressing) addition and subtraction of two 8 bit and 16-bit numbers, multiplication and division of 8-bit numbers, display of largest and smallest numbers in a given array of numbers, Sorting of numbers in descending/ascending order, Number of 1's and 0's in a given bytes, Testing for zero condition.1's and 2's compliments. Verification of truth tables of logic gates, Program to add two n byte numbers, Program to generate Fibonacci series up to the limit, Program to find the factorial of a number, Program to find the GCD of two integer numbers.

15Hours

Unit III: INTERFACING OF 8085

- **Interfacing;** Basic interfacing concepts, compatible IC of 8085,
- **Interfacing Techniques:** Memory mapped I/O, I\O mapped I\O. Memory interfacing, I/O interfacing, I/O devices,
- **Programmable interval timer (8253):** Need for8253, features, Block diagram, pin diagram, operating modes, D to A converter using 8085 and op-amp.
- **Programmable peripheral Interface IC 8255:** features, pin diagram, functional block diagram ports and their modes.

15Hours

Unit IV: SIGNALS AND SYSTEMS

- **Discreate -Time signals and Systems**: Definition of signals and systems, Classification of signals, Transformation of the Independent Variables, Periodic and Aperiodic signals, Energy and Power Signals, Even and Odd Signals, Discrete-Time System, System Properties, Impulse Response.
- **Convolution Sum:** Graphical Method, Analytical Method, Properties of Convolution; Commutative; Associative; Distributive; Shift; Sum Property System Response to Periodic

Inputs, Relationship between LTI system Properties and the Impulse Response; Causality; Stability; Invertibility, Unit Step Response.

15Hours

REFERENCE BOOKS:

1. Microprocessor Architecture, Programming and applications with the 8085by- Ramesh Gaonkar
2. Microprocessor 8085 by- B. Ram
3.Microprocessor 8085 and its interface by Sunil Mathur
3. Microprocessor and Microcontrollers 8085,8086 and 8051 by- Amar K. Gangully&AnuvaGanguly
4.Signals & Systems-Dr. J.S. Chitode Technical Publication Pune

Practical, Elective I

Paper Code: ELEDSE P5.2A **Paper Title:** Practical – **VIA**
Teaching Hours: 3 Hrs / Week **Marks:** Th-40+IA-10
Credits :1

Minimum EIGHT experiments are to be performed in the semester course using 8085.

1. Addition and Subtraction.

2. Multiplication and Division.

3. Largest and smallest of an array.

4. Arranging an array of numbers in ascending and descending order.

5.Sorting of numbers in descending/ascending order

6, Number of 1's and 0's in a given bytes

7.Testing for zero condition.1's and 2's compliments

8.Verification of truth tables of logic gates

9.Program to add two n byte numbers

10.Program to generate Fibonacci series up to the limit

11Program to find the factorial of a number

12.Program to find the GCD of two integer numbers.

Note:

1. Experiments are of three hours duration.

2. Minimum of eight experiments to be performed

Fifth Semester B.Sc. (Electronics) Elective II

Paper Code: ELEDSET 5.2B   **Paper Title:** Microprocessor -8085, 8086

Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits 3**

Unit I: MICROPROCESSOR ARCHITECTURE AND INSTRUCTIONS

- **Microprocesso**r – Introduction Intel 8085, application, basic block diagram, speed, word size, memory capacity and classification.
- **Microprocessor 8085** – Features and architecture. Pin diagram of 8085.
- **Supporting circuits;** clock circuits, request circuits, generation of control signals. Bus drivers.
- **Instruction set**-Classification, Addressing modes, Status flags and instruction formats, Operation code, Operand, Mnemonics.

                                                                                        15Hours

Unit II: STACK OPERATIONS AND PROGRAMMING

- Program counter, Stack, Stack pointer operations, subroutine, calls and return operations. Interrupts. Delay loops, Timing diagrams- instruction cycle, machine cycle and T-states. Timing diagrams of Opcode fetch cycle, Memory read cycle & Memory write cycle.
- Programming preliminaries, Assembler concept, Programs of data transfer and memory operation (direct and indirect addressing) addition and subtraction of two 8 bit and 16-bit numbers, multiplication and division of 8-bit numbers, display of largest and smallest numbers in a given array of numbers, Sorting of numbers in descending/ascending order, Number of 1's and 0's in a given bytes, Testing for zero condition.1's and 2's compliments. Verification of truth tables of logic gates, Program to add two n byte numbers, Program to generate Fibonacci series up to the limit, Program to find the factorial of a number, Program to find the GCD of two integer numbers.

                                                                                        15Hours

Unit III: INTERFACING OF 8085

- **Interfacing;** Basic interfacing concepts, compatible IC of 8085,
- **Interfacing Techniques:** Memory mapped I/O, I\O mapped I\O. Memory interfacing, I/O interfacing, I/O devices,
- **Programmable interval timer (8253):** Need for8253, features, Block diagram, pin diagram, operating modes, D to A converter using 8085 and op-amp.
- **Programmable peripheral Interface IC 8255:** features, pin diagram, functional block diagram ports and their modes.

                                                                                        15Hours

Unit IV: MICROPROCESSOR 8086

- Introduction 8086, feature of 8086, Architecture of INTEL 8086 (Bus Interface Unit, Execution unit), register organization-General purpose registers, Segment Registers, Pointers and index Registers, Flag Registers. Bus Operation, memory segmentation, Addressing Modes-Data addressing modes, Program memory addressing modes, Stack memory addressing modes
- **Instruction Set of 8086:** Addressing Modes, Instruction format, Discussion on instruction

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Set groups- data transfer, arithmetic, logic string, branch control transfer, processor control.

Interrupts: Hardware and software interrupts, responses and types

15Hours

REFERENCE BOOKS:

1. Microprocessor Architecture, Programming and applications with the 8085by- Ramesh Gaonkar
2. Microprocessor 8085 by- B. Ram
3.Microprocessor 8085 and its interface by Sunil Mathur
3. Microprocessor and Microcontrollers 8085,8086 and 8051 by- Amar K. Gangully &AnuvaGanguly
4.Signals & Systems-Dr. J.S. Chitode Technical Publication Pune

Practical, Elective II

Paper Code: ELEDSEP5.2B   **Paper Title:** Practical – **VIB**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

Minimum EIGHT experiments are to be performed in the semester course using 8085.

1. Addition and Subtraction.

2. Multiplication and Division.

3. Largest and smallest of an array.

4. Arranging an array of numbers in ascending and descending order.

5.Sorting of numbers in descending/ascending order

6, Number of   1's and 0's in a given bytes

7.Testing for zero condition.1's and 2's compliments

8.Verification of truth tables of logic gates

9.Program to add two n byte numbers

10.Program to generate Fibonacci series up to the limit

11Program to find the factorial of a number

12.Program to find the GCD of two integer numbers.

Note:

1. Experiments are of three hours duration.

2. Minimum of eight experiments to be perform

Fifth Semester B.Sc. (Electronics) Skill Enhancement Course

Paper Code: ELEDSCT 5.3   **Paper Title:** Basic Instrumentation Skills

Teaching Hours: 3Hrs / Week   **Marks:**   Th-40+IA-10

Total hours :30

Credits 2

This course is to get exposure with various aspects of instruments and their usage throughhands-on mode. Experiments listed below are to be done in continuation of the topics

Unit I:

- **Basic of Measurement:** Instruments accuracy, precision, sensitivity, resolution range etc. Errors in measurements and loading effects.
- **Multimeter:** Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance.

4 Hours

- **Electronic Voltmeter:** Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter/Multimeter and their significance.
- AC millivoltmeter: Type of AC millivoltmeters: Amplifier- rectifier, and rectifier- amplifier. Block diagram ac millivoltmeter, specifications and their significance.

4 Hours

- **Cathode Ray Oscilloscope:** Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only– no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition. Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance.

6 Hours

- Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace, introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.

3 Hours

Unit II:

- **Signal Generators and Analysis Instruments:** Block diagram, explanation and specifications of low frequency signal generators. pulse generator, and function generator. Brief idea for testing, specifications. Distortion factor meter, wave analysis.

4 Hours

- **Impedance Bridges & Q-Meters:** Block diagram of bridge. working principles of basic (balancing type) RLC bridge. Specifications of RLC bridge. Block diagram & working principles of a Q- Meter. Digital LCR bridges.

4 Hours

- **Digital Instruments:** Principle and working of digital meters. Comparison of analog & digital instruments. Characteristics of a digital meter. Working principles of digital voltmeter.

- **Digital Multimeter:** Block diagram and working of a digital multimeter. Working principle of time interval, frequency and period measurement using universal counter/frequency counter, time- base stability, accuracy and resolution.
4 Hours

The test of lab skills will be of the following test items:

1. Use of an oscilloscope.
2. CRO as a versatile measuring device.
3. Circuit tracing of Laboratory electronic equipment,
4. Use of Digital multimeter/VTVM for measuring voltages
5. Circuit tracing of Laboratory electronic equipment,
6. Winding a coil / transformer.
7. Study the layout of receiver circuit.
8. Trouble shooting a circuit
9. Balancing of bridges

Laboratory Exercises:

1. To observe the loading effect of a multimeter while measuring voltage across a lowresistance and high resistance.
2. To observe the limitations of a multimeter for measuring high frequency voltage and currents.
3. To measure Q of a coil and its dependence on frequency, using a Q- meter.
4. Measurement of voltage, frequency, time period and phase angle using CRO.
5. Measurement of time period, frequency, average period using universal counter/frequency counter.
6. Measurement of rise, fall and delay times using a CRO.
7. Measurement of distortion of a RF signal generator using distortion factor meter.
8. Measurement of R, L and C using a LCR bridge/ universal bridge.

Open Ended Experiments:

1. Using a Dual Trace Oscilloscope
2. Converting the range of a given measuring instrument (voltmeter, ammeter)

REFERENCE BOOKS:

- A text book in Electrical Technology - B L Theraja - S Chand and Co.
- Performance and design of AC machines - M G Say ELBS Edn.
- Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.
- Logic circuit design, Shimon P. Vingron, 2012, Springer.
- Digital Electronics, SubrataGhoshal, 2012, Cengage Learning.
- Electronic Devices and circuits, S. Salivahanan& N. S. Kumar, 3rd Ed., 2012, Tata Mc-Graw Hill
- Electronic circuits: Handbook of design and applications, U.Tietze, Ch.Schenk,2008, Springer
- Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

Sixth Semester B.Sc. (Electronics)

Paper Code: ELEDSET6.1   **Paper Title:** COMMUNICATION-II
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Total Hours: 60   **No of credits :**3

Unit I: Digital communication

- Introduction to pulse and digital communications, digital radio, sampling theorem, types- PAM, PWM, PPM, PCM – quantization, advantages and applications, digital modulations (FSK, PSK, and ASK). Advantage and disadvantages of digital transmission, characteristics of data transmission circuits – Shannon limit for information capacity, bandwidth requirements, data transmission speed, noise, cross talk, echo suppressors, distortion and equalizer, MODEM– modes, classification, numerical problems.

15Hours

Unit II: Satellite Communication

- Introduction, satellite orbits, Satellite system -Block diagram of satellite sub systems, up link, down link, cross link, C-band transponders, Space segment, ground station (simplified Block diagram of earth station). Multiple access methods -TDMA, FDMA, CDMA, GPS-service's like SPS & PPS, numerical problems.

15Hours

Unit III: Cellular Communication and Wireless LANs

- **Concept of cellular mobile communication** – cell and cell splitting, frequency bands used in cellular communication, absolute RF channel numbers (ARFCN), frequency reuse, roaming and hand off, authentication of the SIM card of the subscribers, IMEI number, concept of data encryption, architecture (block diagram) of cellular mobile communication network, CDMA technology, CDMA overview, simplified block diagram of cellular phone handset, Comparative study of GSM and CDMA, 2G, 3G and 4G concepts, numerical problems.

15Hours

Unit IV: Television

- **Television receiver circuit:** Monochrome TV Block diagram Each block explanation. Gross structure, Image continuity, Horizontal and vertical scanning, Number of scanning lines, Flicker, Interlaced scanning, Fine structure, Composite video signal (Detail study), Blanking pulses, Horizontal and vertical synchronization, Equalizing pulses, Channel bandwidth, vestigial side band transmission. T.V. Signal standards, numerical problems.

- **Colour Television**
  Essentials of colour T.V. (compatibility, natural light, three colour theory grass man law), Luminance, Hue and Saturation, Chromaticity diagram, Luminance signal(Y), Production of colour difference voltage, Delta gun colour picture tube, Detail description of each block of colour television. Concept of CCTV, HDTV, Picture in Picture, Picture phones, numerical examples wherever applicable, numerical problem.

15Hours

REFERNCE BOOKS:

1. Electronic Communication, George Kennedy, 3rd edition, TMH.
2. Electronic Communication, Roddy and Coolen, 4th edition, PHI.
3. Electronic Communications Systems, Wayne Thomasi, 5th edition.
4. Digital Communication System: Ronald J Tocci.
5. Monochrome and Colour television, R.R. Gulati, New Age International.
6. Colour TV Principle & Practice, R.R. Gulati, New Age international.
7. Basic Television Principle & Servicing, Bernard Grob, McGraw Hill.
8. Television and Video Engg-A.M. Hake, Tata McGraw Hill Publishing
9. Principles of Electronics By V K Mehta
10. Communication By Gupta and Kumar.
11. Electronic Communication systems, Fundamentals through Advanced, Wayne Tomasi - 5th edition.

Practical

Paper Code: ELEDSE P6.1   **Paper Title:** Practical – **VIIIA**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

Communication Experiments.

1. ASK modulator and demodulator

2. FSK modulation

3. PWM modulator and demodulator

4. PPM modulator and demodulator

5. PAM modulator and demodulator

6. Time Division Multiplexing and de multiplexing

Microcontroller Experiments

7. Addition and Subtraction Programming using 8051.

8. Multiplication and Division Programming using 8051.

9. Largest and smallest of an array Programming using 8051.

10. Arranging an array of numbers in ascending order and descending order Programming using 8051.

Sixth Semester B.Sc. (Electronics) Elective III

Paper Code: ELEDSET6.2A   **Paper Title: Microcontroller -8051 & Embedded System**
Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20
Total hours :60   **credits :**3

Unit I: Introduction to Microcontrollers
- Introduction, Microprocessor and Microcontrollers, RISC and CISC architectures, Harvard and Von-Neumann CPU architecture.
- **Microcontroller 8051:** Introduction, Architecture of 8051, Pin diagram of 8051, Memory organization, Internal RAM memory, Internal ROM. General purpose data memory, special purpose/function registers, external memory, Stacks.

15Hours

Unit II:8051- Addressing Modes & Instruction set
- **Addressing Modes:** Introduction, Instruction syntax, Data types, Subroutines, Addressing Modes-Immediate addressing, Register addressing, Direct addressing, Indirect addressing, Relative addressing, Absolute addressing, Long addressing, Index addressing, Bit inherent addressing, Bit direct addressing.
- **Instruction set-**Instruction timings,8051 instructions: Data transfer instructions, Arithmetic instruction, Logical instructions, Branch instructions, Subroutine instructions, Bit manipulation instruction.

15Hours

Unit III:8051-Programming & Interrupts
- **Programming:** Assembler directives, Assembly language programs-Addition of two 8-bit numbers Subtraction of two 8-bit numbers, Multiplication of two 8-bit numbers, Division of two 8-bit numbers. Largest and smallest of an array, Arranging an array of numbers in ascending order and descending order.
- **Interrupts:** Basics of interrupts, Classification of interrupts-Maskable, Non maskable, Vectored, Non vectored interrupts, Interrupts structure, Interrupt control, Interrupt Priority and Interrupt Destinations.

15Hours

Unit IV:PIC microcontrollers & Embedded system
- **PIC microcontrollers**
  Core features of PIC microcontrollers, overview of various PIC microcontroller series. PIC 16F877A-features, pin diagram, I/O ports.
- **Introduction to embedded system:**
  Embedded systems and general-purpose computer systems. Architecture of embedded system. Classifications, applications and purpose of embedded systems.

15Hours

REFERNCE BOOKS:

1. The 8051 Microcontroller Architecture, Programming and applications by- Kenneth Ayala

2. Programming and Customizing, The 8051 Microcontroller by-MykePredko

3.PIC Micro controller and Embedded System by Mazid Muhammad

Practical, Elective III

Paper Code: ELEDSEP6.2A   **Paper Title:** Mini Project

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

ELE-6.2A PROJECT WORK

1. Students in a group, not exceeding **THREE**, should design, fabricate and assemble ONE Electronic project in their respective colleges. The department faculty is required to guide the project work.

2. Each student should prepare a report and submit the report at the time of the practical examination duly certified by the concerned faculty guide & HOD.

3. Department faculty shall ensure that the entire project work is carried out in their respective colleges by utilising the practical classes assigned to practical VIII. A seminar on the project work is compulsory.

Sixth Semester B.Sc. (Electronics) Elective IV

Paper Code: ELEDSET6.2B   **Paper Title:**Microcontroller & Mat lab

Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **No of credits :**3

Unit I: Introduction to Microcontrollers

- Basic block diagram, comparison of microcontroller with microprocessors, comparison of 8-bit, 16 bit and 32-bit microcontrollers.
- Overview of 8051 series–comparison of 8051, 8052, 8031.
- Other Microcontroller families (Mention only) – Maxim 89C420, 89C440, 89C450
- Atmel Corporation AT89C51, AT 89LV51, AT89C1051, AT89C2051, AT89C52.
- **MICROCONTROLLER 8051**- architecture -internal block diagram, key features of 8051, pin diagram, memory organization, Internal RAM memory, Internal ROM. General purpose data memory, special purpose/function registers, external memory.
- **Counters and timers** – 8051 oscillator and clock, program counter, TCON, TMOD, timer counter interrupts, timer modes of operation. Input / output ports and circuits/ configurations, serial data input / output – SCON, PCON, serial data transmission modes.

                                                       15Hours

Unit II:8051- Interrupts, Addressing modes and Instruction set

- **Interrupts** – IE, IP, time flag interrupts, serial port interrupt, external interrupts, reset, interrupt control, interrupt priority, interrupt destinations & software generated interrupts.
- **Addressing modes**–immediate addressing, register addressing, direct and indirect addressing,
- **Data transfer instructions** – internal data move, external data move, code memory read-only data move, Push and Pop and data exchange instructions.
- **Logical Instructions** – byte level logical operations, bit level logical operations, rotate and swap operations.
- **Arithmetic Instructions** – flags, incrementing and decrementing, addition, subtraction, multiplication and division, decimal arithmetic, simple programs in assembly language.

                                                       15Hours

Unit III:8051-Programming & Interrupts

- **Programming:** Assembler directives, Assembly language programs-Addition of two 8-bit numbers Subtraction of two 8-bit numbers, Multiplication of two 8-bit numbers, Division of two 8-bit numbers. Largest and smallest of an array, Arranging an array of numbers in ascending order and descending order.
- **Interrupts:** Basics of interrupts, Classification of interrupts-Maskable, Non maskable, Vectored, Non vectored interrupts, Interrupts structure, Interrupt control, Interrupt Priority and Interrupt Destinations.

                                                       15Hours

Unit – IV: MATLAB

Meaning and Scope of Computational Physics, Programming Concepts, Preliminaries of Programming (Problem Definition and Solution, Algorithms &Flow charts).
MATLAB: Introduction, Basics of MATLAB, Variables & Arrays, Various Matrixoperations, displaying output data, Data files, scalar and Array operations, Plotting operations. Implementation. Problems

15Hours

REFERNCE BOOKS:
1.The 8051 Microcontroller Architecture, Programming and applications by- Kenneth Ayala
2.Programming and Customizing, The 8051 Microcontroller by-MykePredko
3.PIC Micro controller and Embedded System by Mazid Muhammad
4.MATLAB-Rudrapratap (Oxford University press)
5.MATLAB Programming by Kirani Singh, B.B. Chaudhuri PHI

Practical, Elective IV

Paper Code: ELEDSEP6.2B   **Paper Title:** Mini Project

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits :1

1. Students in a group, not exceeding **THREE**, should design, fabricate and assemble ONE Electronic project in their respective colleges. The department faculty is required to guide the project work.

2. Each student should prepare a report and submit the report at the time of the practical examination duly certified by the concerned faculty guide & HOD.

3. Department faculty shall ensure that the entire project work is carried out in their respective colleges by utilising the practical classes assigned to practical VIII. A seminar on the project work is compulsory.

Sixth Semester B.Sc. (Electronics) Skill Enhancement Course

Paper Code: ELEDSCT 6.3   **Paper Title:** Electrical Circuits And Network Skills

Teaching Hours: 4Hrs / Week   **Marks:** Th-80+IA-20

Total hours:30   **Credits:2**

The aim of this course is to enable the students to design and trouble shoots the electrical circuits, networks and appliances through hands-on mode.

Unit I:

- **Basic Electricity Principles**: Voltage, Current, Resistance, and Power. Ohm's law. Series, parallel, and series-parallel combinations. AC and DC Electricity. Familiarization with multimeter, voltmeter and ammeter.

  3 Hours

- **Electrical Circuits**: Basic electric circuit elements and their combination. Rules to analyse DC sourced electrical circuits. Current and voltage drop across the DC circuit elements. Singlephase and three-phase alternating current sources. Rules to analyse AC sourced electrical circuits. Real, imaginary and complex power components of ACsource. Power factor. Saving energy and money.

  4 Hours

- **Electrical Drawing and Symbols**: Drawing symbols. Blueprints. Reading Schematics. Ladder diagrams. Electrical Schematics. Power circuits. Control circuits. Reading of circuit schematics. Tracking the connections of elements and identify current flow and voltage drop.

  4 Hours

- **Generators and Transformers**: DC Power sources. AC/DC generators. Inductance, capacitance, and impedance. Operation of transformers.

  3 Hours

Unit II:

- **Electric Motors**: Single-phase, three-phase & DC motors. Basic design. Interfacing DC or ACsources to control heaters & motors. Speed & power of ac motor.

  4 Hours

- **Solid-State Devices**: Resistors, inductors and capacitors. Diode and rectifiers. Components in Series or in shunt. Response of inductors and capacitors with DC or AC sources.

  3 Hours

- **Electrical Protection**: Relays. Fuses and disconnect switches. Circuit breakers. Overload devices. Ground-fault protection. Grounding and isolating. Phase reversal. Surge protection. Relay protection device.

  4 Hours

- **Electrical Wiring**: Different types of conductors and cables. Basics of wiring-Star and delta connect -ion. Voltage drop and losses across cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays.

- **Splices:** wire nuts, crimps, terminal blocks, and solder. Preparation of extension board.

  5 Hours

REFERNCE BOOKS:
- Electrical Circuits, K.A. Smith and R.E. Alley, 2014, Cambridge University Press
- A text book in Electrical Technology - B L Theraja - S Chand & Co.
- A text book of Electrical Technology - A K Theraja
- Performance and design of AC machines - M G Say ELBS Edn.

Question Paper pattern
First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
ELECTRONICS
ELEDSC T11:NETWORK ANALYSIS AND ANALOG ELECTRONICS

Time: 3 hours   Max. Marks: 80

1.		**Answer any 10 sub question**	**10 x 2 = 20**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
	vii.		
	viii.		
	ix.		
	x.		
	xi.		
	xii.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4	(a)		5 marks
	(b)		10 marks
		OR	
5	(a)		5 marks
	(b)		10 marks
6.	(a)		5 marks
	(b)		10 marks
		OR	
7.	(a)		5 marks
	(b)		10 marks

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8.	(a)		5 marks
	(b)		10 marks
		OR	
9.	(a)		5 marks
	(b)		10 marks

****

Instruction to set the question paper.

1. Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
2. Question number 2 and 3 are from unit I.
3. Question number 4 and 5 are from unit II.
4. Question number 6 and 7 are from unit III
5. Question number 8 and 9 are from unit IV.
6. Student has to answer either question number 2 or 3, 4 or 5, 6 or 7 and 8 or 9.
   Note: In case student answered both the questions from the same unit in full or part, highest marks from any one choice has to be considered.

Question paper pattern for skill enhancement course, SEC

Third Semester B.Sc. Degree Examination, December 2021
(CBCS Scheme-2020-21: Regular)
ELECTRONICS
ELESEC T32:Skill Enhancement Course

Time: 2 hours   Max. Marks: 40

1.		**Answer any 5 sub question**	**5 x 2 = 10**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4	(a)		5 marks
	(b)		10 marks
		OR	
5	(a)		5 marks
	(b)		10 marks

Instruction to set the question paper.

7. Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
8. Question number 2 and 3 is from unit I.
9. Question number 4 and 5 is from unit II.
10. Student has to answer either question number 2 or 3, 4 or 5.
    Note: In case student answered both the question from the same unit in full or part, highest marks from any one choice has to be considered.

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RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

ENVIRONMENTAL SCIENCE

2ND Semesters

w.e.f.

Academic Year 2020-21 and Onwards

Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES.   16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION.   16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
2. Biodiversity and its conservation in India. Indus Publishing Company, New Delhi Primack, Richard B 2006.
3. Essentials of conservation biology, 4th edition, Senaceer Associates, Sunderland, Mass.
4. Krishnamurthy K V 20014. An advanced text book of Biodiversity,
5. Principles and Practice. Oxford and IBH Publishing Co. Lvt. Ltd. Negi S S 1933.
6. Biodiversity in India (floristic aspects). Bishen Singh Mahendra Pal Singh, Dehradun.
7. Muller Dombois J. And Ellenberg, H. (1974) aims and methods of vegetation ecology,Wiley, new york.
8.Odum, E.P. 91971) fundamentals of Ecology, saunders, Philadelphia.
9. Kormondy, E. J. (1996) concepts of ecology, prentice hall, India, New Delhi.
10. Foin, T.C. (1976) ecological system and environment, Mifflin, boston.
11. Nobel B.J. and Wright, R.T. (1996) environmental science, prentice hall New Jersey.
12. Lillesand T.M. and Kiefer R.W. (1987) Remote sensing and image interpretation , John Wiley and sons, New York.
13. Agarwal, S.B. and Agarwal, M. (Ed.) (2000) environmental pollution and responses, CKC, press, London.
14. Koshoo, T. N. (1991) environmental concept and stragies ashish publ. House, new delhi.
15. Colinvaux P.C. (1993) ecology John Wiley and Sons, New york.
16.Indian Journal of Ecology by Indian Journal of Ecology
17.Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.

 (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I   (4x 2)   : 08Marks

Part II   (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses: a) Examination   :   40 Marks

 b) Internal Assessment   :   10 Marks

 c) Total   :   50 Marks

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

COMPULSORY PAPER

INDIAN CONSTITUTION

1ST Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	INDIAN CONSTITUTION	2	2	40	10	50	2 Hrs

The constitution of India aims to imbue students with the constitutional making process and its formulations. Further, it is done with the objective to acquaint / embolden students to have the basic understanding of the constitution of India.

Unit – 1 Constitution – Structure and Principles
1. Meaning and importance of Constitution.
2. Making of Indian Constitution – Sources
3. Salient features of Indian Constitution

Unit – 2 Fundamental Rights and Directive Priniples
1. Fundamental Rights.
2. Fundamental Duties.
3. Directive Principles.

Unit – 3 Government of Union
1. President of India – Electron and Powers.
2. Prime Minister and Council of Ministers.
3. Lok Sabha – Composition and Powers.
4. Rajya Sabha – Composition and Powers.

Reference :

1) Durga Das Basu, Introduction to the Constitution of India, Gurgaon; LexisNexis, 2018 (23rd edn.)
2) M. V. Pylee, India's Constitution, New Delhi; S. Chand Pub., 2017 (16th edn.)
3) J.N. Pandey, The Constitutional Law of India, Allahabad; Central Law Agency, 2018 (55th edn.)
4) Constitution of India (Full Text), India. Gov. in., National Portal of India, https://www.india.gov.in/sites/upload_files/npi/files/coi_part_full.pdf
5) Durga Das Basu, Bharatada Samvidhana Parichaya, Gurgaon; Lexis Nexis Butter worths Wadhawa, 2015.
6) Kb Merunandan, Bharatada Samvidhana Ondu Parichaya, Bangalore, Meragu Publications, 2015.
7) ಡಾ. ಎಂ.ಎಸ್. ಪಾಟೀಲ ಪ್ರಾಚಾರ್ಯರು ಎಸ್.ಕೆ.ಕಲಾ, ವಾಣಿಜ್ಯ ಹಾಗೂ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ತಾಳಿಕೋಟಿ ಭಾರತದ ಸಂವಿಧಾನ ಪ್ರತಿಭಾ ಪ್ರಕಾಶನ ತಾಳಿಕೋಟಿ.
8) ಪ್ರೊ. ಎಚ್. ಎಂ. ರಾಜಶೇಖರ ಭಾರತ ಸರ್ಕಾರ ಮತ್ತು ರಾಜಕೀಯ.
9) ಎಸ್. ಪಿ. ಡಂಗಿ ಭಾರತ ಸಂವಿಧಾನ ಪರಮಲಕ್ಷ್ಮೀ ಪ್ರಕಾಶನ.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination.
(Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I (4x 2) : 08Marks

Part II (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses:	**a) Examination**	**:**	**40 Marks**
	b) Internal Assessment	**:**	**10 Marks**
	c) Total	**:**	**50 Marks**

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

MATHEMATICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Mathematics Optional Subject

B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS (w.e.f. 2020-21 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	MATDSCT 1.1	Algebra–I and Calculus–I	4	20	80	100	3
		MATDSCP 1.1	Practicals-I	3	10	40	50	1
			Total : Hours / Credits	7			150	4
II	Part – 1 DSC	MATDSCT 2.1	Calculus–II and 3-Dimensional Geometry	4	20	80	100	3
		MATDSCP 2.1	Practicals-II	3	10	40	50	1
			Total : Hours / Credits	7			150	4

B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS (w.e.f. 2021-22 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	MATDSCT3.1	Algebra-II, Real analysis and Differential Equations	4	20	80	100	3
		MATDSCP 3.1	Practicals-III	3	10	40	50	1
	Part – 2 SEC	MATSECT 3.2	Set Theory and Theory of Equations	2	10	40	50	2
			Total : Hours / Credits	9			200	6
IV	Part – 1 DSC	MATDSCT 4.1	Vector Calculus, Infinite Series and Deferencial Equations	4	20	80	100	3
		MATDSCP 4.1	Practicals-IV	3	10	40	50	1
	Part – 2 SEC	MATSECT 4.2	Fourier Transforms	2	10	40	50	2
			Total : Hours / Credits	9			200	6

CHOICE BASED CREDIT SYSTEM [CBCS]

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	MATDSET 5.1	Real Analysis	4	20	80	100	3
		MATDSEP 5.1	Practicals-V	3	10	40	50	1
		MATDSET 5.2A (Elective-I)	Numerical Analysis and Difference Equations	4	20	80	100	3
		MATDSEP 5.2A (Elective-I)	Practicals	3	10	40	50	1
		MATDSET5.2B (Elective-II)	Dynamics and Calculus of Variation	4	20	80	100	3
		MATDSEP 5.2B (Elective-II)	Practicals	3	10	40	50	1
	Part – 2 SEC	MATSECT 5.3	Number theory	2	10	40	50	2
		Total : Hours / Credits		**16**			**350**	**10**

B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS (w.e.f. 2022-23 and onwards)

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
VI	Part – 1 DSE	MATDSET 6.1	Complex Analysis and Ring Theory	4	20	80	100	3
		MATDSEP 6.1	Practicals	3	10	40	50	1
		MATDSET 6.2A (Elective-III)	Differential Equations	4	20	80	100	3
		MATDSEP 6.2A (Elective-III)	Practicals	3	10	40	50	1
		MATDSET6.2B (Elective-IV)	Topology and Laplace Transforms	4	20	80	100	3
		MATDSEP 6.2B (Elective-IV)	Practicals	3	10	40	50	1
	Part – 2 SEC	MATSECT 6.3	Graph Theory	2	10	40	50	2
		Total : Hours / Credits		**17**			**350**	**10**

Note: Students have to choose either Elective-III or Elective-IV

B.Sc. Program with Mathematics Optional Subject

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities
AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course
DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

Paper Code: MATDSCT 1.1	Paper Title: Algebra–I and Calculus–I
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT-I

MATRICES AND DETERMINANTS

Recapitulation of Matrices, Symmetric matrices and Skew symmetric matrices, Elementary Transformations, Rank of a Matrix, Reduction to Normal forms, Inverse of matrix by elementary transformations, Solution of System of Linear equations.
Determinant: Expansion determent of fourth order, Reciprocal determinants Symmetric and Skew-Symmetric determinants. **12 Hours.**

UNIT-II

REAL NUMBER SYSTEM: Properties of real number system, Inequalities & absolute values, l.u.b, g.l.b and Archimedean properties of real numbers.

LIMITS AND CONTINUITY : Recapitulation of limits and continuity.Algebra of limits (with proofs).Properties of Continuous functions. Boundedness of continuous functions. **12 Hours**

UNIT-III

Intermediate value theorem, Borel Covering theorem (statement only).Uniform continuity.L-Hospital's rule (statement only). Indeterminate forms of $0/0$, ∞/∞, $0\times\infty$, $\infty - \infty$, 0^0, $1^\infty$and ∞^0. **12 Hours**

UNIT-IV

HIGHER ORDER DERIVATIVES

The nth derivative of $(ax + b)^n$, $1/ax+b$, $\log (ax+b)$, e^{ax+b}, $\sin(ax+b)$, $\cos(ax+b)$,$e^{ax} \sin (bx+c)$, $e^{ax}\cos (bx+c)$, Leibntz's Rule for n^{th}derivative of a product. **12 Hours**

UNIT-V

MEAN VALUE THEOREMS

Rolle's Theorem, Lagrange's Mean Value Theorem, Cauchy's Mean Value Theorem,
Taylor's Theorem (with Sclomilch and Rouche's form of reminder), Maclaurin's Series **12 Hours.**

Reference Books:
1. Deferential Calculus – Shantinarayan and Mittal
2. Mathematical Analysis-Shantinarayan
3. First Course in Real Analysis-M.k.Singal and Asha Rani
4. Text book of B.sc Mathematics- G.K. Raganath
5. Matrices and determinants- M.L. Khanna

B.Sc I Semester-Mathematics

Paper Code: MATDSCP 1.1	**Paper Title:** Practicals:1
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

- Introduction to SciLab / Maxima and commands related to the topic.
1. Computation of Sum, Difference and Product of two Matrices.
2. Computation of trace and transpose of matrices.
3. Computation of rank of matrix and row reduced echelon form.
4. Computation of inverse of a matrix using Cayley – Hamilton theorem.
5. Solution of system of homogeneous and Non-homogeneous equations.
6. Finding n^{th} derivative of e^{ax}, trigonometric and hyperbolic functions.
7. Finding n^{th} derivative of algebraic functions and Logarithmic functions.
8. Finding n^{th} derivative of Finding n^{th} derivatives of $e^{ax}\sin(ax+b)$, $e^{ax}\cos(ax+b)$.
9. Examples on Rolle's theorem, Lagrange's and Cauchy's mean value theorem.
10. Taylor's and Mac Laurin's series expansion of a given function.

NOTE: Use the SciLab / MAXIMA Open – source Software to execute the practical problems.
SciLab: is an open-source software and it can be downloaded from http://www.scilab.org/download. Some materials for sciLab can be found on http://wiki.scilab.org/Tutorialsarchives.
MAXIMA: is an Open source Computer Algebra System for solving typical calculus problems.
The latest version is available on http://maxim.source.forge,net/documentation.html

Paper Code: MATDSCT 2.1 Dimensional	Paper Title: Calculus–II and 3– Geometry
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT-I

Polar coordinates of a point and polar curve. Angle between the radius vector and the tangent at a point on the curve. Angle of intersection of two curves. Polar and pedal equation of the curves. Polar sub-tangent and polar sub - normal.

12 hours

UNIT-II

Derivative of arc length, Curvature, Radius of curvature in Cartesian, Parametric, polar and pedal forms. Centre of curvature. Evolutes and Involutes.

12 hours

UNIT-III

Limits, continuity of functions of two variables. Partial derivatives, higher order partial derivatives, total derivatives and total differentials, Homogeneous functions, Euler's theorem on homogeneous functions.

12hours

UNIT-IV

Reduction formulae for integration of $\sin^n x$, $\cos^n x$, $\tan^n x$, $\cot^n x$, $\sec^n x$, $\csc^n x$, $\sin^m x \cos^n x$, $x^n e^{ax}$, $x^m (\log x)^n$.

12 hours

UNIT-V

Sphere: Equation of a sphere, section of a sphere by a plane, Equation of a sphere through a circle, Equation of a sphere through two given points as ends of a diameter. Equation to a tangent plane of a sphere, Condition for tangency, Orthogonality of two spheres.

Cone: Equation of a cone, enveloping cone of a sphere, Right circular cone.

Cylinder: Equation of cylinder, enveloping cylinder of a sphere, Right circular cylinder.

12 hours

Books of reference:
1. Differential Calculus : Santinarayan and Dr. P.K. Mittal
2. Integral Calculus : Santinarayan and Dr. P.K. Mittal
3. Differential Calculus and integral Calculus : N.P. Bali
4. Text Book of B.Sc Mathematics: G. K. Ranganath
5. Differential Calculus and integral Calculus :P. N. Chatterji.
6. Analytical Solid geometry: Santinarayan and Dr. P.K. Mittal
7. Solid Geometry: N.P. Bali

Paper Code: MATDSCP 2.1	Paper Title: Practicals – 2
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

1. Writing simple program to generate: sequence of first 20 i)oddnos, ii) even nos, iii) prime nos. write a program to find smallest and largest nos from given two numbers.

2. Tracing of Cartesian curves.

3. Tracing of parametric curves.

4. Tracing of polar curves.

5. Tracing of curves in 3D.

6. Computation of arc length of Cartesian, Parametric curves

7. Computation of arc length of Polar form

8. Computation of volume of Cartesian and Parametric curves.

9. Computation of volume of Polar form

10. Evaluation of definite integrals and Reduction formulae.

NOTE: Use the SciLab / MAXIMA Open – source Software to execute the practical problems.
SciLab: is an open-source software and it can be downloaded from
http://www.scilab.org/download. Some materials for sciLab can be found on
http://wiki.scilab.org/Tutorialsarchives.
MAXIMA: is an Open source Computer Algebra System for solving typical calculus problems.
The latest version is available on http://maxim.source.forge,net/documentation.html

B.Sc III Semester-Mathematics

and	**Paper Code:** MATDSCT3.1	**Paper Title:** Algebra-II, Real Analysis Differential Equations
	Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
	Teaching Hours: 60Hrs	**Credits:** 03

UNIT-I

Real Analysis-I: Jacobians, Properties and examples, Lagrange's mean value theorem for functions of two variables. Taylor's (only statement) and Maclaurian's theorems for two variables. Maxima and Minima of two and three variables, Necessary and sufficient condition for extreme values of two variables.

12 Hours

UNIT-II

Sequences: Sequences, Limit of a sequences, Bounded and unbounded sequences, Convergent, Divergent, and Oscillatory sequences. Algebra of convergent sequences. Monotonic sequences. Theorems on monotonic sequences.

12 Hours

UNIT-III

Cauchy's sequences, Cauchy's first and second theorems on limits. Cauchy's criterion for convergence of sequences.

12 Hours

UNIT-IV

Group Theory-I: Groups, Abelian group, Standard examples of groups, Properties of groups, Semi groups, Subgroups and its properties, Permutation group. Cyclic groups & its properties, Cosets. Lagrange's theorem, Euler's theorem and Fermet's theorem.

12 Hours

UNIT-V

Differential equation-I: Bernoulli's form, Exact equations, Necessary and sufficient condition for the equation to be exact, solution of differential equation by finding a suitable integrating factor. Differential equations of the first order higher degree, Solvable for p, Solvable for x, Solvable for y, Clairaut's equations reducible to Clairaut's form.

12 Hours

Books for reference:
   (1) Shanti Narayana and P K Mittal: Textbook of Mathematical analysis.
   (2) Nisha Rani and Gupta: Textbook of real analysis.
   (3) N P Bali: Real analysis(Golden Series)
   (4) J N Sharma and A R Vasistha: Real analysis.
   (5) G. K. Ranganath: A text book of College Mathematics.
   (6) D. Murray: Introductory Course in Differential Equations.
   (7) Ayres F: Differential Equations.
   (8) Herstein I. N: Topics in Algebra.

Paper Code: MATDSCP 3.1	Paper Title: Practicals – 3
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

1. Obtaining partial derivatives of some standard functions.

2. Verification of Euler's theorem, its extension and Jacobian.

3. Examining the convergence of sequences.

4. Example on $\lim_{n\to\infty} \left(1+\frac{1}{n}\right)^n = e$.

5. Verification of binary operations

6. Computing the Identity and Inverse elements of a group.

7. Finding the order of elements of groups and the generators of a cyclic group.

8. Verification of Lagrange's theorem.

9. Solution of differential equations which are solvable for x, y,p.

10. To find the singular solutions by using Clairaut's form.

NOTE: Use the SciLab / MAXIMA Open – source Software to execute the practical problems.

SciLab: is an open-source software and it can be downloaded from

http://www.scilab.org/download. Some materials for sciLab can be found on

http://wiki.scilab.org/Tutorialsarchives.

MAXIMA: is an Open source Computer Algebra System for solving typical calculus problems.

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B.Sc III Semester-Mathematics

Paper Code: MATSECT 3.2	**Paper Title:** Set theory and Theory of Equations
Teaching Hours: 2 Hrs	**Marks:** Theory-40+IA-10
Teaching Hours: 30 Hours	**Credits:** 01

UNIT-I
SET THEORY

Equivalence relations, Partition of a Set, Arbitrary unions and intersections. De Morgan'slaws, Countable and Uncountable sets.

15 Hours

UNIT-II
THEORY OF EQUATIONS :

Polynomial equation of nth degree in one variable, Euclidean algorithm, Reminder Theorem, Factor Theorem, Fundamental Theorem of Algebra, Relation between the roots andcoefficient of general polynomial equation in one variable, Synthetic division. If one of the root of an equation $a_0x^n+a_1x^{n-1}+\text{-------}+a_n$ has one of its rational root is $p|q$, then p is an exactdivisor of an and q is an exact divisor of a0.Solution of cubic and Bi- quadratic equations.

15 Hours

Books for reference:
1. Modern Algebra- D.C. Pavate
2. Algebra -Vasistha

B.Sc IV Semester-Mathematics

and	**Paper Code:** MATDSCT 4.1	**Paper Title:** Vector Calculus, Infinite Series Deferential Equations
	Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
	Teaching Hours: 60Hrs	**Credits:**03

UNIT-I

Dot and cross product of vectors, Ordinary derivatives of vectors. Continuity and differentiability of a vector function. Derivatives of sum. Dot product, Cross product and Triple product of vectors. Constant vector functions, Partial differentiation of vector functions. The vector differential operator del. The gradient of a scalar point function, The directional derivative of function. Properties of gradient of vector function. Divergence and Curl of a vector point function. Properties of divergence and curl. Solenoidal and irrotational vectors.

12 Hours

UNIT-II

Infinite series I: Infinite series and examples. Convergent, Divergent and Oscillatory series. Partial sum of series. Series of non-negative terms, Necessary and sufficient condition for convergence, Cauchy's general principle of convergence. Geometric series. The P-series(Harmonic), Comparison tests (different forms).D'Alembert's ratio test, Raabe's test,

12 Hours

UNIT-III

Infinite series II: Cauchy's integral test and Root test. Absolute convergence and conditional convergence of series. Alternating series, Leibnitz theorem, Uniform convergence.

12 Hours

UNIT-IV

Differential Equations II: Linear differential equation of nth order with constant co-efficients. Particular integral when RHS is of the form e^{ax}, sinax, cosax,x^n,$e^{ax}v$ and xv where v is function of x.

12 Hours

UNIT-V

Differential Equations III: Homogeneous linear differential equation of nth order and Equation reducible to the homogeneous linear form, higher order exact differential equations.

12 Hours

BOOKS FOR REFERENCE:
(1) N. P. Bali: Differential equations.
(2) Shanti Narayana: Mathematical Analysis.
(3) G. K. Ranganath: Textbook of B.Sc. Mathematics.
(4) N. Rudraiah and others: College Mathematics.
(5) Murray R. Spiegel: VECTOR ANALYSIS.
(6) WalterRudin: Principles of Mathematical analysis.
(7) N. P. Bali: Real Analysis.

B.Sc IV Semester-Mathematics

Paper Cade: MATDSCP 4.1	**Paper Title:** Practicals – 4
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

1. Verification of Homomorphism and Isomorphism of groups.

2. Verification of exponential series.

3. Verification of Logarithmic series.

4. Verification of Binomial series.

5. Examples on Cauchy's root test, Raabe's and Ratio test.

6. Examples on convergence of alternating series using Leibnitz's theorem.

7. Finding the C.F of linear differential equations with constant coefficients and plot the solutions.

8. Finding the C.F of homogeneous differential equations with constant coefficients and plot the solutions.

9. Finding the P.I of differential equations up to second order and plot the solutions.

NOTE: Use the SciLab / MAXIMA Open – source Software to execute the practical problems.

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Paper Code: MATSEC 4.2	Paper Title: Fourier Transforms
Teaching Hours: 02 Hrs / Week	Marks: Theory-40+IA-10
Teaching Hours: 30Hrs	Credits: 01

UNIT-I

Fourier series: Periodic functions,Fourier series of functions of period 2π and 2l. Fourier series of odd and even functions, half range sine and cosine series.

15 Hours

UNIT-II

Fourier transforms: Finite sine and Cosine transforms.

15 Hours

OOKS FOR REFERENCE:

1. Shanti Narayana: Mathematical Analysis.
2. G. K. Ranganath: Textbook of B.Sc. Mathematics.
3. N. Rudraiah and others: College Mathematics.

Paper Code: MATDSET 5.1	Paper Title: Real Analysis
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT-I

Riemann Integration I-: Partition of a set. The upper and lower sums. Necessary and sufficient conditions for integrability. Algebra of integrable functions (constant,sum, difference, product, quotient, and modulus)

12 Hours

UNIT – II

Riemann Integration II: Integrability of continuous functions, monotonic functions. Fundamental theorem of integral calculus, Change of variables, Integration by parts. The first and second mean value theorems (Bonnet & Weirstrass form) of integral calculus.

12 Hours

UNIT – III

Improper integrals: Improper integrals of first and second kind. Comparison tests.Abel's test and Dirichlet's test.

12 Hours

UNIT – IV

Beta and Gamma functions:.Properties, Relation between Beta & Gamma functions and their convergence and Duplication formula.

12 Hours

UNIT-V

Differentiation under integral sign(Leibnitz theorem), Double and triple integrals, areas and volumes (Cartesian coordinates).

12 Hours

BOOKS FOR REFERENCE:
1) Fundamental Real analysis – S. L. Gupta &Nisha Rani
2) Mathematical Analysis—Shantinarayan and P. K. Mittal
3) A Course of Mathematical Analysis—M D Raisinghania
4) Real Analysis- N.P.Bali
5) A text book of B.Sc. Mathematics- G.K.Ranganath

Paper Code: MATDSET 5.2A(Elective-I) Difference	**Paper Title:** Numerical Analysis and Equations
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:**03

UNIT-I

Solutions of Algebraic and transcendental equations: Bisection method, Iteration method, Newton-Raphson method.

Numerical solutions of non-homogeneous systems of linear algebraic equations by Jacobi Iteration Method and Gauss-Seidel Iteration method.

12 Hours

UNIT-II

Finite Differences: Operators Δ (Delta), ∇ (Del) &E (Shift), Definitions and their properties, n^{th} order difference of a polynomial,

Interpolation: Newton Gregory forward and backward difference interpolation formulae and examples. Lagrange's interpolation formula and examples.

12 Hours

UNIT-III

Numerical differentiation: Forward and backward difference formulae. Computation of first and second ordered derivatives.

Numerical integration: General Quadrature formula, Trapezoidal rule, Simpson $1/3^{rd}$ and $3/8^{th}$ rules.

12 Hours

UNIT-IV

Solution of initial value problems: by ordinary linear first order differential equations by Taylor's series, Euler's, Picard and Runge- Kutta method of order four.

12 Hours

UNIT-V

Difference equations: Basic definitions, order and degree, solution, formation of first and second linear difference equations with constant coefficients (simple examples).

12 Hours

BOOKS FOR REFERENCE:
1)Introductory method of numerical anaylsis- S.S.Shastri .
2)Calculus of finite differences – H.C,Saxena
3)Numerical methods for scientific and engineering computation- M.K.Jain, S.R.K.Iyengar, &R.K.Jain (New Age International Publications)
4)Text Book of Mathematics-G.K.Raganath
5) Numerical Analysis by G. Balaguruswamy

<table>
<tr><td rowspan="3">of</td><td>**Paper Code:** MATDSET5.2B(Elective-II)</td><td>**Paper Title:** Dynamics and Calculus Variation.</td></tr>
<tr><td>**Teaching Hours:** 4 Hrs / Week</td><td>**Marks:** Theory-80+IA-20</td></tr>
<tr><td>**Teaching Hours:** 60Hrs</td><td>**Credits:** 03</td></tr>
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UNIT-I

Kinematics: Velocity and acceleration of a particle along a plane curve, Radial and Transverse components of velocity and acceleration, Tangential and normal components of velocity and acceleration.

12 Hours

UNIT-II

Central Orbits: Motion of a particle under a central force. Use of Polar and Pedal co-ordinates. Apse, Apsidal distance and Apsidal angle   12 Hours

UNIT-III

Motion of a projectile: in a non resting medium under gravity.
Elastic Impact: Direct and Oblique impact of elastic bodies.

12 Hours

UNIT- IV

Calculus of Variations: Variation of a function f = f(x,y,z), and functional, Variational problems Fundamental theorem of calculus of variation, Euler's equation.

12 Hours

UNIT- V

Calculus of Variations-(contd..): Geodesic on plane , on sphere, Brachistochrome problem , minimum surface of revolution, Isoperimetric problems.

12 Hours

BOOKS FOR REFERENCE:
1) Dynamics – M.Ray
2) Dynamics – P.N.Chatterji
3) Text Book of Mathematics-G.K.Raganath
4) Higher Engineering Mathematics by B. S.Grewal

B.Sc V Semester-Mathematics

Paper Code: MATDSEP 5.1	**Paper Title:** Practicals
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

1. Verification of lower and upper Riemann sums.

2. Verification of Riemann integrals.

3. Verification of continuous functions.

4. Evaluation if $\Gamma(n)$ for n is integer.

5. Evaluation if $\Gamma(n)$ for n is non-integer.

6. Evaluation of $\beta(m,n)$ for any m and $n > 0$.

7. Verification of given integral for its convergence.

8. Evaluation of double integral with constant limits over the region when the integrand is unity.

9. Evaluation of double integral with variable limits over the region when the integrand is unity.

10. Evaluation of triple integral with constant limits over the region when the integrand is unity.

NOTE: Use the SciLab / MAXIMA Open – source Software to execute the practical problems.

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Paper Code: MATDSEP 5.2A(Elective-II)	**Paper Title:** Practical
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 02

1. Finding roots of an equation by Bisection method.

2. Finding roots of an equation by Newton – Raphson method.

3. Solution of system of equations by Jacobi iteration method.

4. Solution of system of equations by Gauss - Seidel method.

5. Interpolation using Newton – Gregory forward and backward interpolation formula.

6. Interpolation using Lagrange's interpolation formula.

7. Numerical integration by Trapezoidal rule.

8. Numerical integration by Simpson's $(1/3)^{rd}$ and $(3/8)^{th}$ rule.

9. Solution of initial value problem by modified Euler's method.

10. Solution of initial value problem byRunge – Kutta second and fourth order methods.

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B.Sc V Semester-Mathematics

Paper Code: MATSECT 5.3	**Paper Title:** Number Theory
Teaching Hours: 2 Hrs / Week	**Marks:** Theory-40+IA-10
Teaching Hours: 30Hrs	**Credits:** 01

UNIT-I

Number theory I: Divisibility of numbers and properties, division algorithm, properties of prime and composite numbers. Congruences and its properties, Fundamental theorem of arithmetic.

15 Hours

UNIT-II

Number theory II: Bracket function, properties, Euler's function, Fermat, Euler and Wilson's theorems.

15 Hours

BOOKS FOR REFERENCE:
1. Theory of Numbers Prakash Om (Golden series)
2. Higher Algebra- Bernard and Child

Paper Code: MATDSET 6.1	Paper Title: Complex Analysis and Ring Theory
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT-I
Complex Analysis: Analytic function. Cauchy-Riemann equations, Harmonic function, Harmonic conjugate. Construction of analytic function using Milne-Thomson's method.

12 Hours

UNIT-II
Complex Integration: Cauchy's Theorem, Morera's Theorem , Cauchy's Integral formula, Cauchy's Integral formula for derivatives, Cauchy's inequality, Liouville's Theorem .

12 Hours

UNIT-III
Taylor's and Laurent's series, zeroes and singularities of analytic functions. Calculus of Residues.

12 Hours

UNIT-IV
Residue Theorem, Jordan's lemma and Contour Integration.

12 Hours

UNIT-V
Rings and Integral domains: Rings, Properties of rings, subrings, ideals, principle and maximal ideals in a commutative ring, quotient rings, homomorphism and isomorphism, and integral domains.

12 Hours

BOOKS FOR REFERENCE :
1. Theory of functions of a Complex variables- Shanti narayan and Mittal.
2. Complex Variables – B.S Tyagi
3. Complex Variables – J.N Sharma
4. Modern Algebra by A.R.Vasistha
5. Rings and Modules by C.S.Musli
6. A Text book of B.Sc. Mathematics by Dr. S.S. Bhusanoormath and others

Paper Code: MATDSEP 6.1	Paper Title: Practical
Practical Hours: 3 Hrs / Week	Marks: Practicals -40+IA-10
	Credits: 01

1. Tracing of circles and straight lines.
2. Construction of analytic function when real part of f(z) is given.
3. Construction of analytic function when imaginary part of f(z) is given.
4. Construction of analytic function by Milne – Thomson method.
5. Verification of real and imaginary parts of analytic function being harmonic.
6. Evaluation of contour integral by Cauchy's integral formula and plot the solutions.
7. Evaluation of complex integrals when the point lie outside the contour and plot the solution.
8. Computation of residues with simple poles.
9. Computation of residues when the pole is order $m > 1$.
10. Evaluation of contour integral by using Cauchy Residue theorem.

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B.Sc VI Semester-Mathematics

Paper Code: MATDSET 6.2A(Elective-III)	**Paper Title:** Differential Equations
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT-I
Differential Equations: Simultaneous differential equations with two and three variables. Total differential equation, Conditions of integrability and its solutions.

12 Hours

UNIT-II
Series Solutions of Ordinary Differential Equations: Basic definitions, Power series, ordinary and regular singular points. Power series solutions of ODEs. Frobeniusmethod.

12 Hours

UNIT-III
Legendre equation and functions: Solutions of Legendre's equations in series,Legendre's functions- first and second kind, Rodrigue's formula, Orthogonal properties. Legendre's polynomial, recurrence formulae.

12 Hours

UNIT-IV
Partial differential equations of 1ˢᵗorder:formation of partial differential equation by eliminating arbitrary constants and functions. Lagrange's linear partial differential equation $Pp+Qq = R$ and its solution. Non-linear differential equations of standard forms I,II,III and IV.

12 Hours

UNIT-V
a) Non-linear partial differential equations: Charpit's method.
b) Linear partial differential equations with constant coefficients.

12 Hours

BOOKS FOR REFERENCE:
1. Differential equations – D.A.Murray
2. Differential equations – Bhudev Sharma
3. Differential equations – J.N.Sharma and R.K.Gupta (Krishna PrakashanMandir Meerut)
4. Text book of Mathematics – G.K.Ranganath
5. Higher Engineering Mathematics by B. S.Grewal

B.Sc VI Semester-Mathematics

Paper Code: MATDSEP 6.2A(Elective-III)	**Paper Title:** Practicals
Practical Hours: 3 Hrs / Week	**Marks:** Practicals-40+IA-10
	Credits: 01

1. Verification of Cauchy – Euler differential equations.

2. Solution to the total and simultaneous differential equations and plot the solutions.

3. Verification of exactness of a differential equations.

4. Verification of linear partial differential equation of the form Pp + Qq = R.

5. Verifying first order non-linear partial differential equations (clairaut's form)

6. Verification of non-linear partial differential equations by Charpit's method.

7. Solutions to standard forms $f(p,q) = 0, f(p,q,z) = 0, f(x,p) = g(y,q)$.

8. Recurrence relation for Legendre's function.

9. Recurrence relation for Bessel's unction.

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Paper Code: MATDSET6.2B(Elective-IV)	Paper Title: Topology and Laplace Transforms
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT-I
Topology-I: Open set, closed set, closure of a set, neighbourhood, limit points derived sets, interior, exterior and boundary points of a set.

12 Hours

UNIT-II
Topology-II-: Base & sub-base, subspace, separation axioms. T_1& T_2 spaces (properties and examples).

12   Hours

UNIT- III
Laplace transforms-I: Definition, basic properties. Laplace transforms of some common functions. First shifting theorem, change of scale property.

12 Hours

UNIT- IV
Laplace transforms--II: Laplace transforms of periodic functions,Laplace transforms of derivatives and integrals, inverse Laplace transforms

12 Hours

UNIT-V
Laplace transforms—III: Heaviside function, Dirac-delta function, unit step function, convolution theorem and Laplace transforms method of solving differential equation of first and second order with constant coefficients.

12 Hours

REFERENCES:
1. Modern algebra and Topology- E.Sampathkumar and K.S.Amur
2. Topology – J.N.Sharma (Krishna Prakashan Meerut)
3. Topology by R.S.Agrawal
4. Laplace Transform Theory – M.G.Smith
5. A Text Book Of Mathematics– G.K.Raganath

Paper Code: MATSECT 6.3	Paper Title: Graph Theorymax
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10
Teaching Hours: 30Hrs	Credits: 01

UNIT-I

Basic Concepts of Graphs: Introduction, graphs, finite and null graphs, loops, multi graphs, pseudo graph, simple graph, degree of a vertex, isolated and pendent vertices, connectedness and complete graphs, regular and complementary graphs. Minimum and maximum degree, $\sum \deg(v_i) = 2q$. The number of vertices of odd degree is even. Isomorphism, line and total graphs.(Definitions and examples only).

15 Hours

UNIT-II

Sub – Graphs: Sub – graphs, spanning and induced sub-graphs, walk, trail, path, cycle, shortest path problems, bipartite graph. Characterisation of bipartite graphs in terms of its cycle.

15 Hours

BOOKS FOR REFERENCE:
1. **Graph theory – Frank Harary**
2. **Introduction to graph theory – Robin J Wilsoson, Longman**
3. **Graph theory and application – NarsingDeo**

RANI CHANNAMMA UNIVERSITY, BELAGAVI.

QUESTION PAPER PATTERN OF UG MATHEMATICS CBCS SYLLABUS DSC1A TO DSC1D AND DSE1A TO DSE1D.

TIME: 3 HOURS.   MAX. MARKS: 80.

PART – A: ANSWER ANY TEN OUT OF TWELVE   10 X 2 = 20MARKS
Q.NO.: 1. a, b, c, d, e, f, g, h, i, j, k, l.

PART – B: ANSWER ANY FOUROUT OF SIX   4 X 5 = 20 MARKS
Q. NOS: 2, 3, 4, 5, 6, 7.

PART – C: ANSWER ANY FOUR FULL QUESTIONS OUT OF FIVE FULL

QUESTIONS.4 X 10 = 40 MARKS
Q. NOS: 8 a, 8b, 9a, 9b, 10a, 10b, 11a,11b, 12a, 12b.

NOTE:
1. PART – A: ATLEAST TWO QUESTIONS FROM EVERY UNIT.
2. PART – B: ATLEAST ONE QUESTION FROM EVERY UNIT.
3. PART – C: ONE FULL QUESTION FROM EVERY UNIT.

PATTERN FOR SEC 1 SEC 4

TIME: 2 HOURS.   MAX. MARKS: 40.

PART – A: ANWER ANY FIVE OUT OF SEVEN5 X 2 = 10 MARKS
Q. NO: 1a, b, c, d, e, f, g.

PART – B: ANWER ANY SIX OUT OF EIGHT6 X 5 = 30 MARKS
Q. NO: 2, 3, 4, 5, 6, 7, 8, 9.

NOTE:
1. PART – A: AT LEAST THREE QUESTIONS FROM EACH PART.
2. PART – B: FOUR QUESTIONS FROM EACH PART.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

PHYSICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

Rani Channamma University Belagavi B.Sc. (CBCS) Physics

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: PHYSICS

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
			B.Sc., PHYSICS Syllabus as per CBCS **(With effect from the academic year 2020-21 onwards)**					
					IA	Exam	Total	
I	Part – 1 DSC	PHYDSCT1.1	Mechanics and Theory of Relativity	4	20	80	100	3
		PHYDSCP1.1	Practical I	3	10	40	50	1
			Total : Hours / Credits	7			150	4
II	Part – 1 DSC	PHYDSCT2.1	Electricity & Magnetism	4	20	80	100	3
		PHYDSC P2.1	Practical II	3	10	40	50	1
			Total : Hours / Credits	7			150	4

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
			B.Sc., PHYSICS Syllabus as per CBCS **(With effect from the academic year 2021-22 onwards)**					
					IA	Exam	Total	
III	Part – 1 DSC	PHYDSCT3.1	Thermodynamics-I, Sound and Waves	4	20	80	100	3
		PHYDSCP3.1	Practical III	3	10	40	50	1
	Part – 2 SEC	PHYSECT3.2	Weather Forecasting	2	10	40	50	2
			Total : Hours / Credits	9			200	6
IV	Part – 1 DSC	PHYDSCT4.1	Thermodynamics-II, Statistical Mechanics and Optics	4	20	80	100	3
		PHYDSCP4.1	Practical IV	3	10	40	50	1
	Part – 2 SEC	PHYSECT4.2	Renewable Energy sources and Energy Harvesting	2	10	40	50	2
			Total : Hours / Credits	9			200	6

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: PHYSICS

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	PHYDSET5.1	Mathematical Physics – I, Nuclear and Particle Physics and Classical Mechanics	4	20	80	100	3
		PHYDSEP5.1	Practical V	3	10	40	50	1
		PHYDSET5.2A (Elective I)	Quantum Mechanics – I, Electronics and Optoelectronics	4	20	80	100	3
		PHYDSEP5.2A (Elective I)	Practical VIA	3	10	40	50	1
		PHYDSET5.2B (Elective II)	Modern Physics - I	4	20	80	100	3
		PHYDSEP5.2B (Elective II)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT5.3	Basic Instrumentation Skills	2	10	40	50	2
			Total : Hours / Credits	**16**			**350**	**10**

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
VI	Part – 1 DSE	PHYDSET6.1	Mathematical Physics – II, Atomic, Molecular and Optical Physics and Atmospheric Physics.	4	20	80	100	3
		PHYDSEP6.1	Practical VII	3	10	40	50	1
		PHYDSET6.2A (Elective III)	Quantum Mechanics – II, Condensed Matter Physics and Nanomaterials	4	20	80	100	3
		PHYDSEP6.2A (Elective III)	Practical VIIIA	3	10	40	50	1
		PHYDSET6.2B (Elective IV)	Modern Physics - II	4	20	80	100	3
		PHYDSEP6.2B (Elective IV)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT6.3	Electrical Circuits And Network Skills	2	10	40	50	2
			Total : Hours / Credits	**16**			**350**	**10**

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)
Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

Rani Channamma University Belagavi B.Sc. (CBCS) Physics

Scheme of Evaluation for Practical Examination

S.No	Particulars	Marks Allotted
1.	Basic formula with description, nature of graph if any & indication of unit	04
2.	Tracing of schematic ray diagram/Circuit diagram with description	04
3.	Tabulation	04
4.	Experimental skill & connection	04
5.	Record of observation and performance of experiment	08
6.	Calculation including drawing graph	06
7.	Accuracy of result with unit	02
8.	Journal assessment	04
9.	Oral performance	04
	Total	**40**

First Semester B.Sc. (Physics)

Paper Code: PHYDSCT1.1   **Paper Title:** Mechanics and Theory of Relativity

Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20

Total Hours: 60   **Credits :** 3

Unit I

Conservation Laws

Law of conservation of linear momentum (statement). Centre of mass & Expressions for position vector, velocity, acceleration & force of centre of mass. Distinction between laboratory frame of reference and centre of mass frame of reference. Concept of elastic and inelastic collisions. Derivation of final velocities in case of elastic collision in (i) laboratory frame of reference (ii) centre of mass frame of reference. Derivation of final velocities in case of inelastic collision in (i) laboratory frame of reference (ii) centre of mass frame of reference. Conservation of linear momentum in case of variable mass. Principle of rocket and derivation for equation of motion for single stage rocket. Necessity of multistage rocket (Qualitative). Basics of angular momentum and torque, relation between angular momentum & torque (qualitative). Law of conservation of angular momentum with examples. Concept of work & power in terms of line integral. Law of conservation of energy. Work energy Principle.   **15 Hours**

Unit II

Gravitation

Newton's law of Gravitation (statement). Expressions for escape velocity and orbital velocity. Kepler's laws of planetary motion. Derivation for Kepler's 2nd and 3rd law. Concept of Satellite, derivation for binding energy of satellite. Artificial Satellite: Geostationary satellite and polar orbit satellite with different types of orbits (qualitative). Concept of weightlessness. Basic ideas of G.P.S. and NAVIC.

Rigid Body Dynamics

Moment of Inertia. Radius of Gyration. Statements of theorem of parallel axis and theorem of perpendicular axis. Derivation of expressions for moment of inertia for (i) rectangular lamina (ii) thin uniform rod and (iii) circular disc. Theory of compound pendulum. Theory of flywheel and its applications.   **15 Hours**

Unit III

Elasticity

Statement of Hook's law. Behavior of wire under stress. Modulus of elasticity. Derivation of expression for relations between elastic constants. Derivation of work done per unit volume in a deforming body. Derivation of twisting couple of cylindrical rod or wire. Torsion pendulum, Derivation for time period of torsion pendulum. Derivation of bending moments. Theory of cantilever. Derivation of Young's modulus by bending of beam supported at its ends and loaded at middle.

15 Hours

Unit   IV

Theory of Relativity

Inertial and non inertial frames of references. Newtonian principle of relativity. Galilean transformation equations. Michelson Morley experiment and negative results. Postulates of special theory of relativity. Lorentz transformation equations. Length contraction. Time dilation. Addition of velocities. Derivation of variation of mass with velocities. Derivation of Einstein's mass-energy relation.

15 Hours

REFERENCE BOOKS:

1) Fundamentals of Physics- R.Resnik, D. Halliday and Walker; Wiley 6ed(**2001**)
2) Physics-Classical and Modern, FJ Keller, E Gettys and J J Skove, McGraw Hill Second Revised Edition(**1993**)
3) Classical Mechanics-K N Sreenivasa Rao, Universities Press- Orient Longman (**2003** ed)
4) Concepts of Physics Vol (1)-H C Verma, Bharathi Bhavan Publishers, **2004** Edition
5) University Physics- F W Sears, M W Zemansky & H D Young, Pearson Education First ed.(**2014**)
6) Mechanics- J C Upadhaya, Himalaya (**2014** ed)
7) Mechanics- Berkeley Physics Course Vol(1)- SI units Charles Kittel etal, McGrawHill Education (India) 2e (2011).
8) Elements of Properties of matter – D S Mathur, S.chand(GL) 7 Co Ltd,Dehi 1ed(**2010**)
9) Properties of Matter - Brijlal & Subramanyam, S Chand & Co, (**2002)**
10) Newtonian Mechanics- A P French, Nelson & Sons UK, (**1971**)
11) Mechanics & Thermodynamics, G Basavaraju & Dipan Ghosh, McGrawHill Education India) 1ed (**1985**)
12) A treatise on general properties of matter, Sengupta and Chatterjee, New Central Book Agency Pvt Ltd, Calcutta (7th Revised edition -**2010**)
13) Waves & Oscillations, P K Mittal & Jai Dev Anand, Hari Anand Publications Pvt Ltd (2011ed)
14) Perspectives of Modern Physics, Arthur Beiser, Mc- Graw Hill;
15) Introduction to Special Theory of Relativity, Rober Resnick, John Wiley and Sons First Edition
16) Special Relativity, A P French, MIT, w.w. Nortan and Company First Ed (**1968**)
17) Concepts of Modern physics McGraw hill Education(India) Pvt Ltd;6th ed **(2000)**
18) Principles of Modern Physics, A.P. French, John Wiley, London (1958).
19) Modern Physics - S.N. Ghoshal, Part 1 and 2 S. Chand and Company (1996).
20) Advanced analytical dynamics : Dynamic of rigid body, Utpal Chatterjee, Academic Publishers, first edition,(2016).
21) Theory of mechanics, kinematics and dymanics : V. R. Gupta, I K International publishing house Pvt. Ltd, (2013).
22) Dynamics of Rigid Body : A. K. Sharma, Discovery Publishing Group,(2007).
23) Properties of matter : R. Murugeshan, S Chand & Co Ltd Publication.
24) Theory of Elasticity : P. N. Chandramouli, Yes Dee publishers(2017).
25) An introduction to the theory of elasticity : R. J. Atkin & N. Fox, Dover Publications Inc.(2005).
26) Theory of elasticity : Dr. Sadhu Singh, Khanna publishers, (1978).
27) B.Sc Physics - C. L. Arora.
28) Mechanics, S P Taneja, R Chand & Co New Delhi

Practical

Paper Code: PHYDSCP1.1   **Paper Title: Practical I**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

                                              Credits : 1

1. Error analysis, data analysis technique and graphing technique to be learnt (mandatory).
2. Moment of Inertia of Fly wheel
3. Young's modulus (Y) by Cantilever- Load Vs depression graph.
4. Modulus of rigidity by Maxwell needle method.
5. Young's modulus (Y) by uniform bending- Load Vs depression graph.
6.   Bar pendulum- determination of g
7.   Modulus of rigidity by Torsional pendulum
8.   Spring Constant by Flat spiral Spring.
9. Verification of parallel axis theorem of Moment of Inertia.
10. Verification of perpendicular axis theorem of Moment of Inertia.
11. Verification of Hook's law.
12. q by stretching method.
13. Searle's double bar method to determine Young's Modulus.
14. Torsional pendulum- to determine C and rigidity modulus.
15. Coupled oscillator- string coupled with change of tension.
16. To determine rigidity modulus by dynamic method.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. B Saraf etc, - Physics through experiments, Vikas Publications (**2013**)

2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)

3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
4. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002)**
5. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
6. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Second Semester B.Sc. (Physics)

Paper Code: PHYDSCT2.1   **Paper Title:** Electricity & Magnetism

Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20

Total hours: 60   **Credits :** 3

Unit I
Vector Analysis

Scalar and Vector Products. Gradient of scalar and its physical significance. Divergence of vector and its physical significance. Curl of vector and its physical significance. Vector integration; line, surface & volume integrals of a vector field. Gauss Divergence theorem & Stokes theorem (statement).

Maxwell's Electromagnetic Theory

Derivation of Maxwell's equations in differential form. Mention of Maxwell's equations in integral form and their physical significances. Derivation for general plane wave equation in free space. Transverse nature of radiation. Derivation of Poynting's theorem.

15 Hours

Unit II
DC Circuit Analysis

Voltage and current sources. Kirchoff's current and voltage laws. Derivation of Thevenin's Theorem. Derivation of Norton's Theorem. Derivation of Superposition Theorem. Derivation of Maximum Transfer Theorem.

Transient Circuits

Theory of growth and decay of current in RL circuit. Theory of charging and discharging of capacitor in RC circuit. Time constants of RL and RC circuits. Measurement of high resistance by leakage method.

15 Hours

Unit III
Magnetostatics

Statement of Biot Savart's law. Mention of expressions for Magnetic field at a point (1) due to a straight conductor carrying current (ii) along the axis of the circular coil carrying current (iii) along the axis of solenoid. Principle, construction and theory of Helmoltz Galvanometer.

Magnetic Properties

Magnetic intensity, Magnetic induction, Magnetic potential. Derivation of Magnetic intensity and magnetic potential due to dipole (magnet). Permeability and magnetic susceptibility. Distinction between dia, para, and ferromagnetic materials. Ampere Circuital Law (statement).

Electromagnetic induction

Faraday's law of electromagnetic induction. Lenz's law. Self and mutual inductance.

Alternating Current

Definitions of average, peak and rms values of AC. AC circuits containing LR, CR and their responses (using j operator). Expressions for impedance, current & phase angle in series, LCR circuit using j operator. Expressions for admittance and condition for resonance in parallel, LCR circuit using j operator. Concept of Series resonance & parallel resonance (sharpness, half power frequency, quality factor, voltage magnification). Comparison between Series resonance & parallel resonance. De Sauty's Bridge.

15 Hours

Unit IV

Electrical Instrument

Ballistic Galvanometer; Theory of Ballistic Galvanometer (Derivation for current and Charge). Constants of Ballistic Galvanometer and their relationship. Condition for moving coil galvanometer to be ballistic. Determination of self inductance (L) by Rayleigh's method. CRO block diagram. Use of CRO in the measurement of Voltage, Frequency and Phase.

Dielectrics

Types of dielectric (polar and non polar molecules). Electric dipole moment (p), electric polarization (P). Gauss law in dielectrics. Derivation for Relation between D, E and P. Derivation for relation between dielectric constant and electric susceptibility. Boundary conditions for E & D.

15 Hours

REFERENCE BOOKS :

1) Electricity and magnetism by Brij Lal and N Subrahmanyam, Rathan Prakashan Mandir, Nineteenth Edition, 1993**.**
2) Principles of Electronics by V K Mehta and Rohit Mehta, S Chand & Company, Eleventh Edition,**2008.**
3) Fundamentals of Magnetism & Electricity : d. N. Vasudeva, S Chand Publication, (2011).
4) Fundamentals of Electricity and Magnetism **–** Basudev Ghosh (Books & Allied New Central Book Agency, Calcutta, 2009).
5) Electricity & Magnetism : B. S. Agarwal, Kedarnath Ramnath Publication(2017).
6) Electricity & Magnetism : A. N. Matveev, Mir Publishers Moscow,(1987).
7) Electricity and Magnetism with Electronics **:** Dr. K.K.Tewari, S.Chand Publications(1995).
8) Fundamentals of electric circuit theory : Dr. D. Chattopashyay & Dr. P. C. Rakshit, S. Chand Publications, 7th Rev. Edn. (2006).
9) Electricity and Magnetism : John Yarwood, University Tutorial Press, (1973).
10) Feynman Lecture series, VolII, R P Feynnman et al, Narosa Publishing House, New Delhi
11) Electricity & Magnetism, N S Khare & S S Srivastava, AtmaRam & Sons, New Delhi.
12) Electricity & Magnetism, D L Sehgal, K L Chopra, N K Sehgal, S Chand & Co, Sixth Edition, (**1988**).
13) Electricity & Electronics, D C Tayal, Himalaya Publishing House, Sixth Edition(**1988**).
14) Basic Electronics & Linear Circuits, N N Bhargava, D C Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint,(**1999**).
15) Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition, (**1994**).
16) Introduction to Electrodynamics by D J Griffiths Pearson Education (**2015**).

17) Classical Electrodynamics : John David Jackson, John Wiley & Sons,(2007).

18) Electromagnetism by B B Laud 2ed.

19) An Introduction to vector analysis : B. Hague, Springer Science & Bussiness Media, (2012).

20) Electrical Networks, Theraja 3rd revised edition

21) Circuit Theory (Analysis & Synthesis) : A. Chankrabarti, Dhanpat Rai Publications,(1951).

22) Electricity and Magnetism, S P Taneja, R Chand & Co. New Delhi.

23) Introduction to Electromagnetic Theory, S P Taneja, R Chand & Co. New Delhi.

Practical

Paper Code: PHYDSCP2.1   **Paper Title: Practical II**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits : 1

   1   Thevenin's & Norton's theorem (Ladder Network)
   2   Thevenin's & Norton's theorem (Whestone Bridge)
   3   High resistance by leakage method
   4   Time constant of RC circuit by charging and discharging method.
   5   Calibration of Ammeter using Helmoltz Galvenometer
   6   Constants of Ballistic Galvanometer
   7   LCR series and parallel resonance circuit
   8   De Sauty's AC bridge
   9   Self Inductance by Rayleigh's method
   10 Use of CRO to find voltage, frequency and phase.
   11 L & C by Equal Voltage Method
   12 Black Box- Identify & Measure R, L & C
   13 Anderson's Bridge to determine the self inductance of the coil (L).
   14   Verification of Superposition Theorem
   15 Verification of maximum Power Transfer Theorem

Note :

  1.   Experiments are of three hours duration.
  2.   Minimum of eight experiments to be performed.

 References:
1. Physics through experiments.   B Saraf etc,- Vikas Publications (**2013**)
2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
3.   Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
4.   An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002)**
5.   BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
6.   B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Third Semester B.Sc. (Physics)

Paper Code: PHYDSCT3.1   **Paper Title**: Electricity, Thermodynamics-I, Sound and Waves

Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits :**3

Unit I

Kinetic Theory of Gases

Postulates of kinetic theory of gases. Derivations of Maxwell's law of distribution of velocities (assuming constants a and b). Derivations of average, r.m.s and most probable velocity. Mean free path. Derivation of Clausius expression of mean free path.

Transport Phenomena

Concept of viscosity (η). Derivation of expression for the thermal conductivity (K).Relation between η & K. Derivation of the expression for the coefficient of diffusion (D).

Black Body Radiation

Derivation of Stefan's law. Energy distribution in the black body spectrum. Derivation of Plank's law and deduction of Wien's displacement law and Rayleigh Jean's law .

15 Hours

Unit II

Thermodynamics

Zeroth law of thermodynamics. First law of thermodynamics and its application to various processes viz cyclic , adiabatic, isothermal , Isochoric and isobaric processes. Second law of thermodynamics and entropy. Carnot's cycle. Working of Otto and Diesel engines with expressions for efficiency. Change of entropy in reversible and irreversible process. Entropy- Temperature diagram. Third law of thermodynamics. Derivation for Maxwell's thermodynamic relations. Clausius-Clapeyron's equation.

15 Hours

Unit III

Fluids

Surface Tension. Surface temperature and surface energy. Excess pressure on curved liquid surfaces and special cases in liquid drop, cylindrical surface and soap bubble. Variation of surface tension with temperature (qualitative). Determination of surface tension by Jaeger's method. Viscosity. Rate of flow of fluid. Velocity gradient. Coefficient of viscosity. Derivation of Poiseuille's formula (for liquid). Determination of coefficient of viscosity by Stokes method. Variation of viscosity with temperature and pressure.

Low Temperature and Low Pressure Physics

Joule Thomson effect. Porous plug experiment. Theory of Porous plug experiment. Exhaust Pump and its characteristics (with deduction for speed of pump). Theory, construction and working of Diffusion pump. Theory, construction and working of Ionization Gauge.

15 Hours

Unit IV

Waves

Composition of two co-linear oscillations having (i) equal frequencies (ii) Different frequencies (analytical method). Concept of beats. Composition of two perpendicular oscillations having (i) equal frequencies (ii) Different frequencies (analytical method). Lissajous figures with equal and unequal frequencies.

Sound

Simple harmonic motion. Analytical treatment of forced vibration and resonance. Theory of Helmoltz resonator. Intensity and loudness of sound-decibels. Intensity level- musical note and scale. Acoustics of building. Reverberation and time of reverberation- absorption coefficient. Derivation of Sabine's formula. Measurement of reverberation time. Acoustic aspects of hall and auditorium.   **15 Hours**

RFERENCE BOOKS:

1) Heat and Thermodynamics- M M Zemansky, McGrawHill Education (India) 8ed (**2011**).
2) Heat & Thermodynamics, M W Zemansky & RHDittman, McGraw Hill Book company,Inc.US Seventh Revised edition(**1997**).
3) Heat and Thermodynamics- Brij Lal and N Subramanyam, S Chand & Co, New Delhi -1985.
4) Heat and Thermodynamics – D S Mathur, SChand & Co, New Delhi, 5th Edition(2004).
5) Heat, Thermodynamics & Stastical Mechanics, BrijLal & Subramanyam, S. Chand & Company,Delhi; (**2008** ed).
6) Thermodynamics & Statistical Physics, Sharma & Sarkar, Himalaya Publishing House, Third Edition(1991).
7) Thermodynamics, Kinetic theory & Statistical Thermodynamics, F W Sears & G L Salinger, Narosa Publishing House (Third Edition **1998**).
8) Fundamentals of Classical Thermodynamics, Gordon J V Wylen & Richard E Sonntag, John Wiley Eastern Limited; 4th ed (**1994**).
9) Thermal Physics, S C Garg, R M Bansal & C K Ghosh, Mc Graw Hill Education (India) Second ed (**2013**).
10) Kinetic Theory of Gases (I – edition) – Ideal Book Service, Pune.(1967)
11) Kinetic Theory of Gases – Kelkar V N.
12) Kinetic theory of gases – R. S. Bhoosanurmath
13) Heat and Thermodynamics and Statistical Physics (XVII Edition) –Singhal, Agarwal and Satyaprakash
14) A Treatise on Heat: Meghnad N. Saha and B. N. Srivastava, Indian Press, (1958).
15) A Text Book of Heat and Thermodynamics for Degree Students : J. B. Rajam, S. Chand Publications, (1981).
16) Properties of Matter - Brijlal & Subramanyam, S Chand & Co, (**2002)**
17) Elements of Properties of matter – D S Mathur, S.chand(GL) 7 Co Ltd,Dehi 1ed(**2010**)
18) Fluid Mechanics: Robert W. Fox & Alan T. Mcdonald, Wiley India, 8th Edn.
19) Low-Temperature Physics: Hans- Christian Stahl, Siegfried Hunklinger, Springer Science & Business Media, (2005).
20) Waves & Oscillations, P K Mittal & Jai Dev Anand, Hari Anand Publications Pvt Ltd (2011ed).

21) Physics of Waves, University Leadership Project, Prasaranga, Bangalore University.

22) A text book of Sound (II Edition) – Brijlal and Subramanyam, Vikas Publishing House, 1977.

23) Text book of Sound (I Edition) – Khanna and Bedi, Atmaram and Sons,1985.

24) Text book of Sound (III Edition) – M. Ghosh, (S.Chand).

25) Waves and Optics, S P Taneja, R Chand & Co. New Delhi.

26) Thermal Physics, Ashok Kumar, S P Taneja, R Chand & Co. New Delhi.

Practical

Paper Code: PHYDSCP3.1

Paper Title: Practical III

Teaching Hours: 3 Hrs / Week

Marks: Th-40+IA-10

Credits : 1

  1 Viscosity by Stokes Method

  2 Surface tension by Jaegers method

  3 Helmoltz Resonator

  4 Velocity of sound through wire (sonometer)

  5 Characteristics of Loud speaker

  6 Thermal conductivity by Lee's method

  7 Verification of Newton's law of cooling

  8 Specific heat by cooling.

  9 Verification of Stefan's law of radiation.

  10 Characteristics of microphone

  11 Lissajous figures using CRO

  12 Thermo-Electric Circuit to find Seebeck Effect

  13 Thermal Behavior of Bulb Filament.

  14 Calibration of thermistor for temperature measurement.

  15 Calibration of thermocouple for temperature measurement.

Note :

  1. Experiments are of three hours duration.

  2. Minimum of eight experiments to be performed.

References:

1. Physics through experiments.   B Saraf etc,- Vikas Publications (**2013**)
2. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
3. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
4. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002)**
5. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
6. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Third Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYSECT3.2   **Paper Title:** Weather Forecasting
Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10
TOTAL HOURS :30   **Credits :**2

The aim of this course is not just to impart theoretical knowledge to the students but to enable them to develop an awareness and understanding regarding the causes and effects of different weather phenomenon and basic forecasting techniques

Unit I

Introduction to atmosphere: Elementary idea of atmosphere: physical structure and composition; compositional layering of the atmosphere; variation of pressure and temperature with height; air temperature; requirements to measure air temperature; temperature sensors: types; atmospheric pressure: its measurement; cyclones and anticyclones: its characteristics.

Measuring the weather: Wind; forces acting to produce wind; wind speed direction: units, its direction; measuring wind speed and direction; humidity, clouds and rainfall, radiation: absorption, emission and scattering in atmosphere; radiation laws.

Weather systems: Global wind systems; air masses and fronts: classifications; jet streams; local thunderstorms; tropical cyclones: classification; tornadoes; hurricanes.

15 Hours

Unit II

Climate and Climate Change: Climate: its classification; causes of climate change; global warming and its outcomes; air pollution; aerosols, ozone depletion, acid rain, environmental issues related to climate.

Basics of weather forecasting: Weather forecasting: analysis and its historical background; need of measuring weather; types of weather forecasting; weather forecasting methods; criteria of choosing weather station; basics of choosing site and exposure; satellites observations in weather forecasting; weather maps; uncertainty and predictability; probability forecasts.

15 Hours

Unit III

Demonstrations and Experiments:

1. Study of synoptic charts & weather reports, working principle of weather station.

2. Processing and analysis of weather data:

(a) To calculate the sunniest time of the year.

(b) To study the variation of rainfall amount and intensity by wind direction.

(c) To observe the sunniest/driest day of the week.

(d) To examine the maximum and minimum temperature throughout the year.

(e) To evaluate the relative humidity of the day.

(f) To examine the rainfall amount month wise.

3. Exercises in chart reading: Plotting of constant pressure charts, surfaces charts, upper wind

charts and its analysis.

4. Formats and elements in different types of weather forecasts/ warning (both aviation and non aviation)

References:

1. Aviation Meteorology, I.C. Joshi, 3rd edition 2014, Himalayan Books
2. The weather Observers Hand book, Stephen Burt, 2012, Cambridge University Press.
3. Meteorology, S.R. Ghadekar, 2001, Agromet Publishers, Nagpur.
4. Text Book of Agrometeorology, S.R. Ghadekar, 2005, Agromet Publishers, Nagpur.
5. Why the weather, Charls Franklin Brooks, 1924, Chpraman & Hall, London.
6. Atmosphere and Ocean, John G. Harvey, 1995, The Artemis Press.

Fourth Semester B.Sc. (Physics)

Paper Code:PHYDSCT4.1　　**Paper Title:** Thermodynamics-II, Statistical Mechanics and Optics

Teaching Hours: 4 Hrs / Week　　　　　　　　　　　　**Marks:** Th-80+IA-20

Total hours :60　　　　　　　　　　　　　　　　　　**Credits :**3

Unit I

Thermodynamic Relations

Four Fundamental thermodynamic potentials (Internal energy, Enthalpy, Helmoltz free energy and Gibbs free energy). Maxwell's equations from thermodynamic potentials. Derivation for (C_p-C_v) and $\frac{C_p}{C_v}$ using Maxwell's Equations. Three Tds equations using Maxwell's relations.

Statistical Mechanics

Concepts of thermodynamic ensembles (micro-canonical, canonical and grand canonical ensembles). Phase Space- Micro state & Macro state. Thermodynamic probabilities. Maxwell-Boltzman Statistics. Derivation for Maxwell- Boltzman distribution function. Limitations Maxwell-Boltzman Statistics. Concepts of Bosons and fermions . Bose-Einstein Statistics. Derivation for Bose-Einstein distribution function. Fermi-Dirac Statistics. Derivation for Fermi-Dirac distribution function. Comparison of Maxwell- Boltzmann Statistics, Bose-Einstein Statistics, Fermi-Dirac Statistics.

15 Hours

Unit II
Thermo-Electricity

Seebeck Effect –explanation. Variation of emf with temperature ; Neutral Temperature and Temperature of inversion. Thermo-electric Series. Laws of Thermo-Electric effects. Peltier Effect-explanation. Peltier's Coefficients. Thermodynamics of Peltier's Effect. Thomson Effect – explanation. Thomson Coefficient.   Derivation of the relation $\pi = T\frac{dE}{dT}$ & $\sigma_A - \sigma_B = T\frac{d^2E}{dT^2}$ Thermo-Electric (Tait) diagrams, its applications to determine, (1) Total emf (2) Peltier emf (3) Thomson emf (4) Neutral temperature and (5) Temperature of inversion.

15 Hours

Unit III
Interference

Interference due to division of wavefront & amplitude. Young's double slit experiment. Lloyd's mirror Fresnel biprism . Phase change on reflection: Stokes' treatment of reflection and transmission at interface. Interference in thin films – due to reflected light and transmitted light. Newton's rings due to reflected light and transmitted light & measurement of wavelength. Michelson's interferometer.

15 Hours

Unit IV

Diffraction

Fresnel's Diffraction. Half Period Zone using rectilinear propagation of light. Zone plate: Construction, theory and working. Fresnel's diffraction pattern due to straight edge and position of minima and maxima. Fraunhofer's diffraction at single slit. Diffraction grating. Theory of plane transmission grating. Resolving power. Rayleigh's criteria. Resolving power of prism. Resolving power of telescope. Resolving power of grating (qualitative).

Polarization

Transverse nature of light waves- plane of vibration and plane of propagation. Malu's law. Double refraction. Positive and negative plates. Retardation plates: Quarter wave plate and half wave plate. Production of Circular and elliptical polarization, Optical Activity: Fresnel's Theory of optical activity. Specific rotation

15 Hours

REFERENCE BOOKS:

1) Statistical Mechanics, An Introduction, **Evelyn Guha**, Narosa (**2008**)
2) Statistical Mechanics, **R.K.Pathria**, 2nd edition, Pergamon Press (**1972**)
3) Statistical and Thermal physics, **F.Reif**, McGraw Hill International(**1985**)
4) Statistical Mechanics, **K.Huang**, Wiley Eastern Limited, New Delhi (**1975**).
5) Fundamentals of Statistical Mechanics: B. B. Laud, New Age International Publishers, 2nd Edn.
6) Heat and Thermodynamics- Brij Lal and N Subramanyam, S Chand & Co, New Delhi -1985.
7) Heat and Thermodynamics – D S Mathur, SChand & Co, New Delhi, 5th Edition (2004).
8) Heat and Thermodynamics and Statistical Physics (XVII Edition) –Singhal, Agarwal and Satyaprakash.
9) Introduction to Thermoelectricity: H. Julian Goldsmith, Springer Science & Business Media, (2009).
10) Optics, Ajoy Ghatak, Tata Mc Graw Hill, 4th Edition
11) Introduction to Modern Optics, Ajoy Ghatak, Tata McGraw Hill Publications (**2009**).
12) Fundamentals of Physics by Halliday, Resnick and Walker, Asian Books Private Limited, New Delhi, 5th Edition, (**1994**)
13) A K Ghatak and K Thyagarajan, Contemporary Optics, Macmillan/Premium Publishing Corp(**1978**).
14) Jenkins and White, Optics, McGraw Hill Education India Pvt Ltd 4th ed(**2011**).
15) Optics, Brij Lal and Subramaniam, S Chand & Company, 22nd Edition, (**1994**).
16) Principles of Optics, B K Mathur, Gopal Printing Press, Kanpur, 6th Edition, (**1996**).
17) Geometrical Optics (I-Edition) **–** D.P.Acharya (Oxford & IBH Pub. Co., 1970).
18) Optics and Spectroscopy (VI Edition) **–** Murugeshan, Kiruthiga and ShivaPrasad (S.Chand).
19) Fundamentals of Optics (V-Edition) **–** Khanna and Bedi (R.Chand, New Delhi).
20) Geometrical Optics: A. Verstraetin

Practical

1. Dispersive Power of Prism
2. Determination of thermo emf
3. Thermoelectric power using potentiometer
4. Determination of wavelength of monochromatic light using single slit / plane transmission grating.
5. Diffraction Grating in minimum Deviation Position
6. Diffraction Grating in Normal Position
7. Newton's Rings : Determination of Radius of curvature of Plano Convex lens
8. Newton's Rings : Determination of RI of Water
9. Fresnel's Biprism – Determination of wavelength of monochromatic light.
10. Resolving Power of Telescope
11. Resolving Power of Grating
12. Resolving Power of Prism
13. Specific rotation of optically active solution using Polarimeter
14. Verification of Brewster's Law
15. Stefan's constant by black body radiation.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.

References:

1. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
2. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
3. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002)**
4. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
5. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Fourth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYDSCT4.2   **Paper Title:** Renewable Energy Sources

Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10

Total hours:30   **Credits :**2

The aim of this course is not just to impart theoretical knowledge to the students but to provide them with exposure and hands-on learning wherever possible

Unit I

Fossil fuels and Alternate Sources of energy: Fossil fuels and Nuclear Energy, their limitation, need of renewable energy, non-conventional energy sources. An overview of developments in Offshore Wind Energy, Tidal Energy, Wave energy systems, Ocean Thermal Energy Conversion, solar energy, biomass, biochemical conversion, biogas generation, geothermal energy tidal energy, Hydroelectricity.

Solar energy: Solar energy, its importance, storage of solar energy, solar pond, non convective solar pond, applications of solar pond and solar energy, solar water heater, flat plate collector, solar distillation, solar cooker, solar green houses, solar cell, absorption air conditioning. Need and characteristics of photovoltaic (PV) systems. Sun tracking systems.

Wind Energy harvesting: Fundamentals of Wind energy, Wind Turbines and different electrical machines in wind turbines, Power electronic interfaces, and grid interconnection topologies.

Ocean Energy: Ocean Energy Potential against Wind and Solar, Wave Characteristics. Wave Energy Devices. Tide characteristics and Statistics, Tide Energy Technologies, Ocean Thermal Energy.

15 Hours

Unit II

Geothermal Energy: Geothermal Resources, Geothermal Technologies.

Hydro Energy: Hydropower resources, hydropower technologies, environmental impact of hydro power sources.

Piezoelectric Energy harvesting: Introduction, Physics and characteristics of piezoelectric effect, materials and mathematical description of piezoelectricity, Piezoelectric parameters and modeling piezoelectric generators, Piezoelectric energy harvesting applications, Human power.

Electromagnetic Energy Harvesting: Linear generators, physics mathematical models, recent applications. Carbon captured technologies, cell, batteries, power consumption. Environmental issues and Renewable sources of energy, sustainability.

15 Hours

Demonstrations and Experiments

1. Demonstration of Training modules on Solar energy, wind energy, etc.
2. Conversion of vibration to voltage using piezoelectric materials
3. Conversion of thermal energy into voltage using thermoelectric modules.

References:

1. Non-conventional energy sources - G.D Rai - Khanna Publishers, New Delhi
2. Solar energy - M P Agarwal - S Chand and Co. Ltd.

3. Solar energy - Suhas P Sukhative Tata McGraw - Hill Publishing Company Ltd.
4. Godfrey Boyle, "Renewable Energy, Power for a sustainable future", 2004,
5. Oxford University Press, in association with The Open University.
6. Dr. P Jayakumar, Solar Energy: Resource Assesment Handbook, 2009
7. J.Balfour, M.Shaw and S. Jarosek, Photovoltaics, Lawrence J Goodrich (USA).
8. http://en.wikipedia.org/wiki/Renewable_energy

Fifth Semester B.Sc. (Physics)

Paper Code:PHYDSCT5.1

Paper Title: Mathematical Physics – I, Nuclear and Particle Physics and Classical Mechanics

Teaching Hours: 4 Hrs / Week

Marks: Th-80+IA-20

Total hours:60

Credits :3

Unit I
MATHEMATICAL PHYSICS – I
INTEGRAL TRANSFORMS

Fourier Series: Periodic functions. Orthogonality of sine and cosine functions, Dirichlet Conditions (Statement only). Expansion of periodic functions in a series of sine and cosine functions and determination of Fourier coefficients. Complex representation of Fourier series. Expansion of functions with arbitrary period. Expansion of non-periodic functions over an interval. Even and odd functions and their Fourier expansions. Application. Summing of Infinite Series.

Laplace transform: Definition, transform of elementary functions , inverse transforms, transform of derivations, differentiation and integration of transforms, solutions of differential equations. Difference between Laplace and Fourier transform.

15 Hours

Unit II
NUCLEAR AND PARTICLE PHYSICS - I
 RADIOACTIVE DECAY, DETECTORS AND ACCELERATORS

Radioactive Decay : Laws of radioactive decay, half – life, mean life, decay constant; theory of successive disintegration (expression for number of atoms of nth element in the chain – Bateman equations); radioactive equilibrium (secular and transient - cases of long lived parent, short lived parent, daughter and parent of nearly equal half – life).

Alpha decay : Range and energy, Geiger- Nuttal law , Characteristics of alpha spectrum, Gamow's theory of alpha decay [Barrier height, tunneling effect, λ=Pf, f is the frequency of collision of nucleon with the potential barrier; P is the probability of transmission through the barrier); Barrier penetrability factor (no derivation). Derivation of Q-value-of alpha decay; Exact energy of alpha particle emitted.

Alpha particle scattering : Rutherford's theory of alpha scattering (assuming the path to be hyperbolic).

Beta decay : Types of beta decay (electron, positron decay and electron capture) Characteristics of beta spectrum and Pauli's neutrino hypothesis.

Detectors : Variation of ionization current with applied voltage in a gas counter, Proportional counter, GM Counter (Construction, working, characteristics, efficiency and quenching).

Particle accelerators : Linear accelerator, Cyclotron, Betatron

15 Hours

Unit III
NUCLEAR AND PARTICLE PHYSICS - II
NUCLEAR REACTIONS AND PARTICLE PHYSICS

NUCLEAR REACTIONS : Types of reactions, Conservation laws in nuclear reactions with examples, derivation of Q – value for reactions using the energy – momentum conservation, exoergic and endoergic reactions, threshold energy , reaction rate, reaction cross – section, concept of direct and compound reactions, resonance reaction; Power reactors.

ELEMENTARY PARTICLES : Classification of elementary particles, Fundamental interactions

(Gravitational, Electromagnetic, Weak, strong – range, relative strength, particle interactions for each); Symmetries and Conservation Laws (momentum, energy, charge, parity, lepton number, baryon number, isospin, strangeness and charm); Concept of Quark Model, Color quantum number and gluons.

15 Hours

Unit IV
CLASSICAL MECHANICS

Lagrangian Mechanics: Constraints, generalized co-ordinates, D Alembert's principle, Lagrange equation from D'Alemberts Principle. Advantage of Lagrangian equation, Velocity dependent potentials and dissipation function. Applications of Lagrangian formulation in case of simple pendulum and Atwood Machine. Hamilton's principle, Derivation of Lagrange's equation from   Hamilton's Principle. Symmetry and conservation laws: momentum conservation, cyclic co-ordinates, angular momentum conservation and conservation of energy.

15 Hours

Reference Books:

1) Mathematical Physics ---H. K. Dass and Dr. Rama Verma
2) Mathematical Methods for Physicists (4th Edition) George Arfken and Hans J. Weber Academic Press San Diego(1995).
3) Mathematical Physics   - P.K. Chatopadhyay-Wiley Eastern Limited New Delhi (1990).
4) Introduction to mathematical Physics – Charlie Harper, Prentice-Hall of India Private Limited New-Delhi (1995)
5) Mathematical Physics   - M.L.Boas
6) Atomic and Nuclear Physics, S. N. Ghoshal: Vol. II. (2000)
7) Alpha, beta and gamma spectroscopy, K. Seighbahn: Vol. I and II, John Wiley (1967)
8) Introductory nuclear Physics by Kenneth S. Krane (Wiley India Pvt. Ltd., 2008).
9) Nuclear Physics, D C Tayal, Himalaya Publishing House, 5th Edition
10) Concepts of nuclear physics by Bernard L. Cohen. (Tata Mcgraw Hill, 1998).
11) Introduction to the physics of nuclei & particles, R.A. Dunlap. (Thomson Asia, 2004)
12) Introduction to Elementary Particles, D. Griffith, John Wiley & Sons 2nd revised ed (**2008**)
13) Quarks and Leptons, F. Halzen and A.D. Martin, Wiley India, New Delhi(**2008**)
14) Basic ideas and concepts in Nuclear Physics - An Introductory Approach by K. Heyde (IOP-   Institute of Physics Publishing, (2004).
15) Radiation detection and measurement, G.F. Knoll (John Wiley & Sons, (**2000**).
16) Theoretical Nuclear Physics, J.M. Blatt & V.F.Weisskopf (Dover Pub.Inc., (**1991**)
17) Classical Mechanics: Goldstein, Narosa Publishing Pvt. Ltd. (1998).
18) Introduction to Classical Mechanics: R. G. Takwale & P. S. Puranik.-Tata McGraw Hill, New Delhi (1997).
19) Classical Mechanics, Aruldas

Practical

1. Characteristics of GM Tube
2. Verification of Inverse Square law using GM Tube.
3. Attenuation of B-ray using G.M. counter
4. Ionization potential of xenon or mercury
5. Frank Hertz Experiment
6. Calibration of Thermocouple using Meter bridge (Whetsone's bridge)
7. Astable Multivibrator using Transistor
8. Phase Shift Oscillator using Op-Amp
9. Wein Bridge Oscillator using Op-Amp
10. Millikan's oil drop experiment.
11. Determination of e/m by Thomson's method.
12. Op-Amp inverting and non-inverting amplifier – ac or dc.
13. Op-Amp as a differiantial amplifier- Common mode and Differential mode.
14. Op-Amp as summing amplifier- ac and dc.
15. Op-Amp as integrator and differentiator.

Note :
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References:
1. D P Khandelwal – A Laboratory Manual of Physics for Undergraduate Classes, Vikas Publications First ed (**1985**)
2. Advanced Practical Physics for Students – Worsnop & Flint, Methuen & Co, London.
3. An Advanced Course in Practical Physics , D Chattopadhyay, P C Rakshit, B Saha, New Central Book Agency (P) Limited, Kolkata, Sixth Revised Edition, (**2002**)
4. BSC, Practical Physics, CL Arora, SChand & Co, New Delhi, (**2007**) Revised Edition.
5. B.Sc. Practical Physics, Geeta Sanon R. Chand & Co. New Delhi

Fifth Semester B.Sc. (Physics) Elective I

Paper Code: PHYDSCT5.2A

Paper Title: Quantum Mechanics–I, Electronics and Optoelectronics.

Teaching Hours: 4 Hrs / Week

Total hours: 60

Marks: Th-80+IA-20

Credits : 3

Unit I
QUANTUM MECHANICS – I

Failure of Classical Physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photoelectric effect, Compton effect and specific heat of solids, Planck's quantum theory, Explanation of the above effects on the basis of quantum mechanics [Experimental observation, failure of classical theory, quantum mechanical explanation, Photoelectric effect -Einstein's explanation, Compton Effect – mention of expression for wavelength shift (no derivation), Specific heat of solids -Einstein's and Debye's explanation of specific heat (qualitative). Stability of atom and atomic spectra, Black body radiation [Mention of Planck's equation, arrive at Wien's and Rayleigh-Jean's equation for energy distribution from Planck's equation].

de Broglie's hypothesis of matter waves (λ in terms of momentum, energy, temperature for monatomic gas molecules); Thomson's experiment; Davisson and Germer's experiment – normal incidence method; Concept of wave packet, Group velocity and particle velocity (relation between group velocity and particle velocity) Heisenberg's uncertainty principle - different forms; Gamma ray microscope experiment; Application to Non – existence of electron in nucleus.

15 Hours

Unit II
ELECTRONICS - I
Semiconductors

Distinction between metals, semiconductors and insulators based on band theory (qualitative). Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration (derivation for both holes and electrons) and electrical conductivity – extrinsic semiconductors – concept of doping. Formation of P-N junction, depletion region, barrier potential (qualitative), Biased P-N junction, drift and diffusion current –expression for diode current.

Special Diodes: Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Solar cells and LED (working principle with energy level diagram).

Transistors: Transistor action, Characteristics (CE mode), DC Biasing , Load line analysis (Operating Point, Fixed Bias – Forward bias of Base – Emitter, collector – emitter loop, transistor saturation, Load line analysis ; Voltage divider bias – Transistor saturation, Load line analysis)

Transistor as an amplifier(CE mode); . H-parameters.

15 Hours

Unit III
ELECTRONICS - II

Oscillators:Transistor as an oscillator, comparison between amplifier and oscillator, Classification of oscillators-damped and undamped oscillators, the oscillatory circuit, Barkhausen Criterion, frequency of oscillatory current, essentials of a feedback LC oscillator. Hartely and Phase shift oscillators

Field Effect Transistor (FET)
FET-Types, characteristics and parameters. FET as a common source amplifier (Qualitative).
Operational amplifiers
Block Diagram of an OPAMP, Characteristics of an Ideal and Practical Operational Amplifier (IC 741), Open loop configuration - Limitations, Gain Bandwidth Product, Frequency Response, CMRR, Slew Rate and concept of Virtual Ground.

Feedback concepts, Advantages of feedback, types of feedback, Expression for Gain; OPAMP as a feedback amplifier – Non – Inverting and Inverting amplifier, Modification of input and output impedances with feedback ; Voltage follower; Differential amplifier with feedback.

Linear Applications - frequency response of Low pass, high pass and band pass filters (first order), inverting summing amplifier, ideal Differentiator, Integrator.

DIGITAL ELECTRONICS
Number Systems : binary, octal, hexadecimal (interconversions); Number codes : BCD, Gray Code (conversions to other systems); Signed Numbers; Arithmetic using Radix and Radix -1 complement.

Logic gates and truth tables : OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR.

15 Hours

Unit IV

OPTOELECTRONICS
Light Emitting Diodes, Photo Diodes, Principle of LED with energy level diagram, Semiconductor Laser Diodes: homojunction and heterojunction laser diodes principle (Pin, Avalanche diodes), Photo transistor, Opto-coupler.

Optical fiber: description and classification; Why glass fibers? Types of Optical fibers (Single mode, Multi mode optical fibres), Ray dispersion in multi-mode step index fibers. Grading, Numerical aperture (derivation), Coherent bundle, Transmission loss: bending loss and splicing loss, Attenuation and Distortion, Fiber Optical communication system (Block diagram with each block explanation).

15 Hours

Reference Books:

1) Quantum Mechanics, B.H. Bransden and C.J. Joachain, 2nd Edition, Pearson Education (2004)
2) Introduction to Quantum Mechanics, David J. Griffiths, 2nd Edition, Pearson Education ,(2005)
3) Modern Quantum Mechanics, J.J. Sakurai, Pearson Education, (2000)
4) Principles of Quantum Mechanics, Ghatak and Lokanathan, Macmillan, (2004)
5) Concepts of Modern Physics, Beiser 3rd edition, Student edition, New Delhi (1981).
6) Principles of Electronics by V K Mehta and Rohit Mehta, SChand & Company, Eleventh Edition, (2008).
7) Electricity & Electronics, D C Tayal, Himalaya Publishing House, Sixth Edition(1988)
8) Basic Electronics & Linear Circuits, NN Bhargava, DC Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint, (1999).
9) Basic electronics by B Basavraj, Vikas publication, 2nd edition.
10) Op-amp and linear integrated circuits, R. A. Gayakwad, Pearson education.
11) Electronic devises, Thomas Floyd, Pearson publications (ninth edition 201).
12) Optoelectronics – By Ajay Ghatak.
13) Fiber optic communication – By D.C. Agarwal.
14) Fiber optical communication – By Keiser.
15) Introduction to Optical Electronics – By J.Wilson & Hawkes PHI.

Practical: Elective I

Paper Code: PHYDSCP 5.2   **Paper Title:** Practical VIA

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

                                                          Credits : 1

1. Transistor as CE Amplifier
2. H- Parameter of transistor
3. Heartley Oscillator using Transistor
4. Phase Shift Oscillator using Transistor
5. FET Characteristics
6. FET as an Amplifier
7. Use of Basics gates to verify and design AND, OR, NOT and XOR gates using NAND gates.
8.   De Morgan Theorems.
9. To covert Boolean Expression in to Logic gate circuit and assemble it using logic gate IC's.
10. Low Pass Filter Using Op-Amp
11. High Pass Filter Using Op-Amp
12. Band Pass Filter Using Op-Amp
13. Transistor as an Emitter Follower.
14. Regulated power supply using Zener diode.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. Worsnop and Flint , Advanced practical physics for students, Asia Pub.(**1979**)

2. Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (**1976**)

3. Misra and Misra, Physics Lab. Manual, South Asian publishers (**2000**)

4. Gupta and Kumar, Practical physics, Pragati prakashan, (**1976**)

5. Ramalingom & Raghuopalan : A Lab. Course in Electronics

6.   Bharagav et al : Electronics, TTI tata MacGraw Hill 33rd Reprint (**2002**)

Fifth Semester B.Sc. (Physics) Elective II

Paper Code:PHYDSCT5.2B   **Paper Title:** Mathematical Physics, Nuclear and Particle Physics and Classical Mechanics

Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits :**3

Unit I
ELECTRONICS - I
Semiconductors

Distinction between metals, semiconductors and insulators based on band theory (qualitative). Intrinsic semiconductors - concept of holes – effective mass - expression for carrier concentration (derivation for both holes and electrons) and electrical conductivity – extrinsic semiconductors – concept of doping. Formation of P-N junction, depletion region, barrier potential (qualitative), Biased P-N junction, drift and diffusion current –expression for diode current.

Special Diodes: Zener diode – characteristics and its use as a voltage regulator. Photo diodes, Solar cells and LED (working principle with energy level diagram).

Transistors: Transistor action, Characteristics (CE mode), DC Biasing , Load line analysis (Operating Point, Fixed Bias – Forward bias of Base – Emitter, collector – emitter loop, transistor saturation, Load line analysis ; Voltage divider bias – Transistor saturation, Load line analysis)
Transistor as an amplifier(CE mode); . H-parameters.

15 Hours

Unit II

ELECTRONICS - II

Oscillators:Transistor as an oscillator, comparison between amplifier and oscillator, Classification of oscillators-damped and undamped oscillators, the oscillatory circuit, Barkhausen Criterion, frequency of oscillatory current, essentials of a feedback LC oscillator. Hartely and Phase shift oscillators

Field Effect Transistor (FET)

FET-Types, characteristics and parameters. FET as a common source amplifier (Qualitative).

Operational amplifiers

Block Diagram of an OPAMP, Characteristics of an Ideal and Practical Operational Amplifier (IC 741), Open loop configuration - Limitations, Gain Bandwidth Product, Frequency Response, CMRR, Slew Rate and concept of Virtual Ground.

Feedback concepts, Advantages of feedback, types of feedback, Expression for Gain; OPAMP as a feedback amplifier – Non – Inverting and Inverting amplifier, Modification of input and output impedances with feedback ; Voltage follower; Differential amplifier with feedback.

Linear Applications - frequency response of Low pass, high pass and band pass filters (first order), inverting summing amplifier, ideal Differentiator, Integrator.

DIGITAL ELECTRONICS

Number Systems : binary, octal, hexadecimal (interconversions); Number codes : BCD, Gray Code (conversions to other systems); Signed Numbers; Arithmetic using Radix and Radix -1 complement.

Logic gates and truth tables : OR gate, AND gate; Inverter (the NOT function); NAND and NOR; exclusive OR; exclusive NOR.

15 Hours

Unit III

OPTOELECTRONICS

Light Emitting Diodes, Photo Diodes, Principle of LED with energy level diagram, Semiconductor Laser Diodes: homojunction and heterojunction laser diodes principle (Pin, Avalanche diodes), Photo transistor, Opto-coupler.

Optical fiber: description and classification; Why glass fibers? Types of Optical fibers (Single mode, Multi mode optical fibres), Ray dispersion in multi-mode step index fibers. Grading, Numerical aperture (derivation), Coherent bundle, Transmission loss: bending loss and splicing loss, Attenuation and Distortion, Fiber Optical communication system (Block diagram with each block explanation).

15 Hours

Unit IV

QUANTUM MECHANICS – I

Failure of Classical Physics to explain the phenomena such as stability of atom, atomic spectra, black body radiation, photoelectric effect, Compton effect and specific heat of solids, Planck's quantum theory, Explanation of the above effects on the basis of quantum mechanics [Experimental observation, failure of classical theory, quantum mechanical explanation, Photoelectric effect -Einstein's explanation, Compton Effect – mention of expression for wavelength shift (no derivation), Specific heat of solids -Einstein's and Debye's explanation of specific heat (qualitative). Stability of atom and atomic spectra, Black body radiation [Mention of Planck's equation, arrive at Wien's and Rayleigh-Jean's equation for energy distribution from Planck's equation].

de Broglie's hypothesis of matter waves (λ in terms of momentum, energy, temperature for monatomic gas molecules); Thomson's experiment; Davisson and Germer's experiment – normal incidence method; Concept of wave packet, Group velocity and particle velocity (relation between group velocity and particle velocity) Heisenberg's uncertainty principle - different forms; Gamma ray microscope experiment; Application to Non – existence of electron in nucleus.

15 Hours

Reference Books:

16) Quantum Mechanics, B.H. Bransden and C.J. Joachain, 2nd Edition, Pearson Education (2004)
17) Introduction to Quantum Mechanics, David J. Griffiths, 2nd Edition, Pearson Education ,(2005)
18) Modern Quantum Mechanics, J.J. Sakurai, Pearson Education, (2000)
19) Principles of Quantum Mechanics, Ghatak and Lokanathan, Macmillan, (2004)
20) Concepts of Modern Physics, Beiser 3rd edition, Student edition, New Delhi (1981).
21) Principles of Electronics by V K Mehta and Rohit Mehta, SChand & Company, Eleventh Edition, (2008).
22) Electricity & Electronics, D C Tayal, Himalaya Publishing House, Sixth Edition(1988)
23) Basic Electronics & Linear Circuits, NN Bhargava, DC Kulshrestha & SC Gupta, TMH Publishing Company Limited, 28th Reprint, (1999).
24) Basic electronics by B Basavraj, Vikas publication, 2nd edition.
25) Op-amp and linear integrated circuits, R. A. Gayakwad, Pearson education.
26) Electronic devises, Thomas Floyd, Pearson publications (ninth edition 201).
27) Optoelectronics – By Ajay Ghatak.
28) Fiber optic communication – By D.C. Agarwal.
29) Fiber optical communication – By Keiser.
30) Introduction to Optical Electronics – By J.Wilson & Hawkes PHI.

Practical: Elective II

Paper Code: PHYDSEP5.2B
Teaching Hours: 3 Hrs / Week

Paper Title: Practical VIB
Marks: Th-40+IA-10
Credits : 1

1. Transistor as CE Amplifier
2. H- Parameter of transistor
3. Heartley Oscillator using Transistor
4. Phase Shift Oscillator using Transistor
5. FET Characteristics
6. FET as an Amplifier
7. Use of Basics gates to verify and design AND, OR, NOT and XOR gates using NAND gates.
8. De Morgan Theorems.
9. To covert Boolean Expression in to Logic gate circuit and assemble it using logic gate IC's.
10. Low Pass Filter Using Op-Amp
11. High Pass Filter Using Op-Amp
12. Band Pass Filter Using Op-Amp
13. Transistor as an Emitter Follower.
14. Regulated power supply using Zener diode.

Note :
1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. Worsnop and Flint , Advanced practical physics for students, Asia Pub.(**1979**)
2. Singh and Chauhan, Advanced practical physics, 2 vols., Pragati prakashan, (**1976**)
3. Misra and Misra, Physics Lab. Manual, South Asian publishers (**2000**)
4. Gupta and Kumar, Practical physics, Pragati prakashan, (**1976**)
5. Ramalingom & Raghuopalan : A Lab. Course in Electronics
6. Bharagav et al : Electronics, TTI tata MacGraw Hill 33rd Reprint (**2002**)

Fifth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code:PHYSECT5.1   **Paper Title:** Basic Instrumentation Skills

Teaching Hours: 2Hrs / Week   **Marks:** Th-40+IA-10

Total hours :30   **Credits :**2

This course is to get exposure with various aspects of instruments and their usage through hands-on mode. Experiments listed below are to be done in continuation of the topics

Unit I

Basic of Measurement: Instruments accuracy, precision, sensitivity, resolution range etc. Errors in measurements and loading effects. **Multimeter:** Principles of measurement of dc voltage and dc current, ac voltage, ac current and resistance. Specifications of a multimeter and their significance.

Electronic Voltmeter: Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity. Principles of voltage, measurement (block diagram only). Specifications of an electronic Voltmeter/ Multimeter and their significance. **AC millivoltmeter:** Type of AC millivoltmeters: Amplifier- rectifier, and rectifier- amplifier. Block diagram ac millivoltmeter**,** specifications and their significance.

Cathode Ray **Oscilloscope:** Block diagram of basic CRO. Construction of CRT, Electron gun, electrostatic focusing and acceleration (Explanation only– no mathematical treatment), brief discussion on screen phosphor, visual persistence & chemical composition. Time base operation, synchronization. Front panel controls. Specifications of a CRO and their significance.

15 Hours

Unit II

Use of CRO for the measurement of voltage (dc and ac frequency, time period. Special features of dual trace, introduction to digital oscilloscope, probes. Digital storage Oscilloscope: Block diagram and principle of working.

Signal Generators and Analysis Instruments: Block diagram, explanation and specifications of low frequency signal generators. pulse generator, and function generator. Brief idea for testing, specifications. Distortion factor meter, wave analysis.

Impedance Bridges & Q-Meters: Block diagram of bridge. working principles of basic (balancing type) RLC bridge. Specifications of RLC bridge. Block diagram & working principles of a Q- Meter. Digital LCR bridges.

Digital Multimeter: Block diagram and working of a digital multimeter. Working principle of time interval, frequency and period measurement using universal counter/frequency counter, time-base stability, accuracy and resolution. **15 Hours**

The test of lab skills will be of the following test items:

1. Use of an oscilloscope.

2. CRO as a versatile measuring device.

3. Circuit tracing of Laboratory electronic equipment,

4. Use of Digital multimeter/VTVM for measuring voltages

5. Circuit tracing of Laboratory electronic equipment,

6. Winding a coil / transformer.

7. Study the layout of receiver circuit.

8. Trouble shooting a circuit

9. Balancing of bridges

Laboratory Exercises:

1. To observe the loading effect of a multimeter while measuring voltage across a low resistance and high resistance.

2. To observe the limitations of a multimeter for measuring high frequency voltage and currents.

3. To measure Q of a coil and its dependence on frequency, using a Q- meter.

4. Measurement of voltage, frequency, time period and phase angle using CRO.

5. Measurement of time period, frequency, average period using universal counter/ frequency counter.

6. Measurement of rise, fall and delay times using a CRO.

7. Measurement of distortion of a RF signal generator using distortion factor meter.

8. Measurement of R, L and C using a LCR bridge/ universal bridge.

Open Ended Experiments:

1. Using a Dual Trace Oscilloscope
  2. Converting the range of a given measuring instrument (voltmeter, ammeter)

References:

1. A text book in Electrical Technology - B L Theraja - S Chand and Co.
2. Performance and design of AC machines - M G Say ELBS Edn.
3. Digital Circuits and systems, Venugopal, 2011, Tata McGraw Hill.
4. Logic circuit design, Shimon P. Vingron, 2012, Springer.
5. Digital Electronics, Subrata Ghoshal, 2012, Cengage Learning.
6. Electronic Devices and circuits, S. Salivahanan & N. S.Kumar, 3rd Ed., 2012, Tata Mc-Graw Hill
7. Electronic circuits: Handbook of design and applications, U.Tietze, Ch.Schenk, 2008, Springer
8. Electronic Devices, 7/e Thomas L. Floyd, 2008, Pearson India

Sixth Semester B.Sc. (Physics)

Paper Code: PHYDECT6.1

Paper Title: Mathematical Physics – II. Atomic Molecular and Optical Physics and Atmospheric Physics

Teaching Hours: 4Hrs / Week

Marks: Th-80+IA-20

Total hours:60

Credits :3

Unit I

MATHEMATICAL PHYSICS - II

Frobenius Method and Special Functions: Singular Points of Second Order Linear Differential Equations and their importance. Frobenius method and its applications to differential equations. Legendre Polynomials: Rodrigues Formula, generating functions and recursion relations, Orthogonality and normalization. Bessel function of the first kind, recursion relations, orthogonality. Hermite functions, generating functions and recursion relations, orthogonality. and Laguerre and associated Laguerre polynomials, recursion relations.

15 Hours

Unit II

ATOMIC PHYSICS.

Vector Model of the Atom

Review of Bohr's theory of hydrogen atom, Sommerfeld's modification of the Bohr atomic model (qualitative). Spatial quantization and spinning electron. Different quantum numbers associated with the vector atom model, Spectral terms and their notations, Selection rules, Coupling schemes(l-s and j-j coupling in multi electron systems), Pauli's Exclusion Principle, Expression for maximum number of electrons in an orbit. Spectra of alkali elements (sodium D-line), Larmor precession, Bohr magneton, Stern-Gerlach Experiment **.** Zeeman Effect- Experimental study, theory of normal and anomalous Zeeman effect based on quantum theory. Paschen Back effect (qualitative).

15 Hours

Unit III

MOLECULAR PHYSICS AND LASERS.

Molecular Physics: Pure rotational motion, Spectrum and selection rules; Vibrational motion, vibrational spectrum and selection rules; Rotation-Vibration spectrum; Scattering of light-Tyndall scattering, Rayleigh scattering and Raman scattering. Experimental study of Raman effect, Quantum theory of Raman effect - Applications.

Lasers

Introduction; Spontaneous and stimulated emission; Einstein's coefficients and optical amplification; Population inversion; Main components of a laser; Lasing action; Ruby Laser - construction and working - energy level diagram; He-Ne Laser - construction and working - energy level diagram; Spatial Coherence and directionality, estimates of beam intensity, temporal coherence and spectral energy density.

15 Hours

Unit IV

ATMOSPHERIC PHYSICS

Fixed gases and variable gases; Temperature structure of the atmosphere; Hydrostatic balance,

Variation of pressure with altitude, scale height; Relative and Absolute humidity.
 Beer's law (derivation); Global energy balance for earth – atmosphere system, Greenhouse effect; Atmosphere dynamics –Accelerated rotational frames of reference – Centripetal and Coriolis force (derivation), Gravity and pressure gradient forces (with derivation), Applications of Coriolis force – Formation of trade winds, cyclones, erosion of river banks

15 Hours

Reference Books:

1) Mathematical Physics ---H. K. Dass and Dr. Rama Verma
2) Mathematical Methods for Physicists (4th Edition) George Arfken and Hans J. Weber Academic Press San Diego(1995).
3) Mathematical Physics - P.K. Chatopadhyay-Wiley Eastern Limited New Delhi (1990).
4) Introduction to mathematical Physics – Charlie Harper, Prentice-Hall of India Private Limited New-Delhi (1995)
5) Mathematical Physics - M.L.Boas
6) Introduction to Atomic Physics – H.E. White
7) Introduction to Modern Physics – H.S. Mani, G.K. Mehta-West Press (1989)
8) Physics of Atoms and Molecules – 2nd Ed., Brans den B.H. and JoachainC.J., Pearson Education, India (2006)
9) Principles of Modern Physics, A.P. French, John Wiley, London (1958).
10) Modern Physics - S.N. Ghoshal, Part 1 and 2 S. Chand and Company (1996).
11) Physics of the Atom, Wehr et. al. McGraw Hill
12) Lasers and Non-Linear Optics: B.B.Laud, Wiley Eastern Ltd., New Delhi (1991).
13) Principles of Lasers : O. Svelto, Plenum Press, N. Y. (1982).
14) Laser Electronics : Joseph T. Verdeyen, Prentice-Hall of India Pvt. Ltd. NewDelhi (1989).
15) Lasers : Theory & Applications : K. Thyagarajan & A. Ghatak, MacMillan India, New Delhi (1981).
16) Laser Fundamentals : W.Q. Silfvast
17) Laser Principles & Applications : J. Wilson & J.F.B. Hawkes, Prentice-Hall Intl. Inc. (1983)
18) An Introduction to Lasers & their Applications : Donald C. O' Shea, W. Russell Callen & William T. Rhodes, Addison-Wesley, N. Y. (1977).
19) Introduction to atmospheric physics, David G Andrews, Cambridge university press publisher, 2nd edition.
20) Atmospheric science, John M Wallace, Peter V Hobbs, Academic press publisher, 2nd edition.

Practical

Paper Code: PHYDSCP6.1   **Paper Title: Practical VII**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits : 1

1. Air Wedge: Thickness of thin paper by measuring width of fringes produced by Air wedge film

2. Divergence of laser beam and finding angular spread
3. Determination of unknown wavelength by Grating element (using red and green diode lasers)
4. Zeeman Effect experiment.
5. Rydberg Constant: wavelength of spectral lines of Hydrogen and Rydberg constant calculation (assignment)
6. Study of Hydrogen Spectrum
7. Determination of e/m by Thomson Method.
8. Characteristics of Laser Diode
9. Optical fibre; Bending loss and attenuation
10. Zener Diode as Voltage regulator
11. Photoconductive cell characteristics
12. Photovoltaic Cell characteristics
13. Verification of Beer's law.
14. Relative humidity using hair hygrometer.
15. Estimation of relative humidity using wet and dry bulb thermometer.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed
3. **References :**

1. IGNOU : Practical Physics Manual
2. Saraf : Experiment in Physics Vikas Publications
3. S.P. Singh : Advanced Practical Physics
4. Melissons : Experiments in Modern Physics
5. Misra and Misra, Physics Lab. Manual, South Asian publishers, 2000
6. Gupta and Kumar, Practcal physics, Pragati prakashan, 1976.

Sixth Semester B.Sc. (Physics) Elective III

Paper Code:PHYDECT6.2A

Paper Title: Quantum Mechanics-Ii, Condensed Matter Physics – I and nanomaterials

Teaching Hours: 4Hrs / Week

Marks: Th-80+IA-20

Total hours :60

Credits :3

Unit I
QUANTUM MECHANICS-II

The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function. Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions. Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation of Eigen values and Eigen function for infinite and finite potential well and tunnelling; Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state. **15 Hours**

Unit II
CONDENSED MATTER PHYSICS – I

Crystal systems and X-rays: Crystal structure :Lattice, Lattice translational vectors, Basis of crystal structure, Types of unit cells, Coordination numbers, Bravais lattices, Seven crystal system, Miller Indices, Expression for inter planner spacing, Crystal structure of NaCl and KCl. Crystal diffraction: Production and properties of X rays, Coolidge tube, Continuous and characteristic X-ray spectra; Moseley's law. , X-Ray diffraction, Scattering of X-rays, Bragg's law. Bragg's X-ray spectrometer- powder diffraction method of crystal structure determination.

Free electron theory of metals: Classical free electron model (Drude-Lorentz model), expression for electrical and thermal conductivity, Weidman-Franz law, Failure of classical free electron theory; Quantum free electron theory, Fermi level and Fermi energy Fermi-Dirac distribution function (expression for probability distribution F(E), statement only); Fermi Dirac distribution at T=0 and E<E_f, at T$\neq$ 0 and E>E_f, F(E) vs E plot at T = 0 and T$\neq$ 0. Density of states for free electrons (no derivation); Specific heats of solids: Classical theory, Einstein's and Debye's theory of specific heats. Hall Effect in metals.

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect, Type I and type II superconductors.

15 Hours

Unit III
Magnetic Properties of Matter and Dielectrics
Magnetic Properties of Matter

Review of basic formulae : Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, magnetization (M), Classification of Dia – , Para –, and ferro – magnetic materials; Classical Langevin Theory of dia – and Paramagnetic Domains. Quantum Mechanical Treatment of Paramagnetism. Curie's law, Ferromagnetism and Ferromagnetic Domains. Discussion of B-H Curve. Hysteresis and Energy Loss, Hard and Soft magnetic materials

Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric loss, dielectric breakdown. Electrostriction (qualitative). Piezo electric effect, cause, examples and applications.

Unit IV

NANOMATERIALS

Nanomaterials – Introduction, size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Classification – Electron confinement 0D, 1D, 2D- energy levels as a particle in a box (no derivation). Quantum dots, nanowires and nanofilms, Multilayered materials- Fullerene, Carbon Nano Tube (CNT), Graphene (Mention of structures and properties); Synthesis techniques (Top down- Explanation of Milling & bottom up - Sol gel process). Characterisation techniques- (brief description of SEM, TEM, AFM). Determination of particle size from XRD pattern using Debye-Scherrer formula.

Distinct properties of nano materials (Mention- optical, electrical, mechanical and magnetic properties); Mention of applications: (Fuel cells, catalysis, phosphors for HD TV, elimination of pollutants, sensors).

SPECIAL MATERIALS

Liquid crystals: Classification of liquid crystals, Display system. Introduction to polymers, classification and applications.

15 Hours

Reference Books:

1) Quantum Mechanics, *B.H. Bransden and C.J. Joachain*, 2nd Edition, Pearson Education (**2004**)
2) Introduction to Quantum Mechanics, *David J. Griffiths*, 2nd Edition, Pearson Education , (**2005**)
3) Modern Quantum Mechanics, *J.J. Sakurai*, Pearson Education, (**2000**)
4) Principles of Quantum Mechanics, *Ghatak and Lokanathan*, Macmillan, (**2004**)
5) Introduction to solid State Physics, *Charles Kittel*, VII edition, (**1996**)
6) Solid State Physics- **A J Dekker**, MacMillan India Ltd, (**2000**)
7) Elementary Solid State Physic, **J P Srivastava**,PHI,(**2008**)
8) Essential of crystallography, **M A Wahab**, Narosa Publications (**2009**)
9) Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (**1976**)
10) Solid State Physics-**S O Pillai**-New Age Int. Publishers (**2001**)
11) Solid State Physics-R. K. Puri and V.K. Babber., S.Chand publications,1st Edition(2004).
12) Fundamentals of Solid State Physics-B.S.Saxena,P.N. Saxena,Pragati prakashan Meerut(2017).
13) Condensed Matter Physics by Atulkumar Agarwal,Oxford Book Company(2013)
14) Nano materials, A K Bandopadhyay. New Age International Pvt. Ltd. Publishers (**2007**)
15) Nanocrystals, C. N. Rao, P. John Thomas.
16) Nanotubes and wires, C. N. Rao, A. Govindaraj

Practical: Elective III

Paper Code: PHYDSCP 6.2A   **Paper Title: Practical VIIIA**

Teaching Hours: 3 Hrs / Week   **Marks:** Th-40+IA-10

Credits : 1

1. Determination of Plank's constant by Photo Cell
2. Hall Effect in semiconductor: determination of mobility, hall coefficient.
3. Eenergy gap of semiconductor (diode/transistor) by reverse saturation method

4. Thermistor energy gap
5. Fermi Energy of Copper
6. Analysis of X-ray diffraction spectra and calculation of lattice parameter.
7. Plank's constant by LED
8. Solar Cell: Fill Factor and Efficiency
9. Specific Heat of Solid by Electrical Method
10. Determination of Dielectric Constant of polar liquid.
11. Determination of dipole moment of organic liquid
12. B-H Curve Using CRO.
13. Calibration of Semiconductor temperature Sensor
14. Spectral Response of Photo Diode and its I-V Characteristics.
15. Determination of particle size from XRD pattern using Debye-Scherrer formula.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed

References :

1. IGNOU : Practical Physics Manual

2. Saraf : Experiment in Physics, Vikas Publications

3. S.P. Singh : Advanced Practical Physics

4. Melissons : Experiments in Modern Physics

5. Misra and Misra, Physics Lab. Manual, South Asian publishers, (**2000**)

6. Gupta and Kumar, Practical physics, Pragati prakashan, (**1976**)

Sixth Semester B.Sc. (Physics) Elective IV

Paper Code: PHYDECT6.2B   **Paper Title:** Modern physics-II
Teaching Hours: 4 Hrs / Week   **Marks:** Th-80+IA-20
Total hours :60   **Credits :**3

Unit I
CONDENSED MATTER PHYSICS – I

Crystal systems and X-rays: Crystal structure :Lattice, Lattice translational vectors, Basis of crystal structure, Types of unit cells, Coordination numbers, Bravais lattices, Seven crystal system, Miller Indices, Expression for inter planner spacing, Crystal structure of NaCl and KCl. Crystal diffraction: Production and properties of X rays, Coolidge tube, Continuous and characteristic X-ray spectra; Moseley's law. , X-Ray diffraction, Scattering of X-rays, Bragg's law. Bragg's X-ray spectrometer- powder diffraction method of crystal structure determination.

Free electron theory of metals: Classical free electron model (Drude-Lorentz model), expression for electrical and thermal conductivity, Weidman-Franz law, Failure of classical free electron theory; Quantum free electron theory, Fermi level and Fermi energy Fermi-Dirac distribution function (expression for probability distribution F(E), statement only); Fermi Dirac distribution at T=0 and E<E_f, at T$\neq$ 0 and E>E_f, F(E) vs E plot at T = 0 and T$\neq$ 0. Density of states for free electrons (no derivation); Specific heats of solids: Classical theory, Einstein's and Debye's theory of specific heats. Hall Effect in metals.

Superconductivity : Introduction – Experimental facts – Zero resistivity – The critical field – The critical current density – Meissner effect, Type I and type II superconductors.

15 Hours

Unit II
Magnetic Properties of Matter and Dielectrics
Magnetic Properties of Matter
Review of basic formulae : Magnetic intensity, magnetic induction, permeability, magnetic susceptibility, magnetization (M), Classification of Dia – , Para –, and ferro – magnetic materials;

Classical Langevin Theory of dia – and Paramagnetic Domains. Quantum Mechanical Treatment of Paramagnetism. Curie's law, Ferromagnetism and Ferromagnetic Domains. Discussion of B-H Curve. Hysteresis and Energy Loss, Hard and Soft magnetic materials
Dielectrics : Static dielectric constant, polarizability (electronic, ionic and orientation), calculation of Lorentz field (derivation), Clausius-Mosotti equation (derivation), dielectric loss, dielectric breakdown. Electrostriction (qualitative). Piezo electric effect, cause, examples and applications.

15 Hours

Unit III
NANOMATERIALS
Nanomaterials – Introduction, size effect-Surface to volume ratio; distinction between nanomaterials and bulk materials in terms of energy band. Classification – Electron confinement 0D, 1D, 2D- energy levels as a particle in a box (no derivation). Quantum dots, nanowires and nanofilms, Multilayered materials- Fullerene, Carbon Nano Tube (CNT), Graphene (Mention of

structures and properties); Synthesis techniques (Top down- Explanation of Milling & bottom up - Sol gel process). Characterisation techniques- (brief description of SEM, TEM, AFM). Determination of particle size from XRD pattern using Debye-Scherrer formula.

Distinct properties of nano materials (Mention- optical, electrical, mechanical and magnetic properties); Mention of applications: (Fuel cells, catalysis, phosphors for HD TV, elimination of pollutants, sensors)

SPECIAL MATERIALS

Liquid crystals: Classification of liquid crystals, Display system. Introduction to polymers, classification and applications.

15 Hours

Unit IV
QUANTUM MECHANICS-II

The concept of wave function, physical significance of wave function. Development of time dependent and time independent Schrodinger's wave equation. Max Born's interpretation of the wave function. Normalization and expectation values, Quantum mechanical operators, Eigen values and Eigen functions. Applications of Schrodinger's equation – free particle, particle in one dimensional box- derivation of Eigen values and Eigen function for infinite and finite potential well and tunnelling; Development of Schrodinger's equation for One dimensional Linear harmonic oscillator, Rigid rotator, Hydrogen atom – mention of Eigen function and Eigen value for ground state.

15 Hours

Reference Books:

1) Quantum Mechanics, **B.H. Bransden and C.J. Joachain**, 2nd Edition, Pearson Education (**2004**)

2) Introduction to Quantum Mechanics, **David J. Griffiths**, 2nd Edition, Pearson Education , (**2005**)

3) Modern Quantum Mechanics, **J.J. Sakurai**, Pearson Education, (**2000**)

4) Principles of Quantum Mechanics, **Ghatak and Lokanathan**, Macmillan, (**2004**)

5) Introduction to solid State Physics, **Charles Kittel**, VII edition, (**1996**)

6) Solid State Physics- **A J Dekker**, MacMillan India Ltd, (**2000**)

7) Elementary Solid State Physic, **J P Srivastava**,PHI,(**2008**)

8) Essential of crystallography, **M A Wahab**, Narosa Publications (**2009**)

9) Solid State Physics-**F W Ashcroft and A D Mermin**-Saunders College (**1976**)

10) Solid State Physics-**S O Pillai**-New Age Int. Publishers (**2001**)

11) Solid State Physics-R. K. Puri and V.K. Babber., S.Chand publications,1st Edition(2004).

12) Fundamentals of Solid State Physics-B.S.Saxena,P.N. Saxena,Pragati prakashan Meerut(2017).

13) Condensed Matter Physics by Atulkumar Agarwal,Oxford Book Company(2013)

14) Nano materials, A K Bandopadhyay. New Age International Pvt. Ltd. Publishers (**2007**)

15) Nanocrystals, C. N. Rao, P. John Thomas.

16) Nanotubes and wires, C. N. Rao, A. Govindaraj

Practical: Elective IV

Paper Code: PHYDSCP .2B

Teaching Hours: 3 Hrs / Week

Paper Title: Practical VIIIB

Marks: Th-40+IA-10

Credits : 1

1) Determination of Plank's constant by Photo Cell
2) Hall Effect in semiconductor: determination of mobility, hall coefficient.
3) Eenergy gap of semiconductor (diode/transistor) by reverse saturation method
4) Thermistor energy gap
5) Fermi Energy of Copper
6) Analysis of X-ray diffraction spectra and calculation of lattice parameter.
7) Plank's constant by LED
8) Solar Cell: Fill Factor and Efficiency
9) Specific Heat of Solid by Electrical Method
10) Determination of Dielectric Constant of polar liquid.
11) Determination of dipole moment of organic liquid
12) B-H Curve Using CRO
13) Calibration of Semiconductor temperature Sensor
14) Spectral Response of Photo Diode and its I-V Characteristics.
15) Determination of particle size from XRD pattern using Debye-Scherrer formula.

Note :

1. Experiments are of three hours duration.
2. Minimum of eight experiments to be performed.
3. **References :**

1. IGNOU : Practical Physics Manual

2. Saraf : Experiment in Physics, Vikas Publications

3. S.P. Singh : Advanced Practical Physics

4. Melissons : Experiments in Modern Physics

5. Misra and Misra, Physics Lab. Manual, South Asian publishers, (**2000**)

6. Gupta and Kumar, Practical physics, Pragati prakashan, (**1976**)

Sixth Semester B.Sc. (Physics) Skill Enhancement Course

Paper Code: PHYDECT6.3   **Paper Title:** Electric circuits and Networks skills
Teaching Hours: 2 Hrs / Week   **Marks:** Th-40+IA-10
Total hours:30   **Credits :**2

The aim of this course is to enable the students to design and trouble shoots the electrical circuits, networks and appliances through hands-on mode

Unit I

Basic Electricity Principles: Voltage, Current, Resistance, and Power. Ohm's law. Series, parallel, and series-parallel combinations. AC Electricity and DC Electricity. Familiarization with multimeter, voltmeter and ammeter.

Understanding Electrical Circuits: Main electric circuit elements and their combination. Rules to analyze DC sourced electrical circuits. Current and voltage drop across the DC circuit elements. Single-phase and three-phase alternating current sources. Rules to analyze AC sourced electrical circuits. Real, imaginary and complex power components of AC source. Power factor. Saving energy and money.

Electrical Drawing and Symbols: Drawing symbols. Blueprints. Reading Schematics. Ladder diagrams. Electrical Schematics. Power circuits. Control circuits. Reading of circuit schematics. Tracking the connections of elements and identify current flow and voltage drop.

Generators and Transformers: DC Power sources. AC/DC generators. Inductance, capacitance, and impedance. Operation of transformers.

Electric Motors: Single-phase, three-phase & DC motors. Basic design. Interfacing DC or AC sources to control heaters & motors. Speed & power of ac motor.

15 Hours

Unit II

Solid-State Devices: Resistors, inductors and capacitors. Diode and rectifiers. Components in Series or in shunt. Response of inductors and capacitors with DC or AC sources

Electrical Protection: Relays. Fuses and disconnect switches. Circuit breakers. Overload devices. Ground-fault protection. Grounding and isolating. Phase reversal. Surge protection. Interfacing DC or AC sources to control elements (relay protection device)

Electrical Wiring: Different types of conductors and cables. Basics of wiring-Star and delta connection. Voltage drop and losses across cables and conductors. Instruments to measure current, voltage, power in DC and AC circuits. Insulation. Solid and stranded cable. Conduit. Cable trays. Splices: wirenuts, crimps, terminal blocks, split bolts, and solder. Preparation of extension board.

15 Hours

Reference Books:

1. A text book in Electrical Technology - B L Theraja - S Chand & Co.
2. A text book of Electrical Technology - A K Theraja
3. Performance and design of AC machines - M G Say ELBS Edn.

Question Paper pattern

First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
PHYSICS
PHYDSC T11: Mechanics and Theory of relativity

Time: 3 hours   Max. Marks: 80

1.		**Answer any 10 sub question**	**10 x 2 = 20**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
	vii.		
	viii.		
	ix.		
	x.		
	xi.		
	xii.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4	(a)		5 marks
	(b)		10 marks
		OR	
5	(a)		5 marks
	(b)		10 marks
6.	(a)		5 marks
	(b)		10 marks
		OR	
7.	(a)		5 marks
	(b)		10 marks

8.	(a)		5 marks
	(b)		10 marks
		OR	
9.	(a)		5 marks
	(b)		10 marks

****

Instruction to set the question paper.

1. Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
2. Question number 2 and 3 are from unit I.
3. Question number 4 and 5 are from unit II.
4. Question number 6 and 7 are from unit III
5. Question number 8 and 9 are from unit IV.
6. Student has to answer either question number 2 or 3, 4 or 5, 6 or 7 and 8 or 9.
   Note: In case student answered both the questions from the same unit in full or part, highest marks from any one choice has to be considered.

Question paper pattern for skill enhancement course, SEC

Third Semester B.Sc. Degree Examination, December 2021
(CBCS Scheme-2020-21: Regular)
PHYSICS
PHYSEC T32: Skill Enhancement Course

Time: 2 hours   Max. Marks: 40

1.		**Answer any 5 sub question**	**5 x 2 = 10**
	i.		
	ii.		
	iii.		
	iv.		
	v.		
	vi.		
2.			
	(a)		5 marks
	(b)		10 marks
		OR	
3.	(a)		5 marks
	(b)		10 marks
4	(a)		5 marks
	(b)		10 marks
		OR	
5	(a)		5 marks
	(b)		10 marks

Instruction to set the question paper.

7. Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
8. Question number 2 and 3 is from unit I.
9. Question number 4 and 5 is from unit II.
10. Student has to answer either question number 2 or 3, 4 or 5.
    Note: In case student answered both the question from the same unit in full or part, highest marks from any one choice has to be considered.

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

STATISTICS

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Statistics Optional Subject

B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS (w.e.f. 2020-21 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	STSDSCT 1.1	Descriptive Statistics	4	20	80	100	3
		STSDSCP 1.1	Practicals-I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	STSDSCT 2.1	Bivariate Data Analysis and Standard Theoretic Distributions	4	20	80	100	3
		STSDSCP 2.1	Practicals-II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS (w.e.f. 2021-22 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	STSDSCT3.1	Sampling Distributions	4	20	80	100	3
		STSDSCP 3.1	Practicals-III	3	10	40	50	1
	Part – 2 SEC	STSSECT 3.2	Statistical Methods - I	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	STSDSCT 4.1	Statistical Inference	4	20	80	100	3
		STSDSCP 4.1	Practicals-IV	3	10	40	50	1
	Part – 2 SEC	STSSECT 4.2	Statistical Methods - II	2	10	40	50	2
		Total : Hours / Credits		9			200	6

CHOICE BASED CREDIT SYSTEM [CBCS]

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	STSDSET 5.1	Inference and Statistical Quality Control	4	20	80	100	3
		STSDSEP 5.1	Practicals-V	3	10	40	50	1
		STSDSET 5.2A (Elective-I)	(i) Sampling Theory and Demography	4	20	80	100	3
		STSDSEP 5.2A (Elective-I)	Practicals	3	10	40	50	1
		STSDSET5.2B (Elective-II)	(i) Econometrics	4	20	80	100	3
		STSDSEP 5.2B (Elective-II)	Practicals	3	10	40	50	1
	Part – 2 SEC	STSSECT 5.3	Demography	2	10	40	50	2
		Total : Hours / Credits		**16**			**350**	**10**

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
VI	Part – 1 DSE	STSDSET 6.1	Design of Experiments	4	20	80	100	3
		STSDSEP 6.1	Practicals	3	10	40	50	1
		STSDSET 6.2A (Elective-III)	(i) Operations Research-I	4	20	80	100	3
		STSDSEP 6.2A (Elective-III)	Practicals	3	10	40	50	1
		STSDSET6.2B (Elective-IV)	(ii) Operations Research-II	4	20	80	100	3
		STSDSEP 6.2B (Elective-IV)	Practicals	3	10	40	50	1
	Part – 2 SEC	STSSECT 6.3	Operation Research Techniques	2	10	40	50	2
		Total : Hours / Credits		**17**			**350**	**10**

Note: Students have to choose either Elective-III or Elective-IV

B.Sc. Program with Statistics Optional Subject

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities
AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course
DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

Paper Code: STSDSCT1.1	**Paper Title:** Descriptive Statistics
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT I

Introduction: Definition and scope of Statistics, concept of population and sample. Data - qualitative and quantitative, variables and attributes. Measurement scales - nominal, ordinal, interval and ratio. Presentation - classification& tabulation, frequency distribution. Diagrams - simple, multiple, subdivided and percentage. Graphs – histogram, frequency polygon, frequency curve, ogives.   **12Hours**

UNIT II

Measures of Central tendency: Purpose of measures of location, definition of A.M, G.M, H.M & their properties (with proof), median and mode. Partitioned values - quartiles, deciles and percentiles.   **10Hours**

UNIT III

Measures of Dispersion: Absolute and relative measures - range, quartile deviation, mean deviation, standard deviation and coefficient of variation. Moments,skewness and kurtosis.   **10Hours**

UNIT IV

Probability: Introduction, random experiments, sample space, events and algebra of events. Definitions of probability – classical, statistical, and axiomatic.Conditional probability, laws of addition and multiplication, independent events, theorem of total probability, Bayes' theorem and its applications.   **14Hours**

UNIT V

Random variables& Mathematical Expectation: discrete and continuous random variables, p.m.f., p.d.f. and c.d.f.,illustrations and properties of random variables, univariate transformations with illustrations. Two dimensional random variables: discrete and continuous type, joint, marginal and conditional p.m.f, p.d.f., and c.d.f., independence of variables, bivariate transformations with illustrations.   **14Hours**

Books for Reference:
1. Goon A.M., Gupta M.K. and Dasgupta B. (2002): Fundamentals of Statistics, Vol. I & II, 8th Edn. The   World Press, Kolkata.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications,   (7th Edn.), Pearson Education, Asia.
3. Mood, A.M. Graybill, F.A. and Boes, D.C. (2007): Introduction to the Theory of Statistics, 3rd Edn.,   (Reprint), Tata McGraw-Hill Pub. Co. Ltd.
4. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons publications.
5.   Hogg .R.V.andCraig.A.T(1978):Introduction   to   MathematicalStatistics.Amerind Publishing Company.

B.Sc I Semester- Statistics

Paper Code: STSDSCP1.1	**Paper Title:** PRACTICALS
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

List of Practicals

1. Construction of frequency distribution and graphical representation.

2. Measures of central tendency-I Computation of AM, GM and HM

3. Measures of central tendency-II Computation of positional averages and partition values.

4. Measures of dispersion – Range, QD, MD, SD and CV.

5. Moments, skewness and kurtosis for a frequency distribution.

6. Examples on Compound probability, total probability and Baye's theorem.

7. Random variables.

Paper Code: STSDSCT2.1 and Distributions	**Paper Title:** Bivariate Data Analysis Standard Theoretic
Teaching Hours: 4 Hrs/Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT I

Mathematical Expectation of single and bivariate random variables, its properties.Addition and multiplication theorem of expectation.Moments and Cumulants.MGF and CGF - their properties, conditional expectation, variance, covariance, mean and variance of linear combination of random variables.

12Hours

UNIT II

Bivariate data: Definition, scatter diagram, simple, Karl Pearson's correlation coefficient, Spearman's Rank correlation coefficient, Properties, concept of errors, principles of least squares, simple linear regression and its properties, fitting of regression lines, coefficient of determination.   **14Hours**

UNIT III

Multivariate (Trivariate) Data Analysis: Multiple linear regression, multiple and partial correlation coefficients. Residuals and their properties.   **10Hours**

UNIT IV

Discrete probability Distributions:Bernoulli, Binomial, Poisson, Negative Binomial, Geometric and Uniform, distributions - definition, mean, variance and m.g.f., c.g.f and moments upto fourth order only. Hyper geometric distribution: definition, mean and variance. Recurrence relation for probabilities and moments of Binomial and Poisson distributions.Approximations of binomial, negative binomial and hyper geometric distributions.   **14Hours**

UNIT V

Continuous Probability Distributions: Uniform, Gamma, Beta, Exponential, Normal and Cauchy distributions - Mean, variance, moments, MGF and Properties.   **10Hours**

Books for reference:

1. Hogg, R.V.,Tanis, E.A. and Rao J.M. (2009): Probability and Statistical Inference, Seventh Ed, Pearson Education, New Delhi.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia.
3. Myer, P.L. (1970): Introductory Probability and Statistical Applications, Oxford & IBH Publishing,   New Delhi.
4. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons

B.Sc II Semester- Statistics

Paper Code: STSDSCP2.1	**Paper Title:** PRACTICALS
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

List of Practicals

1. Bivariate distributions: Computation of marginal and conditional distributions.

2. Correlation: Computation of Karl Pearson's correlation coefficient, Rank correlation coefficient.

3. Fitting of regression equations.

4. Partial and multiple correlation.

5. Fitting of Poisson distributions.

6. Fitting of Binomial distributions.

7. Fitting of normal distribution.

Paper Code: STSDSCT3.1	**Paper Title:** Sampling Distributions
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT I

Limit Theorems: Chebyshev's inequality its role in approximating probabilities. Convergence of binomial, Poisson and Gamma distributions to Normal distribution.Statement of central theorems and its applications.   **10Hours**

UNIT II

Order Statistics: Introduction, distribution of the rth order statistic, smallest and largest order statistics. Joint distribution of rth and sth order statistics, distribution of sample median and sample range.   **08Hours**

UNIT III

Definitions of random sample, parameter and statistic, sampling distribution of a statistic, sampling distribution of sample mean, standard errors of sample mean, sample variance and sample proportion. Null and alternative hypotheses, level of significance, Type I and Type II errors, their probabilities and critical region. Large sample tests,for testing single proportion, difference of two proportions, single mean, difference of two means, standard deviation and difference of standard deviations.   **14Hours**

UNIT IV

Exact sampling distribution-I: Definition and derivation of p.d.f. of χ^2 with n degrees of freedom (d.f.) using m.g.f., nature of p.d.f. curve for different degrees of freedom, mean, variance, m.g.f., cumulant generating function, mode, additive property and limiting form of χ^2 distribution.   **14Hours**

UNIT V

Exact sampling distributions-II: Student's and t-distribution. Derivation of its p.d.f.,nature of probability curve with different degrees of freedom, mean, variance, moments and limiting form of t distribution. Snedecore's F-distribution: Derivation of p.d.f., nature of p.d.f. curve with different degrees of freedom, mean, variance and mode. Distribution of $1/F(n_1,n_2)$. Relationship between t, F and χ^2 distributions. Test of significance and confidence Intervals based on t and F distributions.   **12Hours**

Books for Reference:

1. Hogg, R.V.,Tanis, E.A. and Rao J.M. (2009): Probability and Statistical Inference, Seventh Ed, Pearson Education, New Delhi.
2. Miller, Irwin and Miller, Marylees (2006): John E. Freund's Mathematical Statistics with Applications, (7th Edn.), Pearson Education, Asia.
3. Myer, P.L. (1970): Introductory Probability and Statistical Applications, Oxford & IBH Publishing, New Delhi.
4. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons

B.Sc III Semester- Statistics

Paper Code: STSDSCP3.1	**Paper Title:** PRACTICALS
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

List of Practicals

1. Test for mean, equality of means when variance is known and unknown under normality (small and large samples)

2. Test for single proportion and difference of proportions.

3. Test for variance and equality of two variances under normality.

4. Application of Chi-square distribution-I

5. Application of Chi-square distribution-II

6. Application of t - distribution

7. Application of F– distribution

Paper Code: STSSEC3.2	Paper Title: Statistical Methods - I
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10
Teaching Hours: 30Hrs	Credits: 01

Statistical Techniques provide scientific approaches to develop the domain of human knowledge largely through empirical studies. The course aims at enabling students understand basic concepts and aspects related to research, data collection, analyses and interpretation.

UNIT I

Introduction: Meaning, objection and motivation in research, types of research, research approach, significance of research. Research problems: definition, selection and necessity of research problems.   08Hours

UNIT II

Survey Methodology and Data Collection, inference and error in surveys, the target populations, sampling frames and coverage error, methods of data collection, non-response, questions and answers in surveys.   08Hours

UNIT III

Processing, Data Analysis and Interpretation: Review of various techniques for data analysis covered in core statistics papers, techniques of interpretation, precaution in interpretation. Develop a questionnaire,collect survey data pertaining to a research problem (such as gender discriminations in private v/s government sector, unemployment rates, removal of subsidy, impact on service class v/s unorganized sectors), interpret the results and draw inferences.   14Hours

Books for Reference :

1. Kothari, C.R. (2009): Research Methodology: Methods and Techniques, 2nd Revised Edition reprint, New Age International Publishers.
2. Kumar, R (2011): Research Methodology: A Step - by - Step Guide for Beginners, SAGE publications.

Paper Code: STSDSCT4.1	Paper Title: Statistical Inference
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT I

Estimation: Concepts of estimation, unbiasedness, sufficiency, consistency and efficiency. Factorization theorem. Complete statistic, Minimum variance unbiased estimator (MVUE),Cramer-Rao inequality and MVB estimators(statement and applications).

12 Hours

UNIT II

Methods of Estimation: Maximum likelihood and Method of moments standard examples. Illustration for non uniqueness of MLE's. Properties of MLE and MME. Examples on MLE

12 Hours

UNIT III

Interval Estimation: Meaning of confidence interval, confidence coefficient, confidence interval for mean difference between means for small and large samples. Confidence interval for proportion and difference between two proportions for large samples.

12 Hours

UNIT IV

Testing of statistical hypothesis: Null and alternative hypotheses (simple and composite) Type-I and Type-II errors, critical region, level of significance, size and power, best critical region, most powerful test, uniformly most powerful test, Neyman Pearson Lemma (statement and applications to construct most powerful test). Likelihood ratio test, properties of likelihood ratio tests (without proof).

12 Hours

UNIT V

Sequential Testing: Need for sequential tests. Wald's SPRT, Graphical procedure of SPRT.Determination of stopping bounds.Construction of SPRT for Binomial, Poisson, Normal distributions.Approximate expressions for OC and ASN functions for Binomial, Poisson and Normal distributions.

12 Hours

Books for Reference:

1. Goon A.M., Gupta M.K.: Das Gupta.B. (2005), Fundamentals of Statistics, Vol.I, World Press, Calcutta.

2. Rohatgi V. K. and Saleh, A.K. Md. E. (2009): An Introduction to Probability and Statistics.
   2ndEdn. (Reprint) John Wiley and Sons.

3. Miller, I. and Miller, M. (2002) : John E. Freund's Mathematical Statistics (6th addition, low price edition), Prentice Hall of India.

4. Dudewicz, E. J., and Mishra, S. N. (1988): Modern Mathematical Statistics. John Wiley & Sons.

5. Mood A.M, Graybill F.A. and Boes D.C,: Introduction to the Theory of Statistics, McGraw Hill.

6. Bhat B.R, Srivenkatramana T and RaoMadhava K.S. (1997) Statistics: A Beginner's Text, Vol.
   New Age International (P) Ltd.

7. Snedecor G.W and Cochran W.G.(1967) Statistical Methods. Iowa State University Press.

8. Gupta S.C and Kapoor V.K.: Fundamentals of Mathematical Statistics- Sultan Chand & Sons

B.Sc IV Semester- Statistics

Paper Code: STSDSCP4.1	**Paper Title:** PRACTICALS
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10
	Credits: 01

List of Practicals

1. Unbiased estimators (including unbiased but absurd estimators)

2. Consistent estimators, efficient estimators and relative efficiency of estimators.

3. Cramer-Rao inequality and MVB estimators

4. Estimation of parameters: MLE-I

5. Estimation of parameters: MLE-II

6. Estimation of parameters: Method of moments.

7. Confidence interval

8. SPRT - I

9. SPRT –II

Paper Code: STSSEC4.2	Paper Title: Statistical Methods - II
Teaching Hours: 2 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 30Hrs	Credits: 01

UNIT- I

Index Numbers: Meaning and definition, types- Price, quantity and Value index. Uses and limitations of index numbers, construction of Index numbers, methods of Index numbers– Un-weighted and weighted prices and quantities. Test for Index numbers- TRT and FRT. Consumer price Index Numbers.   **08 Hours**

UNIT- II

Time Series: Meaning and definition of Time series , Uses , components of time series. Measurement of Time series – Graphic, semi- avg , moving averages (3,4 and 5 yearly),methods of least square(Straight line and Quadratic)   **08 Hours**

UNIT- III

Correlation and Regression: Definition simple correlation, types- positive, negative and Zero correlation. Methods of measurement - scatter diagram, Karl Pearson's correlation coefficient, Spearman's Rank correlation coefficient, Properties, coefficient of determination. Meaning and definition of linear regression, regression equations – X on Y and Y on X and its properties, fitting of regression equations and lines.   **14 Hours**

Reference Books:

1. Goon A.M., Gupta M.K.: Das Gupta.B. (2005), Fundamentals of Statistics, Vol.I, World Press, Calcutta.
2. Mukhopadhyaya P. (2005) , Applied statistics, New Central Book agency, Calcutta.
3. Gupta S.C and Kapoor V.K.: Statistical methods - Sultan Chand & Sons Publications Delhi.

List of Assignments:
1. Computation of Price and quantity index numbers.
2. Test for Index Numbers and Cost of living Index numbers.
3. Computation of moving averages – 3, 4, and 5 years
4. Fitting of straight line and quadratic equations.
5. Computation of coefficient of Correlation.
6. Fitting of linear regression equations.

Paper Code: STSDSET5.1	
	Paper Title: Inference and Statistical Quality Control
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT I

Non parametric tests: Run test for randomness, Sign test and Wilcoxon signed rank test for one and paired samples. Run test, Median test and Mann-Whitney-Wilcoxon test for two sample problems. Test for independence based on Spearman's Rank correlation co-efficient.   **12Hours**

UNIT II

Index Numbers : Meaning and definition, types- Price, quantity and Value index. Uses and limitations of index numbers, construction of Index numbers, methods of Index numbers– Un-weighted and weighted prices and quantities. Test for Index numbers- TRT and FRT. Consumer price Index Numbers.   **12Hours**

UNIT III

Time Series: Meaning and definition of time series, uses, components of time series. Measurement of time series– graphical, semi averages, moving averages (3, 4 and 5 yearly) and method of least squares (straight line, quadratic and exponential) **12Hours**

UNIT IV

Statistical Quality Control: Meaning and definition of quality, quality assurance and management. Aims and objectives of statistical process control, chance and assignable causes of variation. 3-σ limits warning limits and probability limits.   **12Hours**

UNIT V

Control charts for variables and Attributes: Construction of Control charts for variables $\overline{X}$ and R charts; charts for attributes P-chart, np-chart, c-chart and U-chart and their interpretations'; Acceptance sampling plan – single and double sampling.   **12Hours**

Books for Reference:

1. S.P.Gupta and V. K Kapoor: Fundamentals of Mathematical Statistics; Sultan Chand & Co.
2. S.P.Gupta and V. K Kapoor: Fundamentals of Applied Statistics; Sultan Chand & Co.
3. Grant,E.L. and Leaven worth,R.S(1988):Statistical Quality Control,6th edition,McGrawHill
4. Gupta R.C.: Statistical Quality Control, - KhannaPub.Co.
5. Montgomery, C.D. (1999): Introduction to Statistical Quality Control, Wiley Int.Edn.
6. Goon A.M., Gupta M.K.: Das Gupta.B. (2005), Fundamentals of Statistics, Vol.I, World Press, Calcutta.
7. Rohatgi V. K. and Saleh, A.K. Md. E. (2009): An Introduction to Probability and Statistics 2nd Edn. (Reprint) John Wiley and Sons.

Paper Code: STSDSEP5.1	Paper Title: PRACTICALS
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

List of Practicals

1.Non parametric tests - I

2. Non parametric tests – II

3. Index Number

4. Times Series

5.Construction of $\overline{X}$ and R charts.

6.Construction of P and np charts.

7.Construction of C and U - charts.

Books for reference:

1. S.P.Gupta and V. K Kapoor: Fundamentals of Mathematical Statistics; Sultan Chand & Co.

2. S.P.Gupta and V. K Kapoor: Fundamentals of Applied Statistics; Sultan Chand & Co.

3.Grant,E.L.andLeavenworth,R.S(1988):Statistical Quality Control, 6th edition, McGrawHill

4. Gupta R.C.: Statistical Quality Control, - KhannaPub.Co.

5. Montgomery, C.D. (1999): Introduction to Statistical Quality Control, Wiley Int.Edn.

6. Goon A.M., Gupta M.K.: Das Gupta.B. (2005), Fundamentals of Statistics, Vol.I, World Press, Calcutta.

7. Rohatgi V. K. and Saleh, A.K. Md. E. (2009): An Introduction to Probability and Statistics. 2ndEdn. (Reprint) John Wiley and Sons.

Paper Code: STSDSET5.2A	
Paper Title: (i) Sampling Theory and Demography	Elective-I
Teaching Hours: 4 Hrs / Week **Marks:** Theory-80+IA-20	
Teaching Hours: 60Hrs **Credits:** 03	

UNIT I

Introduction: Concepts of population and sample. Need for sampling. Complete enumeration *vs* Sample surveys. Non probability and probability sampling; meaning, need and illustrations . Use of random numbers .Principal steps in a sample survey. Requisites of a good questionnaire. Pilot surveys. Sampling and non sampling errors.

10 Hours

UNIT II

Simple Random Sampling: Sampling with and without replacement. Unbiased estimators of population mean and total. Derivation of sampling variance .Standard errors of the estimators.Derivations of variances of the estimators and their estimation .Determination of sample size.Formulas for sample size in sampling for proportions and means.

12 Hours

UNIT III

Stratified Random Sampling: Need for stratification unbiased estimator of mean and total in stratified random sampling. Derivation of the SE's and their estimation.Allocation of sample size under proportional, Optimum and Neyman allocation. Comparison of V (*ran*), V(*prop*) and V (*opt*) ignoring *f p c*. Estimation of gain in precision due to stratification. **12 Hours**

UNIT IV

Systematic Random Sampling: Unbiased estimator of population mean and its variance.Expression of variance with intra class correlation.Systematic sampling with linear trend. Comparison of systematic sampling with simple and stratified random sampling procedure. **12 Hours**

UNIT V

Demography and life tables: Sources of demographic data.Measurement of Mortality: Crude, Specific and Standardized death rate, Infant mortality rate, Neonatal mortality rate and maternal mortality rates. Fecundity and fertility. Measurement of fertility: Crude, Age specific, General and Total fertility rates Reproduction rates-NRR and GRR. Life table: Definition and uses, components of life table- Explanation of the columns of life table. Abridged life table - King's method.

14 Hours

Books for Reference:

1. Das M.N.: Sampling Theory and Methods-Statistical society, ISI, Kolkata.

2. Des Raj and Chandak; Sampling Theory-Narosa,New Delhi.

3. Sukhatme P.V.et.al: Sampling Theory of surveys with applications-Indian Society of Agricultural Statistics,New Delhi.

Paper Code: STSDSEP5.2A Elective-I	Paper Title: PRACTICALS
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

List of Practicals

1. Simple Random Sampling

2. Stratified Random Sampling

3. Systematic Sampling

4. Demography –I: Measurement of mortality, infant mortality, standardized death rates.

5. Demography- II: Measurement of fertility, ASFR, TFR and reproduction rates.

6. Demography- III: Construction of life-tables.

Books for reference:

1. Cochran.W.G.Sampling Techniques (3rd Ed)-Wiley Eastern.

2. Singh and Chaudhary,F.S. (1986): Theory and Analysis of Sample survey design (Wiley Eastern).

3. Goon A.M et.al: Fundamentals of Statistics, Vol. II- World Press, Calcutta.

4. Gupta S.C and Kapoor V.K.: Fundamentals of Applied Statistics- Sultan Chand & Sons Pub.

5. Srivastava .O.S (1983); A Text book of Demography-Vikas Publishing.

6. Cox.P.R(1970);Demography,Cambridge University Press.

Paper Code: STSDSET5.2B Elective-II	Paper Title: (i) Econometrics
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT I

Introduction: Objective behind building econometric models, nature of econometrics, model building, role of econometrics, structural and reduced forms. General linear model (GLM).Estimation under linear restrictions.   **12Hours**

UNIT II

Multicollinearity: Introduction and concepts, detection of multicollinearity, consequences, tests and solutions of multicollinearity, specification error.   **12Hours**

UNIT III

Generalized least squares estimation, Aitken estimators. Autocorrelation:concept, consequences of autocorrelated disturbances, detection and solution of autocorrelation.
12Hours

UNIT IV

Heteroscedastic disturbances: Concepts and efficiency of Aitken estimator with OLS estimator under heteroscedasticity. Consequences of heteroscedasticity.Tests and solutions of heteroscedasticity. Autoregressive and Lag models, Dummy variables, Qualitative data.   **12Hours**

UNIT V

Gauss-Markov set up: Theory of linear equation, estimability of linear parametric function, method of least square, Gauss markov thermo, estimation of error varience.   **12Hours**

Books for Reference:

1. Gujarati, D. and Sangeetha, S. (2007): Basic Econometrics, 4th Edition, McGraw Hill

Companies.

2. Johnston, J. (1972): Econometric Methods, 2nd Edition, McGraw Hill International.

3. Koutsoyiannis, A. (2004): Theory of Econometrics, 2nd Edition, Palgrave Macmillan

Limited,

4. Maddala, G.S. and Lahiri, K. (2009): Introduction to Econometrics, 4th Edition, John

Wiley & Sons.

Paper Code: STSDSEP5.2B Elective-II	**Paper Title:** PRACTICALS
Practical Hours: 3 Hrs / Week	**Marks:** Practical-40+IA-10 **Credits:** 01

List of Practicals

1. Problems based on estimation of General linear model

2. Testing of parameters of General linear model

3. Forecasting of General linear model

4. Problems concerning specification errors

5. Problems related to consequences of Multicollinearity

6. Diagnostics of Multicollinearity

7. Problems related to consequences of Autocorrelation (AR(I))

8. Diagnostics of Autocorrelation

Paper Code: STSSEC-3	Paper Title: Demography
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10
Teaching Hours: 30Hrs	Credits: 01

UNIT- I

C.S.O : Statistical organization at Center, N.S.S.O and C.S.O - historical back ground, functions and publications. Brief study on Indian population census of 1991, 2001 and 2011 year (central and state).   **10 Hours**

UNIT- II

Vital statistics – I : Meaning and definition of Vital statistics ,Sources of Vital statistics, uses and measurement of population. Measurement of Mortality: Crude, Specific and Standardized death rate, Infant mortality rate, Neonatal mortality rate and maternal mortality rates.   **10 Hours**

UNIT-III

Vital statistics – II: Measurement of fertility: Crude, Age specific, General and Total fertility rates. Reproduction rates- N.R.R and G.R.R. Life table: Definition and uses, components of life table- Explanation of the columns of life table.   **10 Hours**

SUGGESTED READING:

1. Moore, D.S. and McCabe, G.P. and Craig, B.A. (2014): Introduction to the Practice of Statistics,
     W.H. Freeman
2. Cunningham, B.J (2012):Using SPSS: An Interactive Hands-on approach
3. Cho, M,J., Martinez, W.L. (2014) Statistics in MATLAB: A Primer, Chapman andHall/CRC

Paper Code: STSDSET6.1	**Paper Title:** Design of Experiments
Teaching Hours: 4 Hrs / Week	**Marks:** Theory-80+IA-20
Teaching Hours: 60Hrs	**Credits:** 03

UNIT-I

Analysis of Variance: Meaning and assumptions. Analysis of variance (fixed effects model) - Analysis of one-way, two-way classified data, expectation of mean sum of squares, ANOVA tables. Least significant difference. Case of multiple but equal number of observations per cell in two-way classification (with interaction). 3 – way classification.

14 Hours

UNIT-II

Design of Experiments: Principles of design of experiments. Completely randomized (CRD), Randomized block (RBD) and Latin square designs (LSD)- layout and formation and the analysis using fixed effect models. Comparison of efficiencies of CRD, RBD

12 Hours

UNIT-III

Latin Square Design : Layout of LSD and analysis. Estimation of missing observation in RBD, LSD and Relative efficiency. **12 Hours**

UNIT-IV

Factorial Experiments: 2^2 -- factorials. Main effects and interactions, their best estimates and orthogonal contrasts. Yates methods of computing factorial effects .Total, partial confounding in a 2^3 -- experiments with RDB layout. **12 Hours**

UNIT-V

Spilt-Plot design: Introduction, Definition and examples of Split-Plot design. Analysis of Split-Plot design and complete ANOVA table for a split- plot design. **10 Hour**

Books for Reference:

1. Cochran.W.G. andG.M.Cox: Experimental Designs-John Wiley.

2. Goon A.M et.al: Fundamentals of Statistics, Vol. II- World Press, Calcutta.

3. Gupta S.C and VK Kapoor: Fundamentals of Applied Statistics- Sultan Chand & Sons.

4. Montgomery.D.C: Design and analysis of experiments: Wiley

5. Das M.N. and Giri.N: Design of Experiments: Theory and Applications.

6. Joshi.D.D.Linear estimation and Design of Experiments: New-Age International.

Paper Code: STSDSEP6.1	Paper Title: PRACTICALS
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

List of Practicals

1. ANOVA - I
2. ANOVA - II
3. CRD
4. RBD
5. LSD
6. Estimation of missing value in RBD & LSD and Analysis
7. Factorial Designs 2^2 and 2^3

Paper Code: STSDSET6.2A Elective-I	Paper Title: (i) Operations Research-I
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

Unit: 1.

Linear Programming Problem (LPP): Definition and Scope of Operations Research (OR). Definition, Basic Concepts and Formulation of an LPP. Mathematical form of general LPP, Standard LPP, Slack, Surplus and artificial variables, Feasible solution, Basic feasible solution, Optimum solution. Graphical solution.Simplex algorithm Big-M Method and. Examples.   **15 Hours**

Unit:2.

Transportation problem: Definition and mathematical form of TP, feasible solution, basic feasible solution, Optimum solution. Methods of finding BFS: Northwest corner role, matrix minima method, and Unit cost penalty method (Vogel's approximation method). Method of finding optimum solution to a TP, Unbalanced TP. Simple problems.

10 Hours

Unit: 3.

Assignment problem: Definition and mathematical form of assignment problem, procedure of solving assignment problem. Simple problems.The travelling salesman problem.

Sequencing Problms: Introduction: Definition, Terminology and assumptions. Problems through n jobs through 2 machines.Processing n jobs through 3 machines.   **15 Hours**

Unit: 4.

Game Theory: Rectangle game, minimax-maximin principle, solution to rectangular game using graphical method, dominance and modified dominance property to reduce the game matrix.   **10 Hours**

Unit: 5.

Inventory theory: Description of Inventory system. Inventory costs. Demand lead time. EOQ model with and without shortages.EOQ model with finite replenishment.Probabilistic demand.News paper boy problem.   **10 Hours**

Books for Reference:

1. Kantiswaroop, Man Mohan and P.K Gupta (2003): Operations Research-Sultan Chand & Co.

2. Churchman C.W, Ackoff R.L and Arnoff E.L (1957): Introduction to Operations Research-John Wiley.

3. Shenoy,G.V.,Srivatsava,U.K and Sharma,S.C.: Operations Research for Management,New Age International.

4. S. Kalavathy Operations Research Methods and Practice- New age Publication

5. Mittal K.V: Optimization Method- New age Publication

6. Kapoor V.K: Operations Research- Sultan Chand & Co.

7. Narag,A.S..Linear Programming and Decision making. - Sultan Chand & Co.

Paper Code: STSDSEP6.2A Elective-I Practical Hours: 3 Hrs / Week	Paper Title: PRACTICALS Marks: Practical-40+IA-10
	Credits: 01

List of Practicals

1. Linear Programming Problem-I: Formulation of LPP.

2. Linear Programming Problem –II: Graphical method for solving LPP

3. Linear Programming Problem-III: Simplex and Big-M methods to solve LPP.

4. Transportation problem

5. Assignment problem

6. Game Theory

7. Inventory theory- I

8. Inventory theory –II

Paper Code: STSDSET6.2B Elective-II	Paper Title: (ii) Operations Research-II
Teaching Hours: 4 Hrs / Week	Marks: Theory-80+IA-20
Teaching Hours: 60Hrs	Credits: 03

UNIT I

Queuing Theory : Basics concept of queue, characteristic, steady state system, size distribution in M/M/1 queue system(only statement), waiting time distribution, little's formula, measure of effectiveness, derivations of expressions for expected queue length, size, waiting time, description of M/M/C queuing system   **14Hours**

UNIT II

Simulation: Types of Simulation.Random variable. Monte - Carlo technique and generation of random numbers.   **08Hours**

UNIT III

Decision Theory: Introduction, basic terminology, steps in decision making. Decision making environment - Decision under conditions of uncertainty – maximax criterion, maximin criterion, Laplace criterion, Regret criterion and Hurwicz criterion.Decisions making under conditions of risk – EMV, EVPI and EOL.Decision tree analysis.   **14Hours**

UNIT IV

PERT/CPM: Introduction, basic terms, common errors.Rules of Net work construction.

Fulkerson's Rule, construction of Network.Time analysis and Critical Path Method.

12Hours

UNIT V

Inventory theory: Description of Inventory system. Inventory costs. Demand lead time. EOQ model with and without shortages. EOQ model with finite replenishment. Probabilistic demand. News paper boy problem.   **12Hours**

Books for reference:

1. Taha, H. A. (2007): Operations Research: An Introduction, 8th Edition, PrenticeHall of India.
2. KantiSwarup, Gupta, P.K. and Manmohan (2007): Operations Research, 13th Edition,Sultan   Chand and Sons.
3. Hadley, G: (2002) : Linear Programming, Narosa Publications
4. Hillier, F.A and Lieberman, G.J. (2010): Introduction to Operations Research-Concepts and cases,   9th Edition, Tata McGraw Hill

B.Sc VI Semester- Statistics

Paper Code: STSDSEP6.2B Elective-II	Paper Title: PRACTICALS
Practical Hours: 3 Hrs / Week	Marks: Practical-40+IA-10
	Credits: 01

List of Practicals

1. Sequencing Problems.

2. Simulation.

3. Decision Theory – I

4. Decision Theory – II

5. PERT/CPM – I

5. PERT/CPM – II

Paper Code: STSSECT5.3	Paper Title: Operation Research Techniques
Teaching Hours: 2 Hrs / Week	Marks: Theory-40+IA-10
Teaching Hours: 30Hrs	Credits: 01

UNIT-I.

Linear Programming Problem (LPP): Definition and Scope of Operations Research (OR). Definition, Basic Concepts and Formulation of an LPP. Mathematical form of general LPP, Standard LPP, Slack, Surplus and artificial variables, Feasible solution, Basic feasible solution, Optimum solution. Graphical solution. Simplex algorithm.   **10 Hours**

UNIT-II

Transportation problem: Definition and mathematical form of TP, feasible solution, basic feasible solution, Optimum solution. Methods of finding BFS: North - west corner role, matrix minima method, and Unit cost penalty method (Vogel's approximation method).simple problems.   **10 Hours**

UNIT-III

Assignment problem: Definition and mathematical form of assignment problem, procedure of solving assignment problem. Simple problems. The travelling salesman problem.   **10 Hours**

List of Assignments :
1. Linear Programming Problem-I: Formulation of LPP.
2. Linear Programming Problem –II: Graphical method for solving LPP
3. Linear Programming Problem-III: Simplex
4. Transportation problem – I
5. Transportation problem - II
5. Assignment problem

Books for References :
1. Kanti swaroop, Man Mohan and P.K Gupta (2003): Operations Research-Sultan Chand & Co.

2. Churchman C.W, Ackoff R.L and Arnoff E.L (1957): Introduction to Operations Research-John   Wiley.

3. Shenoy,G.V.,Srivatsava,U.K and Sharma,S.C.: Operations Research for Management, New Age Int.

4. Operations Research: S. Kalavathy Himalaya Publication

RANI CHANNAMMA UNIVERSITY BELAGAVI

THE COURSE STRUCTURE & SYLLABUS OF UNDER GRADUATE

BACHELOR OF SCIENCE

ZOOLOGY

1ST TO 6TH Semesters

w.e.f.

Academic Year 2020-21 and Onwards
Under

CHOICE BASED CREDIT SYSTEM (CBCS)

CHOICE BASED CREDIT SYSTEM [CBCS]
B.Sc. Program with Optional Subject: ZOOLOGY

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	**Part – 1** **DSC**	ZOODSCT 1.1	Animal discovery	4	20	80	100	3
		ZOODSCP 1.1	Practicals-1	3	10	40	50	1
			Total: Hours / Credits	**7**			**150**	**4**
II	**Part – 1** **DSC**	ZOODSCT 2.1	Comparative anatomy and development biology of vertebrates	4	20	80	100	3
		ZOODSCP 2.1	Practicals-2	3	10	40	50	1
			Total: Hours / Credits	**7**			**150**	**4**

Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	**Part – 1** **DSC**	ZOODSCT3.1	Physiology, Biochemistry and history	4	20	80	100	3
		ZOODSCP3.1	Practicals-3	3	10	40	50	1
	Part – 2 SEC	ZOOSECT3.2	Medical diagnostics	2	10	40	50	2
		Total: Hours / Credits		**9**			**200**	**6**
IV	**Part – 1** **DSC**	ZOODSCT4.1	Genetics and evolutionary biology	4	20	80	100	3
		ZOODSCP4.1	Practicals-4	3	10	40	50	1
	Part – 2 SEC	ZOOSECT4.2	Aquarium fish keeping	2	10	40	50	2
		Total: Hours / Credits		**9**			**200**	**6**

(With effect from the academic year 2021-22 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/Week	IA	Exam	Total	Subject Credits
V	Part – 1 DSE	ZOODSET 5.1	Applied zoology and Ethology	4	20	80	100	3
		ZOODSEP 5.1	Practicals-5	3	10	40	50	1
		ZOODSET 5.2A (Elective I)	Cell biology, Biotechnology, Biostatics and research methodology	4	20	80	100	3
		ZOODSEP 5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		ZOODSET 5.2B (Elective II)	Immunology	4	20	80	100	3
		ZOODSEP 5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	ZOOSECT5.3	Apiculture	3	10	40	50	2
		Total: Hours / Credits		**17**			**350**	**10**

Note: Students have to choose either Elective-I or Elective-II

Sem	Part	Paper Code	Title of Paper	Hours/Week	IA	Exam	Total	Subject Credits
VI	Part – 1 DSE	ZOODSET 6.1	Reproductive biology	4	20	80	100	3
		ZOODSEP 6.1	Practicals-6	3	10	40	50	1
		ZOODSET 6.2A (Elective III)	Ecology, Zoogeography and wildlife conservation.	4	20	80	100	3
		ZOODSEP 6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		ZOODSET 6.2B (Elective IV)	Insects, Vectors and Diseases	4	20	80	100	3
		ZOODSEP 6.2B (Elective IV)	Practicals-6B	3	10	40	50	1
	Part – 2 SEC	ZOOSECT 6.3	Apiculture	3	10	40	50	2
		Total: Hours / Credits		**17**			**350**	**10**

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).

Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h.

Schema of Evaluation for Practical Examination

		Particulars	Marks Allotted
1		**Experimental preparation involving the following ***	**30**
2		**Journal (record) assessment**	**05**
3		**Oral performance (Viva-voce)**	**05**
		Total	**40**
*		Brief description & tabulation	04
		Diagrams	04
		Preparation of required solutions and Experimental set-up	04
		Record of observation and performance of experiment	10
		Calculation including drawing graph	06
		Accuracy of result with unit	02

Question Paper pattern
First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
ZOOLOGY
ZOODSCT 1.1: Animal discovery

Time: 3 Hours   Max. Marks: 80

Q. No. I. Answer any TEN of the following   2X10= 20 Marks
1)
2)
3)
4)
5)
6)
7)
8)
9)
10)
11)
12)

Q. NO. II. Answer the following questions   5X3=15 Marks
a)
b)
c)
OR
d)

Q. No. III. Answer the following questions   5x3= 15 Marks
a)
b)
c)
OR
d)

Q. No. IV. Answer the following questions   5x3=15 Marks
a)
b)
c)
OR
d)

Q. No. V. Answer the following questions   5x3=15 Marks
a)
b)
c)
OR
d)

Question Paper pattern
First Semester B.Sc. Degree Examination, December 2020
(CBCS Scheme-2020-21: Regular)
ZOOLOGY

ZOOSECT 3.2: Title of the Paper

Time: 3 Hours   Max. Marks: 40

Q. No. I. Answer any **FIVE** of the following   2X5= 20 Marks

1)

2)

3)

4)

5)

6)

Q. NO. II Answer the following questions   5X3=15 Marks

a)

b)

c)

OR

d)

Q. No. III. Answer the following questions   5x3= 15 Marks

a)

b)

c)

OR

d)

Instruction to set the DSC/DSE question paper.

- Question number 1 has 12 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any ten questions.
- Question number II are from unit I.
- Question number III are from unit II.
- Question number IV are from unit III
- Question number V are from unit IV.

Instruction to set the SEC question paper.

- Question number 1 has 6 sub questions consisting of 3 questions from each unit. Each question carries two marks. Student has to answer any five questions.
- Question number I is from unit I.
- Question number II is from unit II.

First Semester B.Sc. (Zoology)

Paper Code: ZOODSCT 1.1
Teaching Hours: 4 H / Week
Total hours:60

Paper Title: Animal Diversity
Marks: Th-80+IA-20
Credits :3

UNIT – 1   15 Hours

Kingdom Protista: General characters and classification up to classes with one example for each class. locomotion in Protozoa

Phylum Porifera: General characters and classification up to classes with one example for each class. Canal System in *Sycon*

Phylum Cnidaria: General characters and classification up to classes with one example for each class. Polymorphism

Phylum Platyhelminthes: General characters and classification up to classes with one example for each class. Parasitic adaptations

Phylum Nemathelminthes: General characters and classification up to classes with one example for each class. Life history of *Ascaris*. Parasitic adaptations in roundworms

UNIT – 2   15 Hours

Phylum Annelida: General characters and classification up to classes with one example for each class. Metamerism in Annelida

Phylum Arthropoda: General characters and classification up to classes with one example for each class. Metamorphosis in Insects

Phylum Mollusca: General characters and classification up to classes with one example for each class. Torsion in gastropods

Phylum Echinodermata: General characters and classification up to classes with one example for each class. Water-vascular system in Asteroidea

UNIT – 3   15 hours

Phylyum Chordata: Characters of chordates. Differences between chordates and non-chordates. General features of Protochordata (Brief note on Hemichordata, Urochordata, Cephalochordata)

Agnatha and Gnathostomata: General features of Agnatha and Gnathostomata. Classification of cyclostomes up to classes

Pisces: General features and classification up to living orders. Scales in fihses Migration in Fishes

Amphibia: General features and classification up to living orders. Parental care in amphibians

Reptiles: General features and Classification up to living orders. Differences between poisonous and non-poisonous snakes. Snake bite and treatment

UNIT – 4   **15 Hours**

Aves: General features. Salient features of Passeriformes, Pisciformes, Columbiformes,

Mammals: General characters. Salient features of Monotremes, Marsupialia, Insectivora,

Rodentia, Perissodactyla, Chirpotera, Edentata, Cetaceae and Primates with one example

for each. Ear ossicles in mammals.

Suggested Readings:

1. Agarwal V. P. and Dalela R. C. (1975): Textbook of Vertebrate Zoology. Jai Prakashnath Co.
2. Barnes, R.D. (1982): Invertebrate Zoology. Fifth edition
3. Barnes, R.D. (1982): Vertebrate Zoology. Fifth edition
4. Barnes, R.S.K., Calow, P., Olive, P.J.W Golding, D.W. and Spicer, J.I. (2002): The Invertebrates: A
5. New Synthesis, III Edition, Blackwell Science
6. Barrington E. J. W. (1981): Invertebrate structure and Function. ELBS. Dhami P.S. and Dhami J. K.
7. (2000): Chordate Zoology. S. Chand & Co. Dhami P.S. and Dhami J. K. (2000): Invertebrate Zoology. S. Chand & Co.
8. Ekambaranatha Iyer M. and Anantakrishnan T. N. (1990): A manual of Zoology. Vol. I. Invertebrata (Part 1 &2). S. Vishwanathan Pvt. Ltd.
9. Ekambaranatha Iyer M. and Anantakrishnan T. N. (1990): A manual of Zoology. Vol. II. Chordata S. Vishwanathan Pvt. Ltd.
10. Jordan E. L. and Verma P.S. (1976): Chordate Zoology. S. Chand & Co. Jordan E. L. and Verma
11. P.S. (1976): Invertebrate Zoology. S. Chand & Co.
12. Kotpal R. L. (1993): Protozoa- Echinodermata (all volumes). Rastogi Publ. Pough H (2004): Vertebrate life, VIII Edition, Pearson International.
13. Ruppert and Barnes, R.D. (2006): Invertebrate Zoology, VIII Edition. Holt Saunders International Edition.

Paper Code: ZOODSCP 1.1   **Paper Title: Practicals-1**
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 45   **Credits :**1

ZOODSC P11-PRACTICAL-I

1. Study of the following specimens making use of permanent slides / specimens:

   i.   Study of unicellular and cellular grade organized animals: *Amoeba*, *Euglena, Paramecium and Sycon*
   ii. Study of tissue grade organized animals: *Obelia, Physalia, Aurelia, Metridium,* Study of flat worms: *Planaria, Taenia solium*
   iii. Study of round worms: Male and female *Ascaris lumbricoides*
   iv. Study of segmented Animals: *Nereis, Pheretima, Hirudinaria,*
   v.   Study of animal forms with jointed appendages: *Palaemon, Cancer, Limulus, Apis,*
   vi. Study of soft bodied animals: *Chiton, Dentalium, Pila, Unio, Loligo, Sepia,*
   vii. Study of spiny skinned animals: *Pentaceros, Ophiura, Echinus, Cucumaria* and *Antedon*
   viii. Study of Protochordates: *Balanoglossus, Herdmania, Branchiostoma*
   ix. Study of Fishes: *Torpedo,Labeo, Exocoetus, Anguilla*
   x.   Study of Amphibians: *Ichthyophis, Salamandra, Bufo, Hyla*
   xi. Study of Reptiles: *Chelone, Chamaeleon, Draco, Vipera, Naja*
   xii. Study of Birds: *Duck, Cuccoo, Wood pecker, Kingfisher, Owl, Peacock*
   xiii. Study of Mammals: *Duck billed platypus, Manis, Bat, Loris*
2. Mounting of setae, blood glands, nephridia in Earthworm
    (Collect the dead worms from vermicompost pits of farmers and preserve)
3. Mounting of mouth parts of honeybee, cockroach, housefly,mosquitoes
4. Mounting of brain in fowl / rat (collect dead fowl / rat heads and preserve)
5. Study tour / field visit: Compulsory tour / visit to understand faunaldiversity

SUGGESTED READINGS

1.   Ruppert and Barnes, R.D. (2006): Invertebrate Zoology, VIII Edition. Holt Saunders International Edition.
2.   Barnes, R.S.K., Calow, P., Olive, P.J.W., Golding, D.W. and Spicer, J.I. (2002): *The Invertebrates: A New Synthesis*, III Edition, Blackwell Science
3.   Young, J. Z. (2004): *The Life of Vertebrates*. III Edition. Oxford university press.
4.   Pough H (2006): *Vertebrate life,* VIII Edition, Pearson International.
5.   Hall B.K. and Hallgrimsson B. (2008): Strickberger's Evolution. IV Edition. Jones and Bartlett Publishers Inc.
6.   P. S. Dhami and J. K Dhami (2000): Practical Zoology S. Chand and Co, New Delhi

Paper Code: ZOODSCT 2.1   **Paper Title:** Anatomy and Developmental Biology of Vertebrates

Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits :**3

UNIT – 1   15 Hours

Integument in different classes of chordates: (fishes, amphibian, reptilian, aves and Mammalia)

Skeletal System (Girdles): Pectoral girdle and pelvic girdle in Frog, Varanus, Fowl and Rabbit

Digestive System: Brief account of alimentary canal (digestive tract) of different vertebrates

UNIT - 2   15 Hours

Respiratory System: Brief account of gills, lungs, trachea and air sacs in vertebrates

Circulatory System: Comparative account of heart in different vertebrates

Nervous System: Comparative account of brain in different vertebrates

UNIT - 3   15 Hours

Early Embryonic Development: Gametogenesis (Spermatogenesis and oogenesis), Fertilization, Types of Eggs and Patterns of Cleavage, Types of Eggs and Patterns of Cleavage, Placenta types, functions and structure

UNIT - 4   15 Hours

Early Development: Frog development up to Gastrulation. Organizer phenomenon. Development of chick (Fertilization, structure of egg, cleavage, blastulation), 24 hours, 36 hours and 48 hours chick embryo. Human Development – up to implantation

Suggested Readings:
1. Comparative anatomy of vertebrates By R. K. Saxena
2. Comparative Anatomy by Aurora M. Sebastiani and Dale W. Fishbeck
3. Developmental biology By Rastogi & Jayraj. Kedarnath Ramnath publsihers, meerut.
4. Introduction to Embryology B I Ballinsky Publisher: Thomson
5. Learning Patten's foundation of Embryology Bruce M Carlson Publisher: McGraw Hill Education Principles of Embryology Waddington C H Publisher: Macmillan, New York.
6. Developmental Biology Scott F Gilbert. Publisher: Sinauer Associates Inc., U.S
7. Developmental Biology –a modern Synthesis By K Vasudev Rao. Published by The Associated Pub, Ambala Cantt.
8. Embryology By Mohan Arora. Himalaya Publishing House Pvt. Ltd, New Delhi.
9. Embryology – Constructing the Organism Scott F Gilbert. Publisher: Sinauer Associates Inc., U.S.
10. Elements of Developmental Biology Dr P.C. Jain Vishal Publishing Co. New Delhi Vertebrate Embryology N N Majumdar Publisher: McGraw-Hill Education

Second Semester B.Sc. (Zoology)

Paper Code: ZOODSCT 2.1   **Paper Title:** Practicals-2
Teaching Hours: 3H / Week   **Marks:** Th-40+IA-10
Total hours: 45   **Credits :**1

1. Osteology: Disarticulated skeleton of frog and rabbit

2. Comparative study of girdles: Pectoral girdle and pelvic girdle in Frog, Varanus, Fowl and Rabbit

3. Comparative account of heart in different vertebrates

4. Comparative account of brain in different vertebrates

5. Embryology: Study of developmental stages – Whole mounts and sections through permanent slides, specimens: cleavage stages, blastula, gastrula

6. Chick embryo mounting (24-hour, 36-hour, 48hour)

SUGGESTED READINGS

1. Kardong, K.V. (2005) *Vertebrates' Comparative Anatomy, Function and Evolution*. IV Edition. McGraw-Hill Higher Education.
2. Kent, G.C. and Carr R.K. (2000). *Comparative Anatomy of the Vertebrates*. IX Edition. The McGraw-Hill Companies.
3. Hilderbr and, M and Gaslow G.E. *Analysis of Vertebrate Structure*, John Wiley and Sons.
4. Walter, H.E. and Sayles, L.P; *Biology of Vertebrates*, Khosla Publishing House.
5. Gilbert, S. F. (2006). Developmental Biology, VIII Edition, Sinauer Associates, Inc., Publishers, Sunderland, Massachusetts, USA.
6. Balinsky, B.I. (2008). An introduction to Embryology, International Thomson Computer Press.
7. Carlson, Bruce M (1996). Patten's Foundations of Embryology, McGraw Hill,Inc.

 Paper Code: ZOODSCT 3.1 **Paper Title:** Physiology, Biochemistry and Histology
Teaching Hours: 4 H / Week **Marks:** Th-80+IA-20
Total hours:60 **Credits :**3

UNIT – 1 15 Hours
Digestion: Physiology of digestion. Absorption of carbohydrates, proteins and lipids Concept of balanced diet
Respiration: Pulmonary ventilation, Transport of Oxygen and carbon dioxide in blood. Chloride shift, Respiratory pigments
Excretion: Structure of Nephron, Mechanism of Urine formation, Ornithine cycle, Counter-current Mechanism

UNIT - 2 15 Hours
Circulation Composition of blood, Hemostasis, Structure of Heart. Types of Hearts - Neurogenic and Myogenic heart., Origin and conduction of the cardiac impulse. Cardiac cycle. Blood pressure. Carbohydrate Metabolism: Glycolysis, Krebs Cycle, Pentose phosphate pathway, Gluconeogenesis, Glycogen metabolism, Electron transport chain

UNIT - 3 15 Hours
Lipid Metabolism: Biosynthesis and β oxidation of palmitic acid
Protein metabolism: Transamination and Deamination
Enzymes: Introduction, Mechanism of action, Enzyme inhibitors, specificity of Enzymes, reversibility of enzymes action and Enzyme inhibitors. Brief account of coenzymes and cofactors. Clinical importance of enzymes**.**

UNIT - 4 15 Hours
Nerve and muscle: Structure of a neuron, resting membrane potential, Origin of Action potential and its propagation in myelinated fibre, Ultra-structure of skeletal muscle, Sliding filament theory of muscle contraction, neuromuscular junction, neurotransmitters
Histology: Histological details of the organs - Salivary gland, pancreas, liver, kidney, adrenal, testis and ovary

Suggested readings:
1. Essentials of Animal Physiology By Rastogi S C. New Age International Publishers, New Delhi
2. Animal Physiology By Nigam H C. Vishal Publishing Co. New Delhi
3. Animal Physiology By P S Verma, V K Agarwal and B S Tyagi. S Chand & Company Ltd, New Delhi
4. Lehninger Principles of Biochemistry By Nelson D L Publisher: W H Freeman & Co Biochemistry By Mathews Van Holde Publsiher. Ahren Pearson Education
5. Animal Physiology by Schmidt Nielson Cambridge University Publications Introduction to Histology By Gauba R K Tata Mc Graw Hill New Delhi
6. Cells and Tissues: Introduction to Histology By N D Cells and Rogers. A W Academic Press
7. Basic medical Histology: Biology of cells, tissues and organs By Kessel Richard G Oxford University Press
8. Text Book of Histology By Bloom and Fawcett. Saunders Publishers Philadelphia
9. Bailey's Text Book of Histology By W M Copenhaver, R P Bunge and Mary B Bunge. Willims and Wilkins Company, Baltimore

Paper Code: ZOODSCP 3.1   **Paper Title:** Practicals-3
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 45   **Credits :**1

ZOODSC P31: PRACTICAL-III   60 Hours

1. Preparation of hemin crystals
2. Study of permanent histological sections of mammalian Salivary gland, pancreas, liver, kidney, adrenal gland, testis and ovary
3. Qualitative tests for carbohydrates in given solutions (Glucose, Sucrose and Starch)
4. Qualitative tests for proteins and lipids in given solutions
5. Study of activity of salivary amylase under optimum conditions
6. Preparation of permanent histological slides

SUGGESTED READINGS

1. Tortora, G.J. and Derrickson, B.H. (2009). *Principles of Anatomy and Physiology*, XII Edition, John Wiley & Sons, Inc.
2. Widmaier, E.P., Raff, H. and Strang, K.T. (2008) *Vander's Human Physiology*, XI Edition., McGrawHill
3. Guyton, A.C. and Hall, J.E. (2011). T*extbook of Medical Physiology*, XII Edition, Harcourt Asia Pvt. Ltd/ W.B. Saunders Company
4. Berg, J. M., Tymoczko, J. L. and Stryer, L. (2006). *Biochemistry*. VI Edition. W.H Freeman and Co.
5. Nelson, D. L., Cox, M. M. and Lehninger, A.L. (2009). *Principles of Biochemistry*.
6. IV Edition. W.H. Freeman and Co.
7. Murray, R.K., Granner, D.K., Mayes, P.A. and Rodwell, V.W. (2009). *Harper's Illustrated Biochemistry*. XXVIII Edition. Lange Medical Books/McGraw3Hill.

Paper Code: ZOOSEC 3.2   **Paper Title:** Medical Diagnostics
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 30   **Credits :**2

UNIT – 1

Introduction to Medical Diagnostics and its Importance **Diagnostic methods used for analysis of blood:** Blood composition, Preparation of blood smear and Differential Leucocyte Count (D.L.C) using Leishman's stain, Platelet count using haemocytometer, Erythrocyte Sedimentary Rate (E.S.R)
Diagnostic Methods Used for Urine Analysis: Urine Analysis: Physical characteristics; Normal and abnormal constituents

UNIT – 2
Non-infectious Diseases: Causes, types, symptoms, complications, diagnosis and prevention of Diabetes (Type I and Type II), Hypertension (Primary and secondary), Testing of blood glucose using Glucometer/Kit
Infectious Diseases: Causes, types, symptoms, diagnosis and prevention of Tuberculosis and Hepatitis
Tumours: Types (Benign/Malignant), Detection and metastasis; Medical imaging: X-Ray of Bone, fracture, PET, MRI and CT Scan (using photographs).
Syndrome: AIDS – causes, symptoms, prevention

SUGGESTED READINGS

1. Park, K. (2007), *Preventive and Social Medicine*, B.B. Publishers
2. Godkar P.B. and Godkar D.P. *Textbook of Medical Laboratory Technology*, II. Edition, Bhalani Publishing House
3. Cheesbrough M., *A Laboratory Manual for Rural Tropical Hospitals, A Basis for Training Courses*
4. Guyton A.C. and Hall J.E. T*extbook of Medical Physiology*, Saunders
5. Robbins and Cortan, *Pathologic Basis of Disease*, VIIIEdition, Saunders
6. Prakash, G. (2012), *Lab Manual on Blood Analysis and Medical Diagnostics*, S. Chand and Co. Ltd.

Fourth Semester B.Sc. (Zoology)

Paper Code: ZOODSCT 4.1   **Paper Title:** Genetics and Evolutionary Biology
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours: 60   **Credits :**3

UNIT – 1   15 **Hours**

Introduction to Genetics: Mendel and his contribution. Monohybrid, Dihybrid cross (Laws). Definition of genetics terminologies. Genetic Variation, Molecular basis of Genetic Information

Mendelian Genetics: Principles of Inheritance, Chromosome theory of inheritance, Incomplete dominance and codominance, Multiple alleles, Lethal alleles, sex linked inheritance

Chromosomes: Normal and giant chromosomes (salivary gland & lampbrush)

Linkage, Crossing Over and Chromosomal Mapping: Linkage and crossing over, Recombination frequency as a measure of linkage intensity. Somatic cell genetics – an alternative approach to gene mapping

UNIT – 2   15 Hours

Mutations: Chromosomal Mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy; Gene mutations: Induced versus Spontaneous mutations, Back versus Suppressor mutations

Sex Determination: Chromosomal mechanisms, dosage compensation

Introduction to Evolutionary Theories: Lamarckism, Darwinism, Neo-Darwinism

UNIT – 3   15 Hours

Origin of Life: origin of life and its theories

Evidences in favor of organic evolution: Fossilization, Types of fossils. Dating of fossils. Evolution of man. Morphological and paleontological evidences in favour of evolution

Processes of Evolutionary Change: Organic variations, Isolating Mechanisms; Natural selection (Example: Industrial melanism). Artificial selection

UNIT – 4   15 Hours

Species Concept: Biological species concept (Advantages and Limitations); Modes of speciation (Allopatric and Sympatric)

Macro-evolution: Macro-evolutionary Principles (example: Darwin's Finches)

Direct Evidences of Evolution: Types of fossils, Incompleteness of fossil record, Dating of fossils, Phylogeny of horse

Suggested readings

1. Principles of Genetics By Gardner Eldon John, Michael J Simmons and Peter Snustad John Wiley & Sons, Inc. NewYork

2. Genetics By Kavita B Ahluwalia. Wiley Eastern Ltd, New Age International Ltd, NewDelhi

3. A text book of Genetics By H S Bhamrah and C M Chaturvedi. Anmol Publications Pvt. Ltd. NewDelhi

4. Cell Biology, Genetics, Molecular Biology, Evolution and Ecology By Dr P S Verma and Dr V K Agarwal. S Chand & Company Pvt. Ltd. NewDelhi

5. Genetics: A survey of the principles of Heredity By A M Winchester Oxford and IBH

6. Principles of Molecular Genetics By S Sundara Rajan. Anmol Publications Pvt. Ltd

7. Genetics By P S Verma and V K Agarwal. S Chand & Company Pvt. Ltd. New Delhi

8. Principles of Genetics By Edmund W Sinnott, L C Dunn and T Dobzhanksy. Tata McGraw Hill Publishing Company, NewDelhi

9. Genetics By Monroe W Strickberger. Prentice Hall of India Pvt. Ltd, New Delhi

Paper Code: ZOODSCP 4.1   **Paper Title:** Practicals-4
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:45   **Credits :**1

Genetics and Evolutionary Biology

1. Study of Mendelian Inheritance and gene interactions (Non-Mendelian Inheritance) using suitable examples.

2. Study of Linkage, recombination

3. Study of Human Karyotypes (normal and abnormal)

4. Study of fossil (Use models and pictures)

5. Study of homology and analogy from suitable specimens /pictures

6. a) Evolution of horse with diagrams and b) Darwin's Finches with diagrams / cut outs of beaks of different species

7. Preparation of salivary gland chromosomes

8. Compulsory visit and submission of report

SUGGESTED READINGS

1. Snustad, D.P., Simmons, M.J. (2009). *Principles of Genetics*. V Edition. John Wiley and Sons

2. Klug, W.S., Cummings, M.R., Spencer, C.A. (2012). *Concepts of Genetics*. X Edition. Benjamin Cummings.

3. Russell, P. J. (2009). *Genetics- A Molecular Approach.* III Edition. Benjamin Cummings.

4. Griffiths, A.J.F., Wessler, S.R., Lewontin, R.C. and Carroll, S.B. *Introduction to Genetic Analysis*. IX Edition. W. H. Freeman and Co.

5. Ridley, M. (2004). *Evolution*. III Edition. Blackwell Publishing

6. Barton, N. H., Briggs, D. E. G., Eisen, J. A., Goldstein, D. B. and Patel, N. H.(2007)

7. *Evolution*. Cold Spring, Harbour Laboratory Press.

8. Hall, B. K. and Hallgrimsson, B. *Evolution*. IV Edition. Jones and Bartlett Publishers

9. Douglas, J. Futuyma (1997). *Evolutionary Biology*. Sinauer Associates.

Paper Code: ZOOSEC 4.2   **Paper Title**: Aquarium fish keeping
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:30   **Credits:** 2

UNIT – 1   15 Hours

Introduction to Aquarium Fish Keeping: The potential scope of Aquarium Fish Industry as a Cottage Industry, Exotic and Endemic species of Aquarium Fishes

Biology of Aquarium Fishes: Common characters and sexual dimorphism of Fresh water and Marine Aquarium fishes such as Guppy, Molly, Sword tail, Gold fish, Angel fish, Blue morph, Anemone fish and Butterfly fish

Food and feeding of Aquarium fishes: Use of live fish feed organisms. Preparation and composition of formulated fish feeds

UNIT – 2

Fish Transportation: Live fish transport - Fish handling, packing and forwarding techniques.

Maintenance of Aquarium: General Aquarium maintenance – budget for setting up an Aquarium Fish Farm as a, Cottage Industry

Aquarium design, Construction and preparation: size, shape, substrate, ornamental aquatic plants. Construction and functions of Bio-filters; aerators – accessories for fish tanks and maintenance of water quality: controlling ammonia build up, pH

SUGGESTED READINGS

1.   Baradach, JE, JH Ryther and WO Mc Larney (1972). Aquaculture. The Farming and Husbandry of Freshwater and Marine Organisms. Wiley Interscience, New York.

2.   Jameson, J.D. and R. Santhanam (1996). Manual of ornamental fisheries and farming technology. Fisheries College and Research Institute, Thoothukudi.

3.   Mitchell Beazley, 1998. The complete guide to tropical aquarium fish care. Read and Consumes Book Ltd., London.

4.   Jameson, J.D. Alangara Meen Valarpu (in Tamil). National Book House, New Delhi.
5. Mill Dick, 1993: Aquarium fish, DK Publ. Co, Inc. New York –USA

Paper Code: ZOODSET 5.1   **Paper Title:** Applied Zoology & Ethology
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT – 1   **15 Hours**

Vermitechnology: Species of Earthworms used in vermitechnology, Vermiculture technique and importance of vermiculture Brief account of Vermicompost, vermiwash and vermicast
Aquaculture: *Prawn fisheries*: Species of prawns, culture of freshwater and marine prawns, preservation and processing of prawns
*Pearl culture***:** Pearl producing molluscans, pearl formation, pearl producing sites in India. Quality and composition of pearl industry: Artificial insertion of nucleus
*Pisciculture***:** Brief technique of fish culture, Composite fish culture, Preservation of fishes and their by-products
UNIT - 2   **15 Hours**

Animal husbandry: *Poultry*: Breeds of fowl, diseases of poultry, maintenance of poultry farm, Backyard and Cage system of rearing Composition of egg and nutritive value of egg
*Dairy technology***:** Cattle and Buffalo breeds (both exotic and indigenous), Diseases of cattle and buffaloes. Products and byproducts. Composition of milk and nutritive value of cow milk
Parasites: Life history of Entamoeba, Plasmodium, Trypanosoma, Ascaris, Wuchereria
Insects of economic importance: Economic importance of Honey bees & silkworms

UNIT – 3   **15 Hours**

Introduction to Host-parasite Relationship: Host, Definitive host, Intermediate host, Parasitism, Symbiosis, Commensalism
Epidemiology of Diseases: Transmission, Prevention and control of diseases: Tuberculosis, typhoid
Lac culture: Classification and life history of Lac insect (Techardia lacca). Host plants, cultivation of Lac, composition, properties and economic importance
UNIT – 4   **15 Hours**

Ethology: Introduction, scope, contributions of Lorenz, Tinbergen and Karl Von Frisch
Types of animal behaviour: (1) Innate Behaviour: Taxes, Reflexes, Instincts and Motivation. (2) Learned Behaviour: Habituation, Imprinting, Conditioned, Reflexes and Insight learning (3) Social behaviour: Types of animal society and colony in Honey Bees and Monkey troops (4) Territoriality & Courtship Behaviour in Scorpion, Stickle Back Fish and Peacock (5) Study of nesting behavior and mimicry in animal (6) Biological clock, Circadian rhythm and Chronobiology
*Animal communication***:** Chemical, Visual and Audio. Functions of Signals odors, sounds and light
Parental care: Concepts, Parental care in Fishes, Amphibians and Birds

Paper Code: ZOODSEP 5.1   **Paper Title:** Practicals-5
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:45   **Credits :**1

1. Study of Plasmodium, Entamoeba, Trypanosoma, Ancylostoma and Wuchereria and their life stages through permanent slides / photomicrographs or specimens
2. Study of arthropod vectors associated with human diseases: Culex, Anopheles, Aedes
3. Study of poultry breeds
4. Study of different species of earthworms, prawns, pearls, fishes
5. Study of Cattle and buffalo breeds
6. Visit to poultry farm or animal breeding center. Submission of visit report

SUGGESTED READINGS

1. Park, K. (2007). Preventive and Social Medicine. XVI Edition. B.B Publishers
2. Arora, D. R and Arora, B. (2001). Medical Parasitology. II Edition. CBS Publications and Distributors
3. Kumar and Corton. Pathological Basis of Diseases
4. Atwal, A.S. (1986). Agricultural Pests of India and South East Asia, Kalyani Publishers
5. Dennis, H. (2009). Agricultural Entomology. Timber Press
6. Hafez, E. S. E. (1962). Reproduction in Farm Animals. Lea & Fabiger Publisher
7. Dunham R.A. (2004). Aquaculture and Fisheries Biotechnology Genetic Approaches. CABI publications, U.K
8. Pedigo, L.P. (2002). Entomology and Pest Management, Prentice Hall.

Paper Code: ZOODSET 5.2A   **Paper Title:** Cell Biology, Biotechnology, Biostatistics & Research Methodology

Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

UNIT – 1   5 Hours

Cell Biology: Ultra structure of animal cell, Cell theory & cell cycle
Ultra-Structure & function of cell organelles: Plasma membrane, Endoplasmic reticulum, Ribosome's, Golgi-complex, Lysosomes, Mitochondria and Nucleus
Chromosomes: Structure and types of chromosomes. Ultra-structure of chromosome
Cell division: Types and significance: mitosis and meiosis

UNIT – 2   15 Hours

Cell Biology (continued)Cellular aging and cell death: Concept of aging theories, effect of aging on cell organelles. Apoptosis, Necrosis : Definition and significance
Cancer Biology: Introduction, Characteristics of cancer cells. Carcinogens, cause & Prevention.
Biotechnology: Introduction: Sub-fields of biotechnology history of Biotechnology Scenario in India
Types of Biotechnology: Animal Biotechnology. Plant Biotechnology Microbial Biotechnology. Environmental Biotechnology Medical Biotechnology
Molecular biotechnology Genetic engineering, isolation of DNA, Gene cloning Vectors, Restriction enzymes - Polymerase Chain Reaction (PCR) DNA finger printing

UNIT – 3   15 Hours

Applications of Biotechnology: *Agricultural application:* Improvements in crop yield. *Industrial application:* Ethanol production, Food processing, Food fermentors and Industrial enzymes. *Environmental Applications:* Cleaning up of environmental pollutants, Bioremediation. *Medical Applications:* Gene testing, Gene therapy, Drug discovery Diagnosis of inherited disorders, personal identification.

Biostatistics: Fundamentals of Biostatistics, Preliminary Concepts. Frequency distribution. Graphical presentation of Data. Measures of Central Tendency- Mean, Median and Mode. Measures of variation. Probability. Chi-Square Test

UNIT – 4   15 Hours

Research Methodology
Foundations of Research: Meaning, Objectives, Motivation: Research Methods *vs* Methodology, Types of Research: Analytical *vs* Descriptive, Quantitative *vs* Qualitative, Basic *vs* Applied

Research design: Need for research design: Features of good design, Important concepts related to good design- Observation and Facts, Prediction and Explanation. Developing a research plan: Problem identification, Experimentation, Determining experimental designs

Data collection, analysis and report writing: Observation and Collection of Data, Methods of data collection. Sampling Methods, Data Processing. A brief idea of report writing. Data Presentation using digital technology

SUGGESTED READINGS

1. Julio Celis Nigel Carter Kai Simons J. Small Tony Hunter David Shotton, Cell Biology (3rd edition). Academic Press

2. Verma P.S. (Author), Agarwal (2004): Cell Biology, Genetics, Molecular Biology, Evolution & Ecology. S Chand publisher

3. N Arumugam (2014): Cell Biology & Molecular Biology. Saras publications

4. Brown, T.A. (1998). Molecular Biology Labfax II: Gene Cloning and DNA Analysis. II Edition, Academic Press, California, USA.

5. Glick, B.R. and Pasternak, J.J. (2009). Molecular Biotechnology - Principles and Applications of Recombinant DNA. IV Edition, ASM press, Washington, USA.

6. Griffiths, A.J.F., J.H. Miller, Suzuki, D.T., Lewontin, R.C. and Gelbart, W.M. (2009). An Introduction to Genetic Analysis. IX Edition. Freeman and Co., N.Y., USA.

7. Snustad, D.P. and Simmons, M.J. (2009). Principles of Genetics. V Edition, John Wiley and Sons Inc.

8. Watson, J.D., Myers, R.M., Caudy, A. and Witkowski, J.K. (2007). Recombinant DNA Genes and Genomes- A Short Course. III Edition, Freeman and Co., N.Y., USA.

9. B K Mahajan: Methods in Biostatistics for Research Workers

10. K Visweswara Rao: Biostatistics a Manual of Statistical Methods for Use in Health Nutrition and Anthropology

11. Anthony, M, Graziano, A.M. and Raulin, M.L. 2009. Research Methods: A Process of Inquiry, Allyn and Bacon.

12. Walliman, N. 2011. Research Methods- The Basics. Taylor and Francis, London, New York.

13. Wadhera, B.L.: Law Relating to Patents, Trade Marks, Copyright Designs and Geographical Indications, 2002, Universal Law publishing.

14. C.R. Kothari: Research Methodology, New Age International, 2009.

15. Coley, S.M. and Scheinberg, C.A. 1990, "Proposal writing". Stage Publications.

Fifth Semester B.Sc. (Zoology)

Paper Code: ZOODSEP 5.2A **Paper Title:** Practicals-5A
Teaching Hours: 3 H / Week **Marks:** Th-40+IA-10
Total hours:45 **Credits :**1

1) Study of permanent cytology slides of Mitosis & Meiosis

2) Study of temporary preparation of Mitotic stages from onion root tip cells

3) Study of temporary preparation of Meiotic stages from onion flower bud / Grass hopper testis.

4) Study of Paper Chromatography

5) To form frequency distribution table & draw histogram, frequency polygon & frequency curve

6) Measurement of central tendency (range, mean, mode and median)

7) Isolation of DNA / RNA

8) Make a data collection of any fauna found nearby the campus, prepare a mini-dissertation report

Fifth Semester B.Sc. (Zoology)

Paper Code: ZOOSEC 5.2B   **Paper Title:** Immunology
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours: 60   **Credits :**3

Unit 1:   15 Hours

Overview of the Immune System: Introduction to basic concepts in immunology, components of immune system, principles of innate and adaptive immune system

Cells and Organs of the Immune System: Haematopoeisis, Cells of immune system and organs (primary and secondary lymphoid organs) of the immune system

Unit 2:   **15 Hours**

Antigens: Basic properties of antigens, B and T cell epitopes, haptens and adjuvants

Antibodies: Structure, classes and function of antibodies, monoclonal antibodies, antigen antibody interactions as tools for research and diagnosis

Unit 3:   **15 Hours**

Working of the immune system: Structure and functions of MHC, exogenous and endogenous pathways of antigen presentation and processing, Basic properties and functions of cytokines, Complement system: Components and pathways.

Unit 4:   **15 Hours**

Immune system in health and disease: Gell and Coombs' classification and brief description of various types of hypersensitivities, Introduction to concepts of autoimmunity and immunodeficiency.

Vaccines: General introduction to vaccines, Various types of vaccines 015

Paper Code: ZOODSEP 5.2B
Teaching Hours: 3 H / Week
Total hours:45

Paper Title: Practicals-5B
Marks: Th-40+IA-10
Credits :1

ZOODSE P52B: PRACTICAL
60 Hours

1. Demonstration of lymphoid organs

2. Histological study of spleen, thymus and lymph nodes through slides/ photographs

3. Preparation of stained blood film to study various types of blood cells.

4. Ouchterlony's double immuno-diffusion method.

5. ABO blood group determination.

6. Cell counting and viability test from splenocytes of farm bred animals/cell lines.

7. Demonstration of a) ELISA b) Immunoelectrophoresis

SUGGESTED READINGS

1. Kindt, T. J., Goldsby, R.A., Osborne, B. A. and Kuby, J (2006). *Immunology*, VI Edition. W.H. Freeman and Company.
2. David, M., Jonathan, B., David, R. B. and Ivan R. (2006). *Immunology,* VII Edition,
3. Mosby, Elsevier Publication.
4. Abbas, K. Abul and Lechtman H. Andrew (2003.) *Cellular and Molecular Immunology.* V Edition. Saunders Publication.

Paper Code: ZOOSEC 5.3   **Paper Title:** Immunology
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:30   **Credits :**2

UNIT – 1
Biology of Bees: Classification and Biology of Honey Bees, Social Organization of Bee Colony
Rearing of Bees: Artificial Bee rearing, Beehives, Selection of Bee Species for Apiculture, Bee Keeping Equipment, Methods of Extraction of Honey (Indigenous and Modern)
Significance of apiculture

UNIT – 2

Diseases and Enemies: Bee Diseases and Enemies, Control and Preventive measures
Bee Economy: Byproducts of Apiculture (Honey and Bees Wax), Apiculture industry and its Uses
Entrepreneurship in Apiculture: Bee Keeping Industry – Recent Efforts, Modern Methods in employing artificial, Beehives for cross pollination in horticultural gardens

SUGGESTED READINGS

1.   Prost, P. J. *Apiculture*. Oxford and IBH, New Delhi.

2.   Bisht D.S., *Apiculture*, ICAR Publication.

3.   Singh S., *Beekeeping in India*, Indian council of Agricultural Research, New Delhi.

Paper Code: ZOODSET 6.1   **Paper Title:** Reproductive Biology
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

Unit 1:   **15 Hours**

Reproductive Endocrinology: Gonadal hormones and mechanism of hormone action, steroids, glycoprotein hormones, and prostaglandins, hypothalamo – hypophyseal – gonadal axis, regulation of gonadotrophins, secretion in male and female; Reproductive System: Development and differentiation of gonads, genital ducts, external genitalia

Unit 2:   **15 Hours**

Functional anatomy of male reproduction: Outline and histological of male reproductive system in rat and human; Testis: Cellular functions, germ cell, system cell renewal; Spermatogenesis: kinetics and hormonal regulation; Androgen synthesis and metabolism; Epididymal function and sperm maturation; Accessory glands functions; Sperm transportation in male tract

Unit 3:   **15 Hours**

Functional anatomy of female reproduction: Outline and histological of female reproductive system in rat and human; Ovary: folliculogenesis, ovulation, corpus luteum formation and regression; Steroidogenesis and secretion of ovarian hormones; Reproductive cycles (rat and human) and their regulation, changes in the female tract; Ovum transport in the fallopian tubes; Sperm transport in the female tract, fertilization; Hormonal control of implantation; Hormonal regulation of gestation, pregnancy diagnosis, foeto – maternal relationship; Mechanism of parturition and its hormonal regulation; Lactation and its regulation

Unit 4:   **15 Hours**

Reproductive Health: Infertility in male and female: causes, diagnosis and management; Assisted Reproductive Technology: sex selection, sperm banks, frozen embryos, in vitro fertilization, ET, EFT, IUT, ZIFT, GIFT, ICSI, PROST; Modern contraceptive technologies; Demographic terminology used in family planning

Sixth Semester B.Sc. (Zoology)

Paper Code: ZOODSEP 6.1 **Paper Title:** Practicals-6
Teaching Hours: 3 H / Week **Marks:** Th-40+IA-10
Total hours: 45 **Credits :**1

1. Study of animal house: set up and maintenance of animal house, breeding techniques, care of normal and experimental animals.

2. Examination of vaginal smear rats from live animals.

3. Surgical techniques: principles of surgery in endocrinology. Ovarectomy, hysterectorny, castration and vasectomy in rats.

4. Examination of histological sections from photomicrographs/ permanent slides of rat/human: testis, epididymis and accessory glands of male reproductive systems; Sections of ovary, fallopian tube, uterus (proliferative and secretory stages), cervix and vagina.

5. Sperm count and sperm motility in rat

6. Study of modern contraceptive devices

7. Visit to animal house to study breeding techniques

SUGGESTED READINGS

1. Austin, C.R. and Short, R.V. reproduction in Mammals. Cambridge University Press.
2. Degroot, L.J. and Jameson, J.L. (eds). Endocrinology. W.B. Saunders and Company.
3. Knobil, E. et al. (eds). The Physiology of Reproduction. Raven Press Ltd.
4. Hatcher, R.A. et al. The Essentials of Contraceptive Technology. Population Information Programme.

Sixth Semester B.Sc. (Zoology)

Paper Code: ZOODSET 6.2A   **Paper Title:** Ecology, Zoogeography and Wildlife Conservation

Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20

Total hours:60   **Credits :**3

UNIT-I   15Hours

Ecology: (Part – A)

Earth as living planet, sub divisions of ecology, scope of ecology, biosphere

Abiotic factors: Lightand Temperature (effect on animals and plants)

Biotic Factor: Mutualism, commensalism, amensialism, parasitism, predation, competition and parasitism

Biogeochemical cycles: Principles and concepts of water, nitrogen, carbon, oxygen cycles

Community ecology: Community structure, ecological niches, edge effect, stratification, ecotone

UNIT-II   15 Hours

Ecology: (Part – B)

Habitats: *Freshwater* habitat Lotic and Lentic systems. *Zonation of Sea*, Marine Biota, *Esturine* ecology, *Mangrooves*. *Terrestrial* habitat: A brief account of Biomes. Ecological Adaptations of Freshwater, Marine and Terrestrial fauna. Ecological Adaptations of Freshwater, Marine and Terrestrial animals

Population ecology: Density, natality, mortality, age distribution, population growth, types and curves

UNIT-III   15 hours

Zoogeography: Zoogeographical realms of world, a brief account of Wallace's line, means of dispersal, factors affecting the dispersal of animals, continental drift theory, types of distribution of animals, island life, insular fauna, new world marsupials

UNIT-IV   15 hours

Wildlife and its Conservation: Wildlife conservation methods, Wildlife in India, Causes for the depletion of wildlife, Wildlife conservation techniques, methods and measures. Brief account of: IUCN, WWF, Bombay Natural History Society, Indian Board for Wild Life, Red Data Book. Wild Life Act 1972 and its amendments in India, CITES. Project Tiger and Biosphere Reserve. Management of protect areas, Conservation of wetlands, Wildlife ecotourism

Suggested readings

	Title of the Book	Author (s)	Publisher(s)
1	Ecology	Mohan P Arora	Himalaya Publishing House, Mumbai
2	Ecology	Eugene P Odum	Oxford and IBH Publishing Co. New Delhi
3	Concepts of Ecology	R L Kotpal and N P Bali	Vishal Publishing Co. Jalandhar City
4	Concepts of Ecology	N Arumugam	Saras Publications, Nagercoil, Tamilnadu
5	Ecology and environment	P D Sharma	Rastogi publications, Meerut
6	Fundamentals of Environmental Biology	S Arora	Kalyani Publishers, New Delhi
7	Essentials of Ecology and Environmental Science	S V S Rana	PHI Learning Private Ltd. Delhi
8	Elements of Animal Ecology and Zoogeography	R Nagabhushanam	Emkay Publications, Delhi
9	Basics of Ecology	Nirmal Chandra Pradhan	Anmol Publications Pvt. Ltd, New Delhi
10	Fundamentals of Ecology	M C Dash	Tata Mc Graw Hill New Delhi
11	Concepts of Ecology	Edward J Kormonty	Pearson - Prentice Hall - Dorling, Kindorsley (India) Pvt. Ltd,Licencees in South Asia
12	Evolution: Process and Product	Edwrad O Dodson	Reiuhold Publishing Corporation, New York
13	Evolution	Ruth Moore	Time Incorported, New York
14	The origin of species by means of natural selection	Charles Darwin	Surjeet Publications, Delhi
15	Principles of organic evolution	T S Gopalkrishnari, Itta Sambasivaiah and A P Kamalakar Rao	Himalaya Publishing House, Mumbai
16	Introduction to Evolution	Paul Amos Moody	Kalyani Publishers, New Delhi
17	Environmental Economics: A text book	M Karpagam	Sterling Publishers Pvt. Ltd, New Delhi
18	A text book of Environmental Chemistry	A K de	Wiley Eastern Limited New Delhi
19	Wildlife wealth in India (Resources and Management)	Majupuria Trilok Chandra	Teepress Service, L.P Bangkok, Thailand

Paper Code: ZOODSEP 6.2A   **Paper Title:** Practicals-6A
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours:45   **Credits :**1

1. Study of threatened animals of India (Tiger, Lion, Single horned Rhinoceros, Musk deer, Gaur, Golden Langur, Lion tailed monkey)

2. Estimation of CO_2 from different water samples

3. Estimation of dissolved oxygen from different water samples

4. Estimation of total hardness

5. Study of Ecological Adaptations and Morphological peculiarities: Examples" Hermit crab, Draco, Stick insect, Puffer fish, Exocetus, Phrynosoma, Chameleon and Bat.

6. Marking of existing Project tiger areas and Biosphere reserves in Indian map

7. Spotting of the endangered animals conserved in protected areas of Karnataka state (using Karnataka map)

8. Marking of National parks in Karnataka map

9. Marking of Wildlife sanctuaries in Karnataka map

10. Visit to nearby locality or forest to study the ecosystem

Sixth Semester B.Sc. (Zoology)

Paper Code: ZOODSET 6.2B   **Paper Title:** Insect, Vectors and Diseases
Teaching Hours: 4 H / Week   **Marks:** Th-80+IA-20
Total hours:60   **Credits :**3

Unit I: **Hours 15**

Introduction to Insects: General Features of Insects, Morphological features, Head – Eyes, Types of antennae, Mouth parts w.r.t. feeding habits

Concept of Vectors: Brief introduction of Carrier and Vectors (mechanical and biological vector), Reservoirs, Host-vector relationship, Vectorial capacity, Adaptations as vectors, Host Specificity

Unit II: **Hours 15**

Insects as Vectors: Classification of insects up to orders, detailed features of orders with insects as vectors – Diptera, Siphonaptera, Siphunculata, Hemiptera

Dipteran as Disease Vectors : Dipterans as important insect vectors – Mosquitoes, Sand fly, Houseflies; Study of mosquito-borne diseases – Malaria, Dengue, Chikungunya, Viral encephalitis, Filariasis; Control of mosquitoes Study of sand fly-borne diseases – Visceral Leishmaniasis, Cutaneous Leishmaniasis, Phlebotomus fever; Control of Sand fly Study of house fly as important mechanical vector, Myiasis, Control of house fly

Unit III: **Hours 15**

Siphonaptera as Disease Vectors: Fleas as important insect vectors; Host-specificity, Study of Flea-borne diseases – Plague, Typhus fever; Control of fleas

Siphunculata as Disease Vectors: Human louse (Head, Body and Pubic louse) as important insect vectors; Study of louse-borne diseases –Typhus fever, Relapsing fever, Trench fever, Vagabond's disease, Phthiriasis; Control of human louse

Unit VI: **Hours 15**

Hempitera as Disease Vectors

Bugs as insect vectors; Blood-sucking bugs; Chagas disease, Bed bugs as

mechanical vectors, Control and prevention measures

Paper Code: ZOODSEP 6.2B   **Paper Title:** Practicals-6B
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 45   **Credits:** 1

1. Study of different kinds of mouth parts of insects

2. Study of following insect vectors through permanent slides/ photographs: *Aedes, Culex, Anopheles*, *Pediculus humanus capitis, Pediculus humanus corporis, Phithirus pubis, Xenopsylla cheopis, Cimex lectularius, Phlebotomus argentipes, Musca domestica,* through permanent slides/ Photographs

3. Study of different diseases transmitted by above insect vectors

Submission of a project report on any one of the insect vectors and disease transmitted

SUGGESTED READINGS

1. Imms, A.D. (1977). *A General Text Book of Entomology*. Chapman & Hall, UK

2. Chapman, R.F. (1998). *The Insects: Structure and Function.* IV Edition, Cambridge University Press, UK

3. Pedigo L.P. (2002). *Entomology and Pest Management.* Prentice Hall Publication

4. Mathews, G. (2011). *Integrated Vector Management: Controlling Vectors of Malaria and Other Insect Vector Borne Diseases*. Wiley-Blackwell

Paper Code: ZOOSEC 6.3   **Paper Title:** SERICULTURE
Teaching Hours: 3 H / Week   **Marks:** Th-40+IA-10
Total hours: 30   **Credits :**2

UNIT – 1   **Hours 15**

Introduction: Sericulture: Introduction and present status, Types of silkworms, Distribution and Races, Mulberry and non-mulberry Sericulture

Biology of Silkworm: Life cycle of *Bombyx mori,* Structure of silk gland and secretion of silk

Rearing of Silkworms and reeling of silk: *PART A***:** Selection of mulberry variety and establishment of mulberry garden, Rearing house and rearing appliances. Disinfectants: Formalin, bleaching powder

UNIT – 2

Rearing of Silkworms and reeling of silk: *PART B***:** Silkworm rearing technology: Early age and Late age rearing Types of mountages, Spinning, harvesting and storage of cocoons. Silkworm reeling techniques

Pests and Diseases: Pests of silkworm: Uzi fly and dermestid beetles, Pathogenesis of silkworm diseases: Protozoan, viral, fungal and bacterial, Control and prevention of pests and diseases

Entrepreneurship in Sericulture: Prospectus of Sericulture in India: Sericulture industry in different states, employment opportunities. Visit to various sericulture centres.

SUGGESTED READINGS

1. Handbook of Practical Sericulture: S.R. Ullal and M.N. Narasimhanna CSB, Bangalore

2. Appropriate Sericultural Techniques; Ed. M. S. Jolly, Director, CSR & TI, Mysore.

3. Handbook of Silkworm Rearing: Agriculture and Technical Manual-1, Fuzi Pub. Co. Ltd., Tokyo, Japan

4. Manual of Silkworm Egg Production; M. N. Narasimhanna, CSB, Bangalore

5. Silkworm Rearing; Wupang—Chun and Chen Da-Chung, Pub. By FAO, Rome

6. A Guide for Bivoltine Sericulture; K. Sengupta, Director, CSR & TI, Mysore

7. Improved Method of Rearing Young age silkworm; S. Krishnaswamy, reprinted CSB, Bangalore

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