CHILDREN'S EDUCATION SOCIETY (Regd.)
THE OXFORD COLLEGE OF ENGINEERING
(Recognised by the Govt. of Karnataka, Affiliated to Visvesvaraya Technological University, Belagavi.
Approved by A.I.C.T.E. New Delhi.
Recognised by UGC Under Section 2(f)
Bommanahalli, Hosur Road, Bangalore - 560 068.
Ph: 080-61754601/602, Fax: 080 - 25730551
E-mail: engprincipal@theoxford.edu Web: www.theoxfordengg.org

CROSSCUTTING ISSUES

CHILDREN'S EDUCATION SOCIETY (Regd.)
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Summary on Crosscutting Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

The Oxford College of Engineering in Bangalore has incorporated a variety of courses into its curriculum, some of which aim to improve professional competencies and others of which aim to instil general competencies such as social ethical values, human values, environmental sensitivity, and so on, resulting in students' holistic development. Ethics in education supports in educational system management and ensures that these behaviours contribute favourably to human well-being. The college has worked hard to provide value-based education to students in order to help them understand moral values and professional ethics, with the goal of strengthening values for a better citizen. Students in all engineering programmes are taught a variety of courses in order to instil and practise human values and professional ethics. Gender equality safeguards women and girls from harm. It is required for economic growth. To provide counselling to students, promote gender equity among students, and handle issues impacting the safety and security of female students, employees, and professors, the college has a Women's Grievance Cell and a Grievance Redressal Cell. To enhance awareness of environmental and sustainability issues, a variety of activities were organised for students from all programmes, including seminars, workshops, guest lectures, industry visits, and field excursions.

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Departmental wise - Course Outcome's (COs) with Cross-cutting Issues - Academic Year - 2021-2022

Department	Total Cos	Core Cos	Ethics	Gender	Human Values	Environment	Field Visit / Research / Internship / Project
CSE	230	212	6	7	13	4	24
CIVIL	315	256	4	7	13	14	21
ECE	259	217	8	6	6	4	18
Mechatronics	212	158	6	7	13	4	24
Biotechnology	242	172	12	7	13	10	28
ISE	213	170	6	5	9	11	12
EEE	357	318	3	3	8	15	10
Mech	307	234	8	9	18	8	30
AU	307	234	8	9	18	8	30
MBA	138	111	1	1	5	1	19
MCA	226	170	4	0	3	6	43
Total	**2806**	**2252**	**66**	**61**	**119**	**85**	**259**

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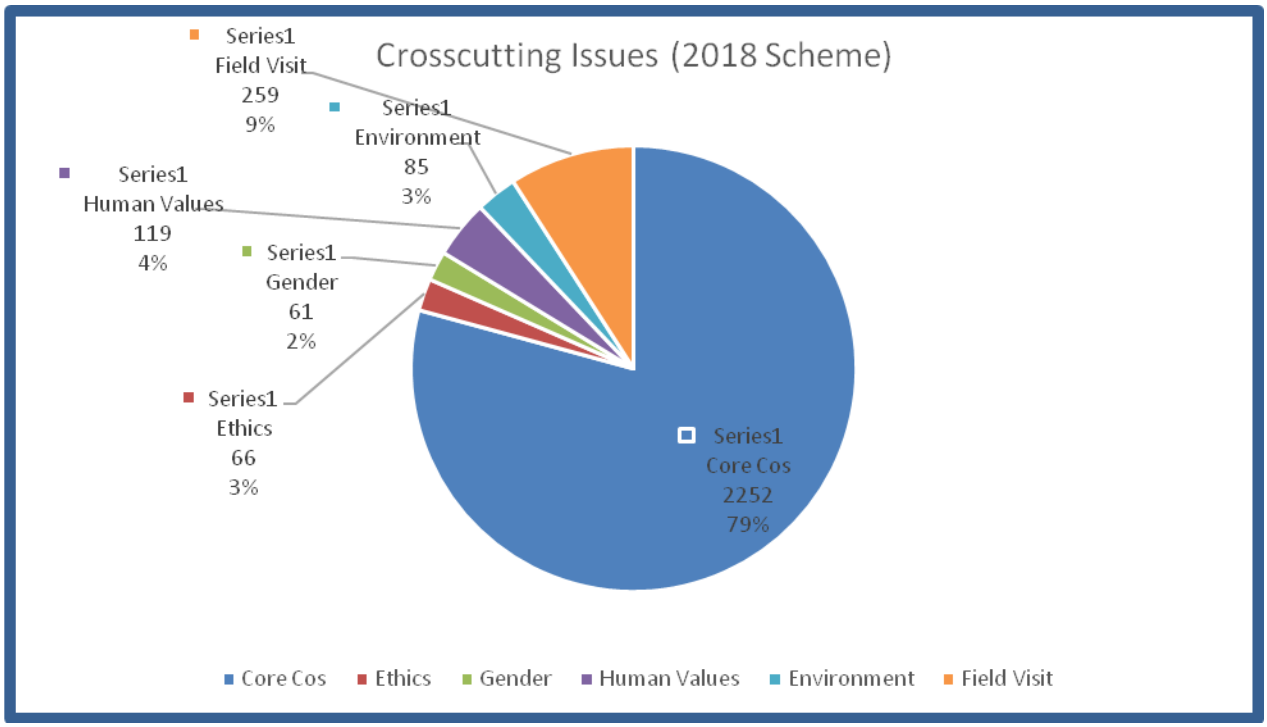
Total Cos	Core Cos	Ethics	Gender	Human Values	Environment	Field Visit Research Internship Project
2806	2252	66	61	119	85	259



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Institution integrates crosscutting issues – Curriculum CO-PO-PSO Mapping

S.No	Year /Semester	Name of the Program	Name of the Course	Course Code	Crosscutting Issues Integrated which address	PO, CO, PSO,Mapping
1	3rd Year / 5th sem	Mechanical Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO-7 CO-1 PSO-3
2	3rd Year / 6th sem	Mechanical Engineering	Renewable Energy sourses	18ME651	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2
3	4th Year / 8th sem	Mechanical Engineering	ENERGY ENGINEERING	18ME81	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2
4	3rd Year / 5th Semester	Department of Electrical and Electronics Engineering	ENVIRONMENTAL STUDIES	18CIV59	Environment and Sustainability	PO-7 CO-1 PSO-3
5	4th Year / 7th Semester	Department of Electrical and Electronics Engineering	INTRODUCTION TO ELECTRIC VEHICLES	18AU754	Environment and Sustainability	PO 3-CO1-PSO 3
6	3rd year/5th Semester	Biotechnology	Environmental Studies	18CIV59	Environment and Sustainability	PO-7 CO-1 PSO-3
7	4th year/7th Semester	Biotechnology	Bioethics , Biosafety & Ipr	18BT741	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2
8	4th year/8th Semester	Biotechnology	Regulatory Affairs in Biotech Industry	18BT81	Environment and Sustainability	PO-7,8,11,12 CO-3 PSO-1,2
9	3rd year /5th Semester	Department of Electronics & Communication Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO- 7, CO-1, PSO-3
10	3rd Year / 5th sem	Department of Mechanical Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO-7 CO-1 PSO-3
11	3rd Year / 6th sem	Department of Mechanical Engineering	Renewable Energy sourses	18ME651	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2

12	4th Year / 8th sem	Department of Mechanical Engineering	ENERGY ENGINEERING	18ME81	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2
13	3rd year/1st semester	Department of Civil Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO 7-CO1-PSO3
14	3rd year/2nd semester	Department of Civil Engineering	Conservation of Natural Resources	18CV656	Environment and Sustainability	PO 7-CO1-PSO3
15	3rd year/5th Semester	Department of Automobile Engineering	Environmental studies	18CIV59	Environment and Sustainability	PO 3 -CO1-PSO2
16	3rd Year / 5th Semester	Department of Computer Science & Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO 3 -CO1-PSO 2
17	3rd year/5th Sem	MECHATRONICS ENGINEERING	Environmental Studies	18CIV59	Environment and Sustainability	PO-4,6,7 CO-3,4 PSO-1,2
18	3rd Year / 5th Semester	Department of Information Science & Engineering	Environmental Studies	18CIV59	Environment and Sustainability	PO 3 -CO1-PSO 2
19	2st year / 3rd Semester	Master of Business Administration	ENTREPRENEURSHIP AND LEGAL ASPECTS	20MBA16	Environment and Sustainability	PO4,CO 2, PSO 2
20	2nd year/1st semester	Department of Civil Engineering	Constitution of India, Professional Ethics and Human Rights	18CPC39	Ethics	PO 8 - CO 5 - PSO 1
21	2nd year/2nd semester	Department of Civil Engineering	Constitution of India, Professional Ethics and Human Rights	18CPC39/49	Ethics	PO 8 - CO 5 - PSO 1
22	1st year / 1st Semester	Master of Business Administration	MARKETING MANAGEMENT	20MBA15	Ethics	PO3,CO 2, PSO 2
23	2st year / 4th Semester	Master of Business Administration	MARKETING RESEARCH & ANALYTICS	20MBAMM304	Ethics	PO3,CO 2, PSO 2
24	2st year / 4th Semester	Master of Business Administration	B2B MARKETING MANAGEMENT	20MBAMM401	Ethics	PO3,CO 2, PSO 2
25	2st year / 4th Semester	Master of Business Administration	ORGANISATIONAL LEADERSHIP	20MBAHR401	Ethics	PO3,CO 2, PSO 2
26	2nd year /3rd Semester/4th Semester	Department of Electronics & Communication Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39/49	Gender	PO 6-CO2-PSO3
27	2nd year/1st semester	Department of Civil Engineering	Constitution of India, Professional Ethics and Human Rights	18CPC39	Gender	PO 6-CO2-PSO3

28	2nd year/2nd semester	Department of Civil Engineering	Constitution of India, Professional Ethics and Human Rights	18CPC39/49	Gender	PO 6-CO2-PSO3
29	2nd Year / 3rd Semester	Department of Automobile Engineering	Constitution of India, professional ethics and cyber law (CPC)	18KAK28/39/49	Gender	PO 6 -CO 2-PSO 2
30	2nd Year / 4th Semester	Department of Automobile Engineering	Constitution of India, Professional Ethics and Human Rights	CPH39/49	Gender	PO 6 -CO 2-PSO 2
31	2nd Year/3rd Sem	Department of Computer Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Gender	PO 6 -CO2-PSO 2
32	2nd Year/4th Sem	Department of Computer Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Gender	PO 6-CO2-PSO 2
33	2nd Year/4th sem	MECHATRONICS ENGINEERING	Constitution of India & Professional Ethics	18CPC39/49	Gender	PO 8 - CO 5 - PSO 1
34	2nd Year/3rd Sem	Department of Information Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Gender	PO 6 -CO2-PSO 2
35	2nd Year/4th Sem	Department of Information Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Gender	PO 6-CO2-PSO 2
36	2st year / 4th Semester	Master of Business Administration	ORGANISATIONAL LEADERSHIP	20MBAHR401	Gender	PO3,CO 2, PSO 2
37	1st year / 1st Semester	Mechanical Engineering	INNOVATION and DESIGN THINKING	21IDT19/29	Human Values	PO 8 - CO 5 - PSO 1
38	4th year /8th Semester	Department of Electronics & Communication Engineering	Biomedical Signal Processing	18EC825	Human Values	PO- 3, CO-1, PSO-3
39	1st year / 1st Semester	Department of Mechanical Engineering	INNOVATION and DESIGN THINKING	21IDT19/29	Human Values	PO 8 - CO 5 - PSO 1
40	1st year / 1st Semester	Department of Civil Engineering	INNOVATION and DESIGN THINKING	21IDT19/29	Human Values	PO 8 - CO 5 - PSO 1
41	2nd Year/3rd Sem	Department of Computer Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Human Values	PO 8 -CO2-PSO 2
42	2nd Year/4th Sem	Department of Computer Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Human Values	PO 8 -CO2-PSO 2
43	2nd Year/3rd	Department of Information	Constitution of India, Professional Ethics and	18CPC39	Human Values	PO 8 -CO2-PSO 2

	Sem	Science & Engineering	Cyber Law			
44	2nd Year/4th Sem	Department of Information Science & Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Human Values	PO 8 -CO2-PSO 2
45	1st year / 1st Semester	Master of Business Administration	MANAGEMENT & ORGANIZATIONAL BEHAVIOUR	20MBA11	Human Values	PO3,CO 2, PSO 2
46	2st year / 4th Semester	Master of Business Administration	PERSONAL GROWTH AND INTERPERSONAL EFFECTIVENESS	20MBAHR402	Human Values	PO3,CO 2, PSO 2
47	2nd year/3rd semester	Mechanical Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Professional Ethics	PO- 8CO-5 PSO-2
48	2nd year/4th semester	Mechanical Engineering	Aadalitha Kannada	18KAK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
49	2nd year/4th semester	Mechanical Engineering	Vyavaharika Kannada	18KVK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
50	2nd Year / 3rd Semester	Department of Electrical and Electronics Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPH39	Professional Ethics	PO- 10, CO-1, PSO-3
51	2nd Year / 4th Semester	Department of Electrical and Electronics Engineering	Vyavaharika Kannada	18KVK49	Professional Ethics	PO- 10, CO-1, PSO-3
52	2nd Year / 4th Semester	Department of Electrical and Electronics Engineering	Aadalitha Kannada	18KAK49	Professional Ethics	PO- 8, CO-1, PSO-3
53	3rd Year / 5th Semester	Department of Electrical and Electronics Engineering	MANAGEMENT AND ENTREPRENEURSHIP	18EE51	Professional Ethics	PO 3-CO1-PSO 3
54	3rd Year / 6th Semester	Department of Electrical and Electronics Engineering	MINI PROJECT	18EEMP68	Professional Ethics	PO 8 -CO2-PSO 2
55	2nd year/3rd semester	Biotechnology	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Professional Ethics	PO- 8CO-5 PSO-2
56	2nd year/4th semester	Biotechnology	Aadalitha Kannada	18KAK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2

57	2nd year/4th semester	Biotechnology	Vyavaharika Kannada	18KVK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
58	3rd year/5th Semester	Biotechnology	Biobusiness& entrepreneurship	18BT51	Professional ethics	PO-6,8,11 CO-3 PSO-1
59	2nd year /3rd Semester/4th Semester	Department of Electronics & Communication Engineering	Aadalitha Kannada	18KAK39/49	Professional Ethics	PO- 10, CO-1, PSO-3
60	2nd year /3rd Semester/4th Semester	Department of Electronics & Communication Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39/49	Professional Ethics	PO- 8, CO-1, PSO-3
61	2nd year/3rd semester	Department of Mechanical Engineering	Constitution of India, Professional Ethics and Cyber Law	18CPC39	Professional Ethics	PO- 8CO-5 PSO-2
62	2nd year/4th semester	Department of Mechanical Engineering	Aadalitha Kannada	18KAK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
63	2nd year/4th semester	Department of Mechanical Engineering	Vyavaharika Kannada	18KVK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
64	2nd Year / 3rd Semester	Department of Automobile Engineering	Constitution of India, professional ethics and cyber law (CPC)	18KAK28/39/49	Professional Ethics	PO 6 -CO 2-PSO 2
65	2nd Year / 4th Semester	Department of Automobile Engineering	Constitution of India, Professional Ethics and Human Rights	CPH39/49	Professional Ethics	PO 6 -CO 2-PSO 2
66	1st Year / 1st Semester	Department Master of Computer Applications	Research Methodology & IPR	20MCA15	Professional Ethics	CO-1, PO-3,PSO-2
67	2nd year /3rd sem	Department of Computer Science & Engineering	Vyavaharika Kannada (Kannada for communication)/	18KVK39	Professional Ethics	PO- 8CO-5 PSO-2
68	2nd year/4th semester	Mechanical Engineering	Aadalitha Kannada	18KAK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
69	2nd year/4th semester	Mechanical Engineering	Vyavaharika Kannada	18KVK28/39/49	Professional Ethics	PO- 8CO-5 PSO-2
70	2nd Year/4th sem	MECHATRONICS ENGINEERING	Constitution of India & Professional Ethics	18CPC39/49	Professional ethics	PO 8 - CO 5 - PSO 1
71	3rd year/5th Sem	MECHATRONICS ENGINEERING	Technological InnovationManagement And Entrepreneurship	18MT51	Professional ethics	PO 8 - CO 5 - PSO 1

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Professional Ethics

Department of Civil Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV32	Strength of Materials	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV33	Fluid Mechanics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV34	Building Materials and Construction	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV35	Basic Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV36	Engineering Geology	Geology	3	0	--	03	40	60	100	3
7	PCC	18CVL37	Computer Aided Building Planning & Drawing	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL38	Building Materials Testing Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
			OR									
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
			OR									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

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Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT41	Complex Analysis, Probability And Statistical Methods	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV42	Analysis of Determinate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV43	Applied Hydraulics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV44	Concrete Technology	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV45	Advanced Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV46	Water Supply & Treatment Engineering	Civil Engg.	3	0	--	03	40	60	100	3
7	PCC	18CVL47	Engineering Geology Laboratory	Geology	--	2	2	03	40	60	100	2
8	PCC	18CVL48	Fluid Mechanics and Hydraulic Machines Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for Communication)/	HSMC	--	2	--	--	100	--	100	1
			OR									
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
			OR									
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

Educati

on (OBE) and Choice Based Credit System (CBCS)

SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code 18CPC39/49 CIE Marks 40

Teaching Hours/Week (L:T:P) (1:0:0) SEE Marks 60

Credits 01 Exam Hours 02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution: The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP)

and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive: Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions: Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions: Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics: Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws: Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber

Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes: On completion of this course, students will be able to,

- CO1: Have constitutional knowledge and legal literacy.
- CO2: Understand Engineering and Professional ethics and responsibilities of Engineers.
- CO3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Textbooks				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction to the Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

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					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques (Common to all Branches)	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18EE32	Electric Circuit Analysis	EEE	3	2	--	03	40	60	100	4
3	PCC	18EE33	Transformers and Generators	EEE	3	0	--	03	40	60	100	3
4	PCC	18 EE 34	Analog Electronic Circuits	EEE	2	2	--	03	40	60	100	3
5	PCC	18 EE 35	Digital System Design	EEE	3	0	--	03	40	60	100	3
6	PCC	18 EE 36	Electrical and Electronic Measurements	EEE	3	0	--	03	40	60	100	3
7	PCC	18 EE L37	Electrical Machines Laboratory -1	EEE	--	2	2	03	40	60	100	2
8	PCC	18 EE L38	Electronics Laboratory	EEE	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	16 OR 17	10 OR 12	04	24 OR 26	420 OR 360	480 OR 540	900	24

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CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)			
Course Code	**18CPC39/49**	CIE Marks	40
Teaching Hours/Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:

Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws:

Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

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III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques (Common to all Branches)	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18EE32	Electric Circuit Analysis	EEE	3	2	--	03	40	60	100	4
3	PCC	18EE33	Transformers and Generators	EEE	3	0	--	03	40	60	100	3
4	PCC	18 EE 34	Analog Electronic Circuits	EEE	2	2	--	03	40	60	100	3
5	PCC	18 EE 35	Digital System Design	EEE	3	0	--	03	40	60	100	3
6	PCC	18 EE 36	Electrical and Electronic Measurements	EEE	3	0	--	03	40	60	100	3
7	PCC	18 EE L37	Electrical Machines Laboratory -1	EEE	--	2	2	03	40	60	100	2
8	PCC	18 EE L38	Electronics Laboratory	EEE	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**16**	**10**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					17	**12**		**26**	**360**	**540**		

B. E. (Common to all Programmes)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER –II & III/IV

Vyavaharika Kannada

Course Code	**18KVK28/39/49**	CIE Marks	100
Teaching Hours/Week (L:T:P)	(0:2:0)		
Credits	01		

Course Learning Objectives:
The course will enable the students to understand Kannada and communicate in Kannada language.

Table of Contents:

Chapter - 1: Vyavaharika kannada – Parichaya (Introduction to Vyavaharika Kannada).
Chapter - 2: Kannada Aksharamale haagu uchcharane (Kannada Alpabets and Pronunciation).
Chapter - 3: Sambhashanegaagi Kannada Padagalu (Kannada Vocabulary for Communication).
Chapter - 4: Kannada Grammar in Conversations (Sambhashaneyalli Kannada Vyakarana).
Chapter - 5: Activities in Kannada.

Course Outcomes:
At the end of the course, the student will be able to understand Kannada and communicate in Kannada language.

ಪರೀಕ್ಷೆಯ ವಿಧಾನ : ನಿರಂತರ ಆಂತರಿಕ ಮೌಲ್ಯಮಾಪನ – [illegible] ([illegible]):

ಕಾಲೇಜು ಮಟ್ಟದಲ್ಲಿಯೆ ಆಂತರಿಕ ಪರೀಕ್ಷೆಯನ್ನು 100 ಅಂಕಗಳಿಗೆ ವಿಶ್ವವಿದ್ಯಾಲಯದ ನಿಯಮಗಳು ಮತ್ತು ನಿರ್ದೇಶನದಂತೆ ನಡೆಸತಕ್ಕದ್ದು.

[illegible] (ಪಠ್ಯಪುಸ್ತಕ): ವ್ಯಾವಹಾರಿಕ ಕನ್ನಡ ಪಠ್ಯ ಪುಸ್ತಕ ([illegible])

ಸಂಪಾದಕರು
ಡಾ. ಎಲ್. ತಿಮ್ಮೇಶ
ಪ್ರೊ. ವಿ. ಕೇಶವಮೂರ್ತಿ
ಪ್ರಕಟಣೆ : ಪ್ರಸಾರಾಂಗ, ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಬೆಳಗಾವಿ.

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B. E. (Common to all Programmes)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)
SEMESTER –II / III / IV

Aadalitha Kannada

Course Code	18KAK28/39/49	CIE Marks	100
Teaching Hours/Week (L:T:P)	(0:2:0)		
Credits	01		

ಆಡಳಿತ ಕನ್ನಡ ಕಲಿಕೆಯ ಉದ್ದೇಶಗಳು:

- ಪದವಿ ವಿದ್ಯಾರ್ಥಿಗಳಾಗಿರುವುದರಿಂದ ಆಡಳಿತ ಕನ್ನಡದ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.
- ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಯ ವ್ಯಾಕರಣದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು.
- ಕನ್ನಡ ಭಾಷಾ ರಚನೆಯಲ್ಲಿನ ನಿಯಮುಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.
- ಕನ್ನಡ ಭಾಷಾ ಬರಹದಲ್ಲಿ ಕಂಡುಬರುವ ದೋಷಗಳು ಹಾಗೂ ಅವುಗಳ ನಿವಾರಣೆ. ಮತ್ತು ಲೇಖನ ಚಿಹ್ನೆಗಳನ್ನು ಪರಿಚಯಿಸುವುದು.
- ಸಾಮಾನ್ಯ ಅರ್ಜಿಗಳು, ಸರ್ಕಾರಿ ಮತ್ತು ಅರೆ ಸರ್ಕಾರಿ ಪತ್ರವ್ಯವಹಾರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡಿಸುವುದು.
- ಭಾಷಾಂತರ ಮತ್ತು ಪ್ರಬಂಧ ರಚನೆ ಬಗ್ಗೆ ಆಸಕ್ತಿ ಮೂಡಿಸುವುದು.
- ಕನ್ನಡ ಭಾಷಾಭ್ಯಾಸ ಮತ್ತು ಸಾಮಾನ್ಯ ಕನ್ನಡ ಹಾಗೂ ಆಡಳಿತ ಕನ್ನಡದ ಪದಗಳ ಪರಿಚಯ ಮಾಡಿಕೊಡುವುದು.

ಪರಿವಿಡಿ (ಪಠ್ಯಪುಸ್ತಕದಲ್ಲಿರುವ ವಿಷಯಗಳ ಪಟ್ಟಿ)

ಅಧ್ಯಾಯ – 1 ಕನ್ನಡಭಾಷೆ – ಸಂಕ್ಷಿಪ್ತ ವಿವರಣೆ.
ಅಧ್ಯಾಯ – 2 ಭಾಷಾ ಪ್ರಯೋಗದಲ್ಲಾಗುವ ದೋಷದೋಷಗಳು ಮತ್ತು ಅವುಗಳ ನಿವಾರಣೆ.
ಅಧ್ಯಾಯ – 3 ಲೇಖನ ಚಿಹ್ನೆಗಳು ಮತ್ತು ಅವುಗಳ ಉಪಯೋಗ.
ಅಧ್ಯಾಯ – 4 ಪತ್ರ ವ್ಯವಹಾರ.
ಅಧ್ಯಾಯ – 5 ಆಡಳಿತ ಪತ್ರಗಳು.
ಅಧ್ಯಾಯ – 6 ಸರ್ಕಾರದ ಆದೇಶ ಪತ್ರಗಳು.
ಅಧ್ಯಾಯ – 7 ಸಂಕ್ಷಿಪ್ತ ಪ್ರಬಂಧ ರಚನೆ (ಪ್ರಿಸೈಸ್ ರೈಟಿಂಗ್), ಪ್ರಬಂಧ ಮತ್ತು ಭಾಷಾಂತರ.
ಅಧ್ಯಾಯ – 8 ಕನ್ನಡ ಪದ್ಯಸಂಗ್ರಹ.
ಅಧ್ಯಾಯ – 9 ಕಂಪ್ಯೂಟರ್ ಹಾಗೂ ಮಾಹಿತಿ ತಂತ್ರಜ್ಞಾನ.
ಅಧ್ಯಾಯ – 10 ಪಾರಿಭಾಷಿಕ ಆಡಳಿತ ಕನ್ನಡ ಪದಗಳು ಮತ್ತು ತಾಂತ್ರಿಕ/ ಕಂಪ್ಯೂಟರ್ ಪಾರಿಭಾಷಿಕ ಪದಗಳು.

ಆಡಳಿತ ಕನ್ನಡ ಕಲಿಕೆಯ ಫಲಿತಾಂಶಗಳು:

- ಆಡಳಿತ ಭಾಷೆ ಕನ್ನಡದ ಪರಿಚಯವಾಗುತ್ತದೆ.
- ವಿದ್ಯಾರ್ಥಿಗಳಲ್ಲಿ ಕನ್ನಡ ಭಾಷೆಯ ವ್ಯಾಕರಣದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡುತ್ತದೆ.
- ಕನ್ನಡ ಭಾಷಾ ರಚನೆಯಲ್ಲಿನ ನಿಯಮುಗಳು ಮತ್ತು ಲೇಖನ ಚಿಹ್ನೆಗಳು ಪರಿಚಯಿಸಲ್ಪಡುತ್ತದೆ.
- ಸಾಮಾನ್ಯ ಅರ್ಜಿಗಳು, ಸರ್ಕಾರಿ ಮತ್ತು ಅರೆ ಸರ್ಕಾರಿ ಪತ್ರವ್ಯವಹಾರದ ಬಗ್ಗೆ ಅರಿವು ಮೂಡುತ್ತದೆ.
- ಭಾಷಾಂತರ ಮತ್ತು ಪ್ರಬಂಧ ರಚನೆ ಬಗ್ಗೆ ಆಸಕ್ತಿ ಮೂಡುತ್ತದೆ.
- ಕನ್ನಡ ಭಾಷಾಭ್ಯಾಸ ಮತ್ತು ಸಾಮಾನ್ಯ ಕನ್ನಡ ಹಾಗೂ ಆಡಳಿತ ಕನ್ನಡದ ಪದಗಳು ಪರಿಚಯಿಸಲ್ಪಡುತ್ತದೆ.

ಪರೀಕ್ಷೆಯ ವಿಧಾನ : ನಿರಂತರ ಆಂತರಿಕ ಮೌಲ್ಯಮಾಪನ – ಆಧಾರ (ಆಡಳಿತಾತ್ಮಕ ಪರಿವೀಕ್ಷಣೆಯಲ್ಲಿ ಇಟ್ಟುಕೊಳ್ಳಲಾಗುವುದು):
ಕಾರ್ಯಾಲಯ ಮತ್ತುದರ್ಶಿಯ ಆಂತರಿಕ ಪರೀಕ್ಷೆಯನ್ನು 100 ಅಂಕಗಳಿಗೆ ವಿಶ್ವವಿದ್ಯಾಲಯದ ನಿಯಮುಗಳು ಮತ್ತು ನಿರ್ದೇಶನದಂತೆ ನಡೆಸಬೇಕಾಗುವುದು.

ಪಠ್ಯಪುಸ್ತಕ : ಆಡಳಿತ ಕನ್ನಡ ಪಠ್ಯ ಪುಸ್ತಕ (ಬೆಂಗಳೂರಿನಲ್ಲಿ ಮಾತ್ರ ಲಭ್ಯವಿರುವಂತೆ)
ಸಂಯೋಜಕರು
ಡಾ. ಎಲ್. ಶಿವಮೂರ್ತಿ
ಪ್ರೊ. ವಿ. ಕೇಶವಮೂರ್ತಿ

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V SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18 EE51	Management and Entrepreneurship	EEE	3	0	--	03	40	60	100	3
2	PCC	18 EE52	Microcontroller	EEE	3	2	--	03	40	60	100	4
3	PCC	18 EE53	Power Electronics	EEE	3	2	--	03	40	60	100	4
4	PCC	18 EE54	Signals and Systems	EEE	3	--	--	03	40	60	100	3
5	PCC	18 EE55	Electrical Machine Design	EEE	3	--	--	03	40	60	100	3
6	PCC	18 EE56	High Voltage Engineering	EEE	3	--	--	03	40	60	100	3
7	PCC	18 EEL57	Microcontroller Laboratory	EEE	--	2	2	03	40	60	100	2
8	PCC	18 EEL58	Power Electronics Laboratory	EEE	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	Civil/ Environmental [Paper setting: Civil Engineering Board]	1	--	--	02	40	60	100	1
				TOTAL	18	10	4	26	360	540	900	25

SEMESTER - V

MANAGEMENT AND ENTREPRENEURSHIP

Course Code	18EE51	CIE Marks	40
Number of Lecture Hours/Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Learning Objectives:

- To introduce the field of management, task of the manager, importance of planning and types of planning, staff recruitment and selection process.
- To discuss the ways in which work is allocation, structure of organizations, modes of communication and importance of managerial control in business.
- To explain need of coordination between the manager and staff, the social responsibility of business and leadership.
- To explain the role and importance of the entrepreneur in economic development and the concepts of entrepreneurship.
- To explain various types of entrepreneurs and their functions, the myths of entrepreneurship and the factors required for capacity building for entrepreneurs
- To discuss the importance of Small Scale Industries and the related terms and problems involved.
- To discuss methods for generating new business ideas and business opportunities in India and the importance of business plan.
- To introduce the concepts of project management and discuss capitol building process.
- To explain project feasibility study and project appraisal and discuss project financing
- To discuss about different institutions at state and central levels supporting business enterprises. ■

Module-1Management0 hours

Management: Definition, Importance – Nature and Characteristics of Management, Management Functions, Roles of Manager, Levels of Management, Managerial Skills, Management & Administration, Management as a Science, Art &Profession.

Planning: Nature, Importance and Purpose Of Planning, Types of Plans, Steps in Planning, Limitations of Planning, Decision Making – Meaning, Types of Decisions- Steps in Decision Making.

Module-2Organizing and Staffing0 hours

Organizing and Staffing: Meaning, Nature and Characteristics of Organization – Process of Organization, Principles of Organization, Departmentalization, Committees – meaning, Types of Committees, Centralization Versus Decentralization of Authority and Responsibility, Span of Control (Definition only), Nature and Importance of Staffing, Process of Selection and Recruitment.

Directing and Controlling: Meaning and Nature of Directing-Leadership Styles, Motivation Theories Communication – Meaning and Importance, Coordination- Meaning and Importance, Techniques of Coordination. Controlling – Meaning, Steps in Controlling.

Module-3Social Responsibilities of Business0 hours

Social Responsibilities of Business: Meaning of Social Responsibility, Social Responsibilities of Business towards Different Groups, Social Audit, Business Ethics and Corporate Governance.

Entrepreneurship: Definition of Entrepreneur, Importance of Entrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Intrapreneur – An Emerging Class, Comparison between Entrepreneur and Intrapreneur, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacity building for

Module-4Modern Small Business Enterprises0 hours

Modern Small Business Enterprises: Role of Small Scale Industries, Concepts and definitions of SSI Enterprises, Government policy and development of the Small Scale sector in India, Growth and Performance of Small Scale Industries in India, Sickness in SSI sector, Problems for Small Scale Industries, Impact of Globalization on SSI, Impact of WTO/GATT on SSIs, Ancillary Industry and Tiny Industry (Definition only).

Institutional Support for Business Enterprises: Introduction, Policies & Schemes of Central– Level Institutions, State-Level Institutions.

Module-5Project Management0 hours

Project Management: Meaning of Project, Project Objectives & Characteristics, Project Identification- Meaning & Importance; Project Life Cycle, Project Scheduling, Capital Budgeting, Generatin g an Investment Project Proposal, Project Report-Need and Significance of Report, Contents, Formulation, Project Analysis-Market, Technical, Financial, Economic, Ecological, Project Evaluation and Selection, Project Financing, Project Implementation Phase, Human & Administrative aspects of Project Management, Prerequisites for Successful Project Implementation.

New Control Techniques- PERT and CPM, Steps involved in developing the network, Uses and Limitations of PERT and CPM .

Course Outcomes:

At the end of the course the student will be able to:

- Explain the field of management, task of the manager, planning and steps in decision making.
- Discuss the structure of organization, importance of staffing, leadership styles, modes of communication, techniques of coordination and importance of managerial control in business
- Explain the concepts of entrepreneurship and a businessman's social responsibilities towards different groups.
- Show an understanding of role of SSI's in the development of country and state/central level institutions/agencies supporting business enterprises.
- Discuss the concepts of project management, capital budgeting, project feasibility studies, need for project report and new control techniques.

Question paper pattern:

- The question paper will have ten questions.
- Each full question is for 20 marks.
- There will be 2 full questions (with a maximum of three sub questions in one full question) from each module.
- Each full question with sub questions will cover the contents under a module.
- Students will have to answer 5 full questions, selecting one full question from each module.

Text Books

1 Principles of Management P.C.Tripathi, P.N.Reddy McGraw Hill, 6thEdition, 2017
2 Entrepreneurship Development And Small Business Enterprises Poornima M.Charanthimath Pearson 2nd Edition,2014

Department of Electronics & Communication Engineering

CommunicativeEnglish			
CourseCode	**21EGH18**	CIEMarks	50
TeachingHours/Week(L:T:P:S)	2:0:0Hours	SEEMarks	50
TotalHoursofPedagogy	02Hours/Week	TotalMarks	100
Credits	02	ExamHours	02hours

Courseobjectives:

Thecourse(21EGH18)will enablethestudents,

- ToknowaboutFundamentalsofCommunicativeEnglishandCommunicationSkillsingeneral.
- Totraintoidentifythenuancesofphonetics,intonationandenhancepronunciationskillsforbettercom municationskills.
- ToimpartbasicEnglishgrammarand essentialsof importantlanguageskills.
- ToenhanceEnglishvocabularyandlanguageproficiencyforbettercommunicationskills.
- TolearnaboutTechniquesofInformationTransferthroughpresentation.

Language Lab : To augment LSRW, grammar, and Vocabulary skills (Listening, Speaking, Reading, Writing andGrammar,Vocabulary)throughtests,activities,exercisesetc.,comprehensiveweb-basedlearningandassessmentsystemscan bereferredaspertheAICTE/VTUguidelines.

Teaching-LearningProcess(GeneralInstructions)

ThesearesampleStrategies,whichteachercanuseto acceleratetheattainmentof thevariouscourseoutcomes.

1. Teachersshalladoptsuitablepedagogyforeffectiveteaching-learningprocess.Thepedagogyshallinvolvethe combination of different methodologies which suit modern technological tools and software'sto meetthepresentrequirementsoftheGlobal employment market.
   (i) Directinstructionalmethod(Low/OldTechnology),
   (ii) Flippedclassrooms(High/advancedTechnologicaltools),
   (iii) Blendedlearning(combinationofboth),
   (iv) Enquiryandevaluationbasedlearning,
   (v) Personalizedlearning,
   (vi) Problemsbasedlearningthroughdiscussion,
   (vii) Followingthemethodofexpeditionary learningToolsandtechniques,
   (viii) UseofaudiovisualmethodsthroughlanguageLabsin teachingof ofLSRWskills.
2. Apart from conventional lecture methods, various types of innovative teaching techniques through videos,animationfilmsmaybeadaptedsothat thedeliveredlessoncanprogressthestudentsIntheoreticalappliedandpracticalskillsinteachingofcommunicativ eskillsingeneral.

Module-1

IntroductiontoCommunicativeEnglish:

Introduction, Language as a Tool, Fundamentals of Communicative English, Process of Communication, Barriers toEffectiveCommunicativeEnglish,Different stylesandlevelsinCommunicativeEnglish(Communication Channels).Interpersonal and Intrapersonal Communication Skills, How to improve and Develop Interpersonal andIntrapersonalCommunicationSkills.

Teaching-LearningProcess	Chalkandtalkmethod,Videos,PowerPointpresentationtoteachCommunicationskills(LSRWSkills),Creating real time stations in classroom discussions, Giving activities and assignments(ConnectingCampus&communitywithcompaniesrealtimesituations).

Module-2

IntroductiontoPhonetics:

Introduction, Phonetic Transcription, English Pronunciation, Pronunciation Guidelines Related to consonants andvowels,SoundsMispronounced,SilentandNon-silent Letters,SyllablesandStructure,WordAccentandStressShift, –RulesforWordAccent,Intonation–purposesofintonation, SpellingRulesandWordsoftenMisspelt– Exercisesonit.CommonErrors in Pronunciation.

Teaching - Learning Process	Chalkandtalkmethod,Videos,PowerPointpresentationandAnimationvideostoteachphoneticsinPracticalmethod,creatingrealtimestationsinclassroomdiscussions,Givingactivitiesand assignments(ConnectingCampus&community withcompaniesrealtimesituations).

Module-3

BasicEnglishCommunicativeGrammarandVocabularyPART-I:

Grammar:BasicEnglish GrammarandPartsofSpeech- Nouns,Pronouns,Adjectives,Verbs,Adverbs,Conjunctions,Articlesand Preposition.Preposition,kindsofPrepositionandPrepositionsoftenConfused.Articles:UseofArticles – IndefiniteandDefiniteArticles,Pronunciationof'*The*',wordsending'*age'*,somepluralforms.IntroductiontoVocabulary,All TypesofVocabulary–Exercisesonit.

Teaching-LearningProcess	Chalkandtalkmethod,Videos,PowerPointpresentationtoteachGrammar,Animationvideoson communication and language skills,creating real-time stations in classroom discussions, Givingactivitiesandassignments(ConnectingCampus&community withcompaniesrealtimesituations).

Module-4

BasicEnglishCommunicativeGrammarandVocabularyPART-II:

Question Tags, Question Tags for Assertive Sentences (Statements) – Some Exceptions in Question Tags andExercises, One Word Substitutes and Exercises. Strong and Weak forms of words, Words formation - Prefixes andSuffixes(Vocabulary),ContractionsandAbbreviations.WordPairs(MinimalPairs)– Exercises,TenseandTypesoftenses,TheSequenceof Tenses(Rulesinuse ofTenses)andExercisesonit.

Teaching-LearningProcess	Chalk and talk method,PowerPoint presentation to teach Grammar and phonetics, Animationvideoson communicationandlanguageskills,creatingrealtimestationsinclassroomdiscussions,Givingactivitiesandassignments(ConnectingCampus &communitywithcompanies realtime situations). To teach Professional Ethics in the Form of Communication

Module-5

CommunicationSkillsforEmployment:

Information Transfer: Oral Presentation -Examples and Practice. Extempore / Public Speaking, Differencebetween Extempore / Public Speaking, Communication Guidelines for Practice.Mother Tongue Influence (MTI) – SouthIndianSpeakers,VariousTechniques forNeutralizationofMotherTongueInfluence– Exercises.ReadingandListeningComprehensions–Exercises.

Teaching - Learning Process	Chalk and talk method,Videos, PowerPoint presentation to teach Grammar and phonetics,Animation videos on communication and language skills,creating real time stations in classroomdiscussions,Givingactivitiesandassignments(ConnectingCampus&communitywithcompanies realtimesituations).

Courseoutcome(Course SkillSet)

Attheend ofthecourse(21EGH18)thestudentwill beableto:

1. UnderstandandapplytheFundamentalsofCommunicationSkillsintheir communicationskills and could be applicable for professional ethics
2. Identifythenuancesof phonetics,intonationandenhancepronunciationskills.
3. ToimpartbasicEnglishgrammarandessentialsoflanguageskillsasperpresentrequirement.
4. Understandanduse alltypesofEnglishvocabularyandlanguage proficiency.
5. AdopttheTechniquesofInformationTransferthroughpresentation.

ProfessionalWritingSkillsinEnglish

CourseCode	**21EGH28**	CIEMarks	50
TeachingHours/Week(L:T:P:S)	2:0:0	SEEMarks	50
TotalHoursofPedagogy	02Hours/Week	TotalMarks	100
Credits	02	ExamHours	2hour

Courseobjectives:

Thecourse(21EGH28) will enablethestudents,

- ToIdentifytheCommonErrorsinWritingandSpeakingofEnglish.
- ToAchievebetterTechnicalwritingandPresentationskillsforemployment.
- ToreadTechnicalproposalsproperlyandmakethemtoWritegoodtechnicalreports.
- AcquireEmploymentandWorkplacecommunicationskills.
- TolearnaboutTequniqes ofInformationTransferthroughpresentationindifferentlevel.

LanguageLab: ToaugmentLSRW,grammarandVocabularyskills(Listening,Speaking,Reading,

Writing and Grammar, Vocabulary) through tests, activities, exercises etc., comprehensive web-based learning andassessment systemscanbe referredasper theAICTE/VTUguidelines.

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Teaching-LearningProcess(GeneralInstructions)

ThesearesampleStrategies,whichteachercanusetoacceleratetheattainmentofthevariouscourseoutcomes.

- ✓ Teachers shall adopt suitable pedagogy for effective teaching - learning process. The pedagogy shallinvolve the combination of different methodologies which suit modern technological tools and software'stomeetthepresentrequirementsoftheGlobalemploymentmarket.
  (i) Directinstructionalmethod(Low/OldTechnology),
  (ii) Flippedclassrooms(High/advancedTechnologicaltools),
  (iii) Blendedlearning(combinationofboth),
  (iv) Enquiryandevaluationbasedlearning,
  (v) Personalizedlearning,
  (vi) Problemsbasedlearningthroughdiscussion,
  (vii) FollowingthemethodofexpeditionarylearningToolsandtechniques,
  (viii) UseofaudiovisualmethodsthroughlanguageLabs inteachingofofLSRWskills.
- ✓ Apartfromconventionallecturemethods,varioustypesofinnovativeteachingtechniquesthroughvideos,animation films may be adapted so that the delivered lesson can progress the students In theoreticalappliedandpracticalskillsinteaching ofcommunicative skillsingeneral.

Module-1

IdentifyingCommonErrorsinWritingandSpeakingEnglish:

- Advanced English Grammar for Professionals with exercises, Common errors identification in parts ofspeech, Use of verbs and phrasal verbs, Auxiliary verbs and their forms, Subject Verb Agreement (ConcordRuleswithExercises).
- Common errors in Subject-verb agreement, Noun-pronoun agreement, Sequence of Tensesand errorsidentification in Tenses. Advanced English Vocabulary and its types with exercises – Verbal Analogies,WordsConfused/Misused.

Teaching - LearningProcess	Chalk and talk method, Power Point presentation to teach Communication skills (LSRW Skills),Creatingrealtimestationsinclassroomdiscussions,Givingactivitiesandassignments(Connecting Campus&communitywithcompaniesrealtimesituations).

Module-2

NatureandStyleofsensiblewriting:

- Organizing Principles of Paragraphs in Documents, WritingIntroduction and Conclusion, Importance ofProper Punctuation, The Art of Condensation (Precise writing) and Techniques in Essay writing, CommonErrorsduetoIndianisminEnglishCommunication,CreatingCoherenceandCohesion,Sentencearrangementsexercises,PracticeofSentenceCorrectionsactivities.ImportanceofSummarisingandParaphrasing.
- Misplacedmodifiers,Contractions,Collocations,WordOrder,ErrorsduetotheConfusionofwords, CommonerrorsintheuseofIdiomsandphrases,Gender,Singular&Plural.Redundancies&Clichés.

Teaching-Learning Process	Chalk and talk method,PowerPoint presentation and Animation videos to teach phonetics inPracticalmethod,creatingrealtimestationsinclassroomdiscussions,Givingactivitiesand assignments(ConnectingCampus&communitywithcompaniesrealtimesituations).

Module-3

TechnicalReadingandWritingPractices:

- ReadingProcessandReadingStrategies,IntroductiontoTechnicalwritingprocess,Understanding of writing process, Effective TechnicalReading and Writing Practices , Introduction toTechnicalReportswriting, Significanceof Reports, TypesofReports.
- Introduction to Technical Proposals Writing, Types of Technical Proposals, Characteristics of TechnicalProposals.ScientificWritingProcess.
- Grammar – Voice and Speech (Active and Passive Voices) and Reported Speech, Spotting Error Exercises,SentenceImprovement Exercises,ClozeTest andThemeDetectionExercises.

Teaching-Learning Process	Chalk and talk method,Power Point presentation to teach Grammar, Animation videos oncommunicationandlanguageskills,creatingrealtimestationsinclassroomdiscussions,Giving activitiesandassignments(ConnectingCampus&communitywithcompaniesrealtimesituations).

Module-4

ProfessionalCommunicationforEmployment:

- The Listening Comprehension, Importance of Listening Comprehension, Types of Listening, UnderstandingandInterpreting,ListeningBarriers,ImprovingListeningSkills.Attributesofagoodandpoorlistener.
- ReadingSkillsandReadingComprehension,ActiveandPassiveReading,Tipsforeffectivereading.
- Preparing for Job Application, Components of a Formal Letter, Formats and Types of official, employment,Business Letters, Resume vs Bio Data, Profile, CV and others, Types of resume, Writing effective resumeforemployment,ModelLetterofApplication(CoverLetter)withResume,Emails,BlogWriting,Memos (Types ofMemos)andotherrecentcommunicationtypes.

Teaching-Learning Process	Chalk and talk method,PowerPoint presentation to teach Grammar and phonetics, Animationvideos on communication and language skills, creating real time stations in classroom discussions,Givingactivitiesandassignments (ConnectingCampus&communitywithcompaniesrealtime situations) for Professional Skills & Ethics Improvement

Module-5

ProfessionalCommunicationatWorkplace:

- GroupDiscussions–Importance,Characteristics,StrategiesofaGroupDiscussions.GroupDiscussions is a Tool for Selection. Employment/ Job Interviews - Importance, Characteristics,Strategies of a Employment/ Job Interviews. Intra and Interpersonal Communication Skills -Importance, Characteristics, Strategies of a Intra and Interpersonal Communication Skills. Non-VerbalCommunicationSkills (BodyLanguage)anditsimportanceinGDandPI/JI/EI.
- PresentationskillsandFormalPresentationsbyStudents-Importance,Characteristics,StrategiesofPresentationSkills.DialoguesinVariousSituations(Activity basedPractical SessionsinclassbyStudents).

Teaching-LearningProcess	Chalk and talk method,Power Point presentation to teach Grammar and phonetics, Animationvideos on communication and language skills, creating real time stations in classroom discussions,Givingactivitiesandassignments (ConnectingCampus&communitywithcompaniesrealtime situations).

Courseoutcome(CourseSkillSet)

Attheendofthecourse(21EGH28)thestudentwill beable:

1. TounderstandandidentifytheCommonErrorsinWritingandSpeaking.
2. ToAchievebetterTechnicalwritingandPresentationskills.
3. ToreadTechnicalproposalsproperlyandmakethemtoWritegoodtechnicalreports.
4. AcquireEmploymentandWorkplacecommunicationskills.
5. TolearnaboutTechniquesofInformationTransferthroughpresentationindifferentlevel.

AssessmentDetails(bothCIEandSEE)

Continuous internal evaluation (CIE) needs to be conducted for 50 marks like Engineering courses. TheweightageofContinuousInternalEvaluation(CIE)is50%andforSemesterEndExam(SEE)is50%.Thestudent has to obtain a minimum of 40% of maximum marks in CIE and 35% of maximum marks in SEEto pass. MCQ Pattern (Multiple Choice Questions)Semester End Exam (SEE) is conducted for 50 marks(120minutes duration). Based onthisgradingwillbe awarded.

ContinuousInternalEvaluation(CIE):

ThreeUnitTestseachof**20Marks(duration01hour**)

1. Firsttest attheendof5thweekofthesemester
2. Secondtestatthe endofthe10thweekofthesemester
3. Thirdtestattheendofthe15thweekofthesemester

AllthetestsarepreferredsimilartoSEEpattern;however,theteachermayfollowtestpatternsimilarto other theorycourses of Engineering

Twoassignmentseachof**10Marks**

4. Firstassignmentattheendof4th weekofthesemester
5. Secondassignmentatthe endof9th weekofthe semester

Reportwriting/Groupdiscussion/Seminaranyoneofthreesuitablyplannedtoattainthe COsandP Osfor**20Marks** (**duration01 hours**)

6. Atthe endofthe13th weekofthesemester

Thesumofthreetests,twoassignments,andquiz/seminar/groupdiscussionwillbeoutof100marksa ndwillbe**scaled downto50marks**

CIE methods /question paper is designed to attain the different levels of Bloom's taxonomy aspertheoutcomedefinedforthecourse.

SemesterEndExamination(SEE):

SEE paper will be set for 100 questions of each of 01 marks. The pattern of the question paper isMCQ. The time allotted for SEE is 120 minutes**.**Marks scored are scaled down to 50 Marks.*(Time duration may be made 90 minutes to train the students for engineering / non-engineeringcompetitiveexamination)*

1. Professional Writing Skills in English has become a very important component in all engineeringand non-engineering competitive examinations. In exams like GRE,TOEFL, IELTS and GATE exam,all state and Central Government recruitment examinations,placement tests and otherExaminations, so the pattern of question paper,in general,will be in multiple-choice question(MCQ)Pattern.So,to meet the relevance of the recruitment requirement of our Engineeringstudents "Professional writing skill in English" Semester end examination (SEE) will be conductedinamultiplechoice question(MCQ)pattern.
2. MCQPattern(MultipleChoiceQuestions)SemesterEndExam(SEE)isconductedfor50marks(120minut esduration).

SuggestedLearningResources:

1. **ACourseinTechnicalEnglish,**CambridgeUniversityPress–2020.
2. **FunctionalEnglish**(**AsperAICTE2018ModelCurriculam**)CengagelearningIndiaPvtLimited[LatestRevised Edition]-2020.
3. **CommunicationSkills**bySanjayKumarandPushpLata,OxfordUniversityPress-2018.**Referit'sworkbook** foractivitiesandexercises– "Communication Skills–I(A Workbook)" publishedby OxfordUniversity Press – 2018.
4. **ProfessionalWritingSkillsinEnglish,**InfiniteLearningSolutions–(RevisedEdition)2021.
5. **TechnicalCommunication**– PrinciplesandPractice,ThirdEditionbyMeenakshiRamanandSangeethaSharma,OxfordUniversityPress2017.
6. **HighSchoolEnglishGrammar&Composition**byWrenandMartin,SChandh&CompanyLtd –2015.
7. **EffectiveTechnicalCommunication**–SecondEditionbyMAshrafRizvi,McGrawHillEducation(India)PrivateLimited–2018.
8. **IntermediateGrammar,UsageandComposition**byM.L.Tichoo,A.L.Subramanian,P.R.Subramanian,Orient Black Swan – 2016.

ActivityBasedLearning(SuggestedActivitiesinClass)/PracticalBasedlearning

- ✓ Contentsrelatedactivities(Activity-baseddiscussions)
- ✓ Foractiveparticipationofstudentsinstructthestudentstoprepare FlowchartsandHandouts
- ✓ OrganisingGroupwisediscussionsConnectingtoplacementactivities
- ✓ QuizzesandDiscussions,Seminarsandassignments

B.E.Common to all Programmes

Choice Based Credit System (CBCS) and Out come Based Education (OBE)SEMESTER -III

CONSTITUTIONOFINDIA, PROFESSIONAL ETHICS AND CYBER LAW(CPC)

CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

CourseLearningObjectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights,directiveprinciples,andthedutiesofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowardssociety.
- Knowaboutthecybercrimesandcyberlawsforcybersafetymeasures.

Module-1

IntroductiontoIndianConstitution:

TheNecessityoftheConstitution,TheSocietiesbeforeandaftertheConstitutionadoption.IntroductiontotheIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalientfeaturesoftheConstitutionofIndia.FundamentalRightsanditsRestrictionandlimitationsindifferentComplexSituations.

DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour

societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies.SupremeCourtofIndia,JudicialReviewsandJudicialActivism.StateExecutives– Governor,ChiefMinister,StateCabinet,StateLegislature,HighCourtandSubordinateCourts,SpecialProvisions(Articles

370.371,371J)forsomeStates.

Module-3

Elections,AmendmentsandEmergencyProvisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44,61,73,74,,75,86,and 91,94,95,100,101,118and someimportant Case Studies.EmergencyProvisions,typesofEmergenciesandits consequences.

Constitutionalspecialprovisions:

SpecialProvisionsforSCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:

Scope & Aims of Engineering &Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering and Professionalism, Positive and Negative Faces of Engineering & Professional Ethics, Code of Ethics asdefined in the website of Institution of Engineers (India): Profession, Professionalism, and ProfessionalResponsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities inEngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityin

Engineering,IPRs(IntellectualPropertyRights),Risks,SafetyandliabilityinEngineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:

InternetandNeedforCyberLaws,ModesofRegulationofInternet, Typesofcyberterrorcapability,Net

neutrality,TypesofCyberCrimes,Indiaandcyberlaw,CyberCrimesandtheinformationTechnologyAct2000,InternetCensorship.Cybercrimesandenforcementagencies.

CourseOutcomes: Oncompletionofthiscourse,studentswillbeableto,CO1:Haveconstitutional knowledgeandlegalliteracy.

CO2:UnderstandEngineeringandProfessionalethicsandresponsibilitiesofEngineers.

CO3:Understandthethecybercrimesandcyberlawsforcybersafetymeasures.

QuestionpaperpatternforSEEandCIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students willproportionately be reduced to 60.The pattern of the question paper will be objective type(MCQ).
- Fortheawardof40CIEmarks,refertheUniversityregulations2018.

Sl. No.	TitleoftheBook	Nameofthe Author/s	Nameofthe Publisher	EditionandYear
Textbook/s				
1	Constitution of India,ProfessionalEthicsandHuman Rights	ShubhamSingles,CharlesE.Haries, andetal	CengageLearningIndia	2018
2	CyberSecurityandCyberLaws	AlfredBastaandetal	CengageLearning India	2018
ReferenceBooks				
3	Introductiontothe ConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M.Govindarajan,S. Natarajan,V.S.Senthilkumar	Prentice–Hall,	2004

Department of Biotechnology

B.E.BIOTECHNOLOGY **Outcome Based Education (OBE) and Choice Based Credit System (CBCS)SEMESTER-III**			
CONSTITUTIONOFINDIA,PROFESSIONALETHICSANDCYBERLAW(CPC) (MandatoryLearningCourse:CommontoAllProgrammes)			
CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

CourseLearningObjectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights, directive principles,and theduties ofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowards society.
- Knowaboutthecybercrimesandcyber lawsfor cybersafetymeasures.

Module-1

IntroductiontoIndianConstitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to theIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in differentComplexSituations.DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:

Parliamentary System, Federal System, Centre-State Relations.Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies.SupremeCourtofIndia, JudicialReviewsand JudicialActivism.StateExecutives–Governor,ChiefMinister, StateCabinet,StateLegislature, HighCourt andSubordinateCourts,SpecialProvisions(Articles

Module-3

Elections,AmendmentsandEmergencyProvisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutionalAmendments(HowandWhy)andImportant ConstitutionalAmendments.Amendments–7,9,10,12,42,44,61,73,74,,75,86,and 91,94,95,100,101,118andsomeimportantCaseStudies.EmergencyProvisions, types ofEmergenciesand itsconsequences.

Constitutionalspecialprovisions:

SpecialProvisionsfor SCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering andProfessionalism,PositiveandNegativeFaces of Engineering Ethics, Code of EthicsasdefinedinthewebsiteofInstitutionofEngineers(India):Profession,Professionalism,andProfessionalResponsibility.ClashofEthics,ConflictsofInterest.ResponsibilitiesinEngineeringResponsibilitiesin EngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityinEngineering,IPRs (Intellectual PropertyRights), Risks,Safetyand liabilityin Engineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:

Internet and Need for Cyber Laws,Modes of Regulation of Internet,Types of cyber terror capability, Netneutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act2000,InternetCensorship.Cybercrimes andenforcementagencies.

CourseOutcomes:

On completion of this course, students will be able to,

CO 1: Have constitutional knowledge and legal literacy.

CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers. CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

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QuestionpaperpatternforSEEandCIE:

- **The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).**
- **For the award of 40 CIE marks, refer the University regulations 2018.**

Sl. No.	Titleof theBook	Name of theAuthor/s	Name of thePublisher	EditionandYear
Textbook/s				
1	ConstitutionofIndia,Professional Ethics and HumanRights	Shubham Singles,Charles E. Haries,and etal	Cengage LearningIndia	2018
2	Cyber Securityand CyberLaws	AlfredBastaand et al	CengageLearning India	2018
ReferenceBooks				
3	IntroductiontotheConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M. Govindarajan, S.Natarajan, V. S.Senthilkumar	Prentice–Hall,	2004

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TECHNICAL ENGLISH - I

Semester	: I	CIE Marks	: 40
Course Code	: 18EGH18	SEE Marks	: 60
Teaching Hours/week (L:T:P)	: 0:2:0	Exam Hours	: 03
	Credits : 01		

Course Learning Objectives:

The course Technical English – I will enable the students ,

- To impart basic English grammar and essentials of language skills
- To train to identify the nuances of phonetics, intonation and enhance pronunciation skills
- To enhance with English vocabulary and language proficiency

Language Lab

For augment LSRW and GV skills (Listening, Speaking, Reading, Writing and Grammar, Vocabulary) through tests, activities, exercises etc., comprehensive web-based learning and assessment systems can be referred.

Module - I

Introduction to Technical Communication

Fundamentals of Technical Communication Skills, Barriers to Effective Communication, Different styles in Technical Communication. Interpersonal Communication Skills, How to improve Interpersonal Communication Skills, Developing Interpersonal Skills.

Grammar : Basic English Grammar and Parts of Speech - Nouns, Pronouns, Adjectives, Verbs, Adverbs, Preposition, Articles, Conjunctions.

(RBT Levels : L1, L2 & L3)

Module - II

Introduction to Listening Skills and Phonetics – I

Introduction to Phonetics, Sounds Mispronounced, Silent and Non silent Letters, Homophones and Homonyms, Aspiration, Pronunciation of 'The', words ending 'age', some plural forms.

Articles: Use of Articles – Indefinite and Definite Articles.

(RBT Levels : L1, L2 & L3)

Module - III

Developing Listening Skills (Phonetics and Vocabulary Building) - II

Speech Sounds: Vowels and Consonants - Exercises on it. Preposition, kinds of Preposition and Prepositions often Confused. Word Accent – Rules for Word Accent, Stress Shift, Question Tags, Question Tags for Assertive Sentences(Statements) – Some Exceptions in Question Tags and Exercises, One Word Substitutes and Exercises.

Vocabulary – Synonyms and Antonyms, Exercises on it.

(RBT Levels : L1, L2 & L3)

Module - IV

Speaking Skills (Grammar and Vocabulary) – I

Syllables, Structures, Strong and Weak forms of words, Words formation - Prefixes and Suffixes (Vocabulary), Contractions and Abbreviations.

Spelling Rules and Words often Misspelt – Exercises on it. Word Pairs (Minimal Pairs) – Exercises, The Sequence of Tenses (Rules in use of Tenses) and Exercises on it.

(RBT Levels : L1, L2 & L3)

Module - V

Speaking Skills (Grammar and Vocabulary) – II

Extempore/Public Speaking, Difference between Extempore/Public Speaking, and Guidelines for Practice.

Mother Tongue Influence(MTI) – South Indian Speakers, Various Techniques for Neutralisation of Mother Tongue Influence – Exercises, Listening Comprehension – Exercises. Information Transfer : Oral Presentation - Examples. Common Errors in Pronunciation.

(RBT Levels : L1, L2 & L3)

Course Outcomes:

On completion of the course, students will be able to,

CO 1: Use grammatical English and essentials of language skills and identify the nuances of phonetics, intonation and flawless pronunciation
CO 2: Implement English vocabulary at command and language proficiency
CO 3: Identify common errors in spoken and written communication
CO 4: Understand and improve the non verbal communication and kinesics
CO 5: Perform well in campus recruitment, engineering and all other general competitive examinations

Question paper pattern for SEE (Semester end examination)

The SEE question paper will be set for 100 marks and the pattern of the question paper will be objective type (MCQ).

Textbooks

1) **Communication Skills** by Sanjay Kumar and Pushp Lata, Oxford University Press - 2018. **Refer it's workbook** for activities and exercises – "Communication Skills – I (A Workbook)" published by Oxford University Press – 2018.
2) **English Language Communication Skills (Lab Manual cum Workbook),** Cengage learning India Pvt Limited [Latest Revised Edition] – 2018.

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Biobusiness& entrepreneurship

18BT51

Module-1BIO ENTERPREUNERSHIP0 hours

BIO ENTERPREUNERSHIP: Introduction to bio-business, from the Indian context, SWOT analysis of bio-business. Ownership, Development of Entrepreneurship; Stages in entrepreneurial process; Role of entrepreneurs in Economic Development; Entrepreneurship in India; Entrepreneurship - its barriers. Small scale industries: Definition; Characteristics; Need and rationale; Objectives; Scope; Market Feasibility Study; Technical Feasibility Study; Financial Feasibility Study & Social Feasibility Study. Global bio business and industry future trends.

Module-2ENTREPRENEURSHIP OPPORTUNITY IN AGRI BIOTECHNOLOGY0 hours

ENTREPRENEURSHIP OPPORTUNITY IN AGRI BIOTECHNOLOGY: Business opportunity, Essential requirement, marketing, strategies, schemes, challenges and scope-with case study on Plant cell and tissue culture technique, polyhouse culture. Herbal bulk drug production, Nutraceuticals, value added herbal products. Bioethanol production using Agri waste, Algal source. Integration of system biology for agricultural applications. Biosensor development in Agri management

Module-3ENTREPRENEURSHIP OPPORTUNITY IN INDUSTRIAL BIOTECHNOLOGY0 hours

ENTREPRENEURSHIP OPPORTUNITY IN INDUSTRIAL BIOTECHNOLOGY: Business opportunity, Essential requirement, marketing strategies, schemes, challenges and scope-with case study- Pollution monitoring and Bioremediation for Industrial pollutants, Pesticides, Herbicides etc. Integrated compost production- microbe enriched compost. Bio pesticide/insecticide production. Fermented products-probiotic and prebiotics. Stem cell production, stem cell bank, contract research. Production of monoclonal/polyclonal antibodies, Single cell protein and secondary metabolite production. Contact research in microbial genomics.

Module-4PROJECT MANAGEMENT, INTELLECTUAL PROPERTY, TECHNOLOGY MANAGEMENT AND STARTUP SCHEMES0 hours

PROJECT MANAGEMENT, INTELLECTUAL PROPERTY, TECHNOLOGY MANAGEMENT AND STARTUP SCHEMES: Building Biotech business challenges in Indian context-biotech partners (BICEPS, BIRAC, DBT, Incubation centers. Etc.,), operational biotech parks in India. Indian Company act for Bio business-schemes and subsidies. Meaning of Project; Project Identification; Project Selection; Project Report; Need and Significance of Report; Contents; Formulation; Guidelines by Planning Commission for Project report; Network Analysis; Errors of Project Report; Project Appraisal. Identification of business opportunities: Market Feasibility Study; Technical Feasibility Study; Financial Feasibility Study & Social Feasibility Study. Patent expiry and Entrepreneurship opportunity, Principles of Technology leasing, licensing and transfer, Startup schemes in Indian government, Business incubation support schemes, Successful start-ups-case study.

Module-5REGULATORY AFFAIRS, BIOETHICS & BIO-SAFETY0 hours

REGULATORY AFFAIRS, BIOETHICS & BIO-SAFETY: Regulatory affairs in Bio business-regulatory bodies and their regulations (ex.FDA, EU, DSIR, AYUSH, FSSAI etc.,) Public education of the process of

biotechnology involved in generating new forms of life for informed decision-making. Ethical concerns of biotechnology research and innovation-Interference with nature fear of unknown, unequal distribution of risks. Rational vs. subjective perceptions of risks and benefits, relationship between risk, hazard, exposure and safeguards. Biosafety concerns at the level of individuals, institutions, society, region, country and the world. The Cartagena protocol on biosafety. Biosafety management.

Course outcomes:

At the end of the course the student will be able to:

- Know the importance of bioethics, biosafety and IPR
- Apply for project proposal
- Plan a project with a work plan, budget and schedule

Question paper pattern:

- The question paper will have ten full questions carrying equal marks.
- Each full question will be for 20 marks.
- There will be two full questions (with a maximum of four sub- questions) from each module.
- Each full question will have sub- question covering all the topics under a module.
- The students will have to answer five full questions, selecting one full question from each module.

Textbooks

1 Principles of Management P. C.Tripathi, P.N. Reddy Tata McGraw Hill Fifth Edition, 2012
2 Entrepreneurship Development S.S.KhankaS.Chand& Co 2006
3 Practical Approach to IPR Rachana Singh Puri IK Intl. Ltd 2009
4 Bioethics & Biosafety R Rallapalli& Geetha Bali APH Publication 2007

Reference Books

1 Bioethics &Biosaftey Sateesh M K IK Publishers 2008
2 Management Fundamentals - Concepts, Application, Skill Development RobersLusier Cengage Learning 1996

3 Intellectual Property Rights in the WTO and de

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Mechanical Engineering

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VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Mathematics	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18ME32	Mechanics of Materials		3	2	--	03	40	60	100	4
3	PCC	18ME33	Basic Thermodynamics		3	0	--	03	40	60	100	3
4	PCC	18ME34	Material Science		3	0	--	03	40	60	100	3
5	PCC	18ME35A or	Metal cutting and forming		3	0	--	03	40	60	100	3
		18ME35B	Metal Casting and Welding									
6	PCC	18ME36A or	Computer Aided Machine Drawing/		1	4	--	03	40	60	100	3
		18ME36B	Mechanical Measurements and Metrology		3	0						
7	PCC	18MEL37A or	Material Testing lab		--	2	2	03	40	60	100	2
		18MEL37B	Mechanical Measurements and Metrology lab									
8	PCC	18MEL38A	Workshop and Machine Shop Practice (Consists of Fitting, and Machining)		--	2	2	03	40	60	100	2
		18MEL38B	Foundry,Forging and Welding lab									
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	17 OR 19	10 OR 14	04	24 OR 26	420 OR 360	480 OR 540	900	24

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK39 Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39 Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

18KL39/49- KANNADA

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ಪಠ್ಯಕ್ರಮ

1. ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ
2. ವಿವಿಧ ರೀತಿಯ ಅರ್ಜಿ ನಮೂನೆಗಳು
3. ಪತ್ರ ವ್ಯವಹಾರ – ಸರ್ಕಾರಿ ಅರೆಸರ್ಕಾರಿ ಪತ್ರಗಳು – ಆಹ್ವಾನ ಪತ್ರಿಕೆ, ಜಾಹೀರಾತು, ಪತ್ರಿಕಾ ಪ್ರಕಟಣೆ ಇತ್ಯಾದಿ ಪತ್ರಗಳು
4. ಭಾಷೆ ಮತ್ತು ಬರಹ – ಡಾ. ಎಂ ಚಿದಾನಂದ ಮೂರ್ತಿ ರವರ ಭಾಷಾ ವಿಜ್ಞಾನದ ಮೂಲ ತತ್ವಗಳು ಪುಸ್ತಕದಿಂದ
5. ಭಾಷಾಭ್ಯಾಸ – ತತ್ಸಮ ತದ್ಭವ, ಸಮಾನಾರ್ಥಕ ಪದಗಳು, ವಿರುದ್ಧಾರ್ಥಕ ಪದಗಳು, ನಾನಾರ್ಥ ಪದಗಳು, ನುಡಿಗಟ್ಟುಗಳು, ಅನುಕರಣಾವ್ಯಯಗಳು (ದ್ವಿರುಕ್ತಿ) ಮತ್ತು ಜೋಡು ನುಡಿಗಳು, ಕನ್ನಡದ ದೇಶ್ಯ ಪದಗಳು, ಅನ್ಯದೇಶ್ಯ ಪದಗಳು.
6. ಭಾಷಾ ರಚನೆ – ವಾಕ್ಯ ಪದ್ಧತಿ ಮತ್ತು ಲೇಖನ ಚಿಹ್ನೆಗಳು, ಪತ್ರ ಲೇಖನ, ವರದಿ ಲೇಖನ, ಪ್ರಬಂಧ ಲೇಖನ.
7. ಶ್ರಾವಣ (ಕವನ) – ದ ರಾ ಬೇಂದ್ರೆ
8. ಡಾ. ವಿಶ್ವೇಶ್ವರಯ್ಯ – ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯ (ವ್ಯಕ್ತಿ ಚಿತ್ರ) – ಎ ಎನ್ ಮೂರ್ತಿರಾವ್
9. ದೋಣಿ ಹರಿಗೋಲುಗಳಲ್ಲಿ (ಪ್ರವಾಸ ಕಥನ) – ಶಿವರಾಮ ಕಾರಂತ
10. ಅಣ್ಣಪ್ಪನ ರೇಷ್ಮೆ ಕಾಯಿಲೆ (ಪ್ರಬಂಧ) – ಕುವೆಂಪು
11. ನಮ್ಮ ಎಮ್ಮೆಗೆ ಮಾತು ತಿಳಿಯುವುದೆ? (ವಿನೋದ) – ಗೊರೂರು ರಾಮಸ್ವಾಮಿ ಅಯ್ಯಂಗಾರ್
12. ಆನೆಹಳ್ಳದಲ್ಲಿ ಹುಡುಗಿಯರು (ವಿಜ್ಞಾನ ಲೇಖನ) – ಬಿ ಜಿ ಎಲ್ ಸ್ವಾಮಿ
13. ಬೆಡ್ ನಂಬರ್ ಏಳು (ಕತೆ) – ತ್ರಿವೇಣಿ
14. ರೊಟ್ಟಿ ಮತ್ತು ಕೋವಿ (ಕವನ) – ಸು ರಂ ಎಕ್ಕುಂಡಿ
15. ಗುಬ್ಬಚ್ಚಿಯ ಗೂಡು (ಅಂಕಣ ಬರಹ) – ಪಿ ಲಂಕೇಶ್
16. ಚೀಂಕ್ರ ಮೇಸ್ತ್ರಿ ಮತ್ತು ಅರಿಸ್ಟಾಟಲ್ (ಪರಿಸರ ಲೇಖನ) – ಕೆ ಪಿ ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
17. ಗಾಂಧಿ (ಕತೆ) – ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ
18. ಬೆಲ್ಚಿಯ ಹಾಡು (ಕವನ) – ಸಿದ್ಧಲಿಂಗಯ್ಯ
19. ಎಲ್ಲ ಹುಡುಗಿಯರ ಕನಸು (ಕವನ) – ಸವಿತಾ ನಾಗಭೂಷಣ
20. ನೀರು (ಕತೆ) – ಬಸವರಾಜ ಕುಕ್ಕರಹಳ್ಳಿ
21. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿಯ ಒಂದು ಚಿತ್ರಣ (ಪರಿಚಯ ಲೇಖನ) – ರಹಮತ್ ತರೀಕೆರೆ
22. ವೃತ್ತಿ ಶಿಕ್ಷಣದಲ್ಲಿ ಕನ್ನಡ ಮಾಧ್ಯಮ (ತಂತ್ರಜ್ಞಾನ ಬರಹ) – ಎಸ್ ಸುಂದರ್
23. ಕೊಣವೇಗೌಡ (ಕಾವ್ಯ) – ಜಾನಪದ

18KL39/49- KANNADA

KANNADA KALI

Lesson 1 : Introducing each other – 1. Personal Pronouns, Possessive forms, Interrogative words.

Lesson 2 : Introducing each other – 2. Personal Pronouns, Possessive forms, Yes/No Type Interrogation

Lesson 3 :About Ramanaya. Possessive forms of nons, dubitive question, Relative nouns

Lesson 4 : Enquiring about a room for rent. Qualitative and quantitative adjectives.

Lesson 5 : Enquiring about the college. Predicative forms, locative case.

Lesson 6 : In a hotel Dative case defective verbs.

Lesson 7 : Vegetable market. Numeral, plurals.

Lesson 8 : Planning for a picnic. Imperative, Permissive, hortative.

Lesson 9 :Conversation between Doctor and the patient. Verb- iru, negation – illa, non – past tense.

Lesson 10: Doctors advise to Patient. Potential forms, no – past continuous.

Lesson 11: Discussing about a film. Past tense, negation.

Lesson 12: About Brindavan Garden. Past tense negation.

Lesson 13: About routine activities of a student. Verbal Participle, reflexive form, negation.

Lesson 14: Telephone conversation. Past and present perfect past continuous and their negation.

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS (CPH)

MODULE- I - Introduction and Basic Information about Indian Constitution • The Necessity of the Constitution, The Societies before and after the Constitution adoption. • Introduction to the Indian constitution, The making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. • Directive Principles of State Policy (DPSP) & it's present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- II - Union Excutive and State Excutive • Parliamentary System, Federal System, Centre-State Relations. • Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. • State Executives – Governor , Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Article 370.371,371J) for some States.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE-III - Elections, Amendments and Emergency Provisions • Elections, Electoral Process, and Election Commission of India, Election Laws. • Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Recent Amendments with explanation. Important Judgements with Explanation and its impact on society (from the list of Supreme Court Judgements). • Emergency Provisions, types of Emergencies and it's consequences.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Module- IV - Constitutional Provisions/ Local Administration/ Human Rights • Special Constitutional Provisions for SC & ST, OBC, Special Provision for Women, Children & Backward Classes. • Local Administration : Powers and functions of Municipalities and Panchyats System. Co – Operative Societies and Constitutional and Non-constitutional Bodies. • Human Rights/values – Meaning and Definitions, Legislative Specific Themes in Human Rights and Functions/ Roles of National Human Rights Commission of India. Human Rights (Amendment Act)2006.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- V Professional / Engineering Ethics • Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India) : Profession, Professionalism, Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering • Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility.Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), • Risks, Safety and liability in Engineering.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Constitution of India & Professional Ethics
18CPC39/49
Course Code:18CPC39/49 CIE Marks:40
SEE Marks:60
Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To
• know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
• Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
• Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours
Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2Union Executive and State Executive0 hours

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3Elections, Amendments and Emergency Provisions0 hours

Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:

Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4Professional / Engineering Ethics0 hours

Professional / Engineering Ethics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.

Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours

Internet Laws, Cyber Crimes and Cyber Laws:

Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:

On completion of this course, students will be able to,

CO 1: Have constitutional knowledge and legal literacy.

CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.

CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:

• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).

• For the award of 40 CIE marks, refer the University regulations 2018.

Textbook/s

1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.
4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

TECHNOLOGICAL INNOVATION MANAGEMENT AND ENTREPRENEURSHIP SEMESTER – V (MT)
[
As per Choice Based Credit System (CBCS) Scheme
Course Code 18ES51
CIE Marks 40 Number of Lecture Hours/Week 03 SEE Marks 60 Total Number of Lecture Hours 40 (08 Hours / Module) Exam Hours 03 CREDITS – 03

Course Objectives: This course will enable students to:
• Understand basic skills of Management
• Understand the need for Entrepreneurs and their skills
• Identify the Management functions and Social responsibilities
• Understand the Ideation Process, creation of Business Model, Feasibility Study and sources of funding

Module-1Management8 hours
Management: Nature and Functions ofManagement- Importance, Definition, Management Functions, Levels of Management, Roles of Manager, Managerial Skills, Management & Administration, Management as a Science, Art & Profession
(Selected topics of Chapter 1, Text 1).

Planning: Planning-Nature, Importance, Types, Steps and Limitations of Planning; Decision Making-Meaning, Types and Steps in Decision Making
(Selected topics from Chapters 4 & S, Text 1). L1,L2
Module-2Organizing and Staffing8 hours
Organizing and Staffing: Organization-Meaning, Characteristics, Process of Organizing, Principles of Organizing, Span of Management (meaning and importance only), Departmentalisation, Committees-Meaning, Types of Committees; Centralization Vs Decentralization of Authority and Responsibility; Staff"mg-Need and Importance, Recruitment and Selection Process
(Selected topics from Chapters 7, 8 & 11,Text 1).

Directing and Controlling: Meaning and Requirements ofEffective Direction, Giving Orders; Motivation-Nature of Motivation, Motivation Theories (Maslow's Need-Hierarchy Theory and Herzberg's Two Factor Theory); Communication - Meaning, Importance and Purposes of Communication; Leadership-Meaning, Characteristics, Behavioural Approach of Leadership; 93 Coordination-Meaning, Types, Techniques of Coordination; Controlling Meaning, Need for Control System, Benefits of Control, Essentials ofEffective Control System, Steps in Control Process.
(Selected topics from Chapters 15to 18and 9, Text 1). Ll,Ll
Module-3Social Responsibilities of Business8 hours
Social Responsibilities of Business: Meaning of Social Responsibility, Social Responsibilities ofBusiness towards Different Groups, Social Audit, Business Ethics and Corporate Governance
(Selected topics from Chapter 3, Text 1).

Entrepreneurship: Definition ofEntrepreneur, Importance ofEntrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacitybuilding for Entrepreneurship
(Selected topics from Chapter 2, Text 2). Ll,L2
Module-4Family Business8 hours
Family Business: Role and Importance ofFamily Business, Contributions of Family Business in India, Stages of Development of a Family Business, Characteristics of a Famity-owned Business in India, Various types of fumily businesses
(Selected topics from Chapter 4,(Page 71-75) Text 2).

Idea Generation and Feasibility Analysis- Idea Generation; Creativity and Innovation; Identification of Business Opportunities; Market Entry Strategies; Marketing Feasibility; FinancialFeasibilities; Political Feasibilities; Economic Feasibility; Social and Legal Feasibilities; Technical Feasibilities; Managerial Feasibility, Location and Other Utilities Feasibilities.
(Selected topics from Chapter 6(Page No. 111-117) & Chapter 7(Page No. 140-142), Text 2) Ll,L2
Module-5Business model8 hours
Business model- Meaning, designing, analyzing and improvising; Business Plan - Meaning, Scope and Need; Financial, Marketing, Human Resource and Production/Service Plan; Business plan Formats; Project report preparation and presentation; Why some Business Plan fails?
(Selected topics from Chapter 8 (Page No 159-164, Text 2)

Financing and How to start a Business? Financial opportunity identification; Banking sources; Nonbanking Institutions and Agencies; Venture Capital - Meaning and Role in Entrepreneurship; Government Schemes for funding business; Pre launch, Launch and Post launch requirements; Procedure for getting License and Registration; Challenges and Difficulties in Starting an Enterprise
(Selected topics from Chapter 7(Page No 147-149), Chapter 5(Page No 93-99) & Chapter 8(Page No. 166-172) Text 2)

Project Design and Network Analysis: Introduction, Importance ofNetwork Analysis, Origin ofPERT and CPM, Network, Network Techniques, Need for Network Techniques, Steps in PERT, CPM, Advantages, Limitations and Differences.
(Selected topics from Chapters 20, Text 3). Ll,L2,L3

Course Outcomes:
After studying this course, students will be able to:
1. Understand the fundamental concepts of Management and Entrepre neurship and opportunities in order to setup a business
2. Identify the various organizations' architecture
3. Describe the functions of Managers, Entrepreneurs and their social responsibilities
4. Understand the components in developing a business plan
5. Recognize the various sources of funding and institutions supporting entrepreneurs.

TextBooks:
1. Principles of Management - P.C Tripathi, P.N Reddy, McGraw Hill Education, fYhEdition, 2017. ISBN-13:978-93-5260-5354.

2 Entrepreneurship Development Small Business Enterprises- Poomima MCharantimath, Pearson Education 2008, ISBN 978-81-7758-260-4.
3. Dynamics ofEntrepreneurial Development and Management byVasant Desai. HPH 2007, ISBN: 978-81-8488-801-2.
4. Robert D. Hisrich, Mathew J. Manimala, Michael PPeters and DeanA. Shepherd, "Entrepreneurship", S1h Edition, Tata Mc-Graw HillPublishing Co.Ltd.- New Delhi, 2012

Reference Book:

1. Essentials of Management: An International, Innovation and Leadership perspective by Harold Koontz, Heinz Weihrich McGraw Hill Education, I01h Edition 2016. ISBN- 978-93-392-2286-4.

MECHATRONICS ENGINEERING

Constitution of India & Professional Ethics

18CPC39/49

Course Code:18CPC39/49 CIE Marks:40

SEE Marks:60

Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours

Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2Union Executive and State Executive0 hours

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3Elections, Amendments and Emergency Provisions0 hours

Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:

Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4Professional / Engineering Ethics0 hours

Professional / Engineering Ethics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.

Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours

Internet Laws, Cyber Crimes and Cyber Laws:

Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:

On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.
CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:

• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
• For the award of 40 CIE marks, refer the University regulations 2018.

Textbook/s

1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.
4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

TECHNOLOGICAL INNOVATION MANAGEMENT AND ENTREPRENEURSHIP SEMESTER – V (MT)
[
As per Choice Based Credit System (CBCS) Scheme
Course Code 18ES51
CIE Marks 40 Number of Lecture Hours/Week 03 SEE Marks 60 Total Number of Lecture Hours 40 (08 Hours / Module) Exam Hours 03 CREDITS – 03

Course Objectives: This course will enable students to:
• Understand basic skills of Management
• Understand the need for Entrepreneurs and their skills
• Identify the Management functions and Social responsibilities
• Understand the Ideation Process, creation of Business Model, Feasibility Study and sources of funding

Module-1Management8 hours

Management: Nature and Functions ofManagement- Importance, Definition, Management Functions, Levels of Management, Roles of Manager, Managerial Skills, Management & Administration, Management as a Science, Art & Profession
(Selected topics of Chapter 1, Text 1).

Planning: Planning-Nature, Importance, Types, Steps and Limitations of Planning; Decision Making-Meaning, Types and Steps in Decision Making
(Selected topics from Chapters 4 & S, Text 1). L1,L2
Module-2Organizing and Staffing8 hours
Organizing and Staffing: Organization-Meaning, Characteristics, Process of Organizing, Principles of Organizing, Span of Management (meaning and importance only), Departmentalisation, Committees-Meaning, Types of Committees; Centralization Vs Decentralization of Authority and Responsibility; Staff"mg-Need and Importance, Recruitment and Selection Process
(Selected topics from Chapters 7, 8 & 11,Text 1).

Directing and Controlling: Meaning and Requirements ofEffective Direction, Giving Orders; Motivation-Nature of Motivation, Motivation Theories (Maslow's Need-Hierarchy Theory and Herzberg's Two Factor Theory); Communication - Meaning, Importance and Purposes of Communication; Leadership-Meaning, Characteristics, Behavioural Approach of Leadership; 93 Coordination-Meaning, Types, Techniques of Coordination; Controlling Meaning, Need for Control System, Benefits of Control, Essentials ofEffective Control System, Steps in Control Process.
(Selected topics from Chapters 15to 18and 9, Text 1). Ll,Ll
Module-3Social Responsibilities of Business8 hours
Social Responsibilities of Business: Meaning of Social Responsibility, Social Responsibilities ofBusiness towards Different Groups, Social Audit, Business Ethics and Corporate Governance
(Selected topics from Chapter 3, Text 1).
Entrepreneurship: Definition ofEntrepreneur, Importance ofEntrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacitybuilding for Entrepreneurship
(Selected topics from Chapter 2, Text 2). Ll,L2
Module-4Family Business8 hours
Family Business: Role and Importance ofFamily Business, Contributions of Family Business in India, Stages of Development of a Family Business, Characteristics of a Famity-owned Business in India, Various types of fumily businesses
(Selected topics from Chapter 4,(Page 71-75) Text 2).

Idea Generation and Feasibility Analysis- Idea Generation; Creativity and Innovation; Identification of Business Opportunities; Market Entry Strategies; Marketing Feasibility; FinancialFeasibilities; Political Feasibilities; Economic Feasibility; Social and Legal Feasibilities; Technical Feasibilities; Managerial Feasibility, Location and Other Utilities Feasibilities.
(Selected topics from Chapter 6(Page No. 111-117) & Chapter 7(Page No. 140-142), Text 2) Ll,L2
Module-5Business model8 hours
Business model- Meaning, designing, analyzing and improvising; Business Plan - Meaning, Scope and Need; Financial, Marketing, Human Resource and Production/Service Plan; Business plan Formats; Project report preparation and presentation; Why some Business Plan fails?
(Selected topics from Chapter 8 (Page No 159-164, Text 2)

Financing and How to start a Business? Financial opportunity identification; Banking sources; Nonbanking Institutions and Agencies; Venture Capital - Meaning and Role in Entrepreneurship; Government Schemes for funding business; Pre launch, Launch and Post launch requirements; Procedure for getting License and Registration; Challenges and Difficulties in Starting an Enterprise
(Selected topics from Chapter 7(Page No 147-149), Chapter 5(Page No 93-99) & Chapter 8(Page No. 166-172) Text 2)

Project Design and Network Analysis: Introduction, Importance ofNetwork Analysis, Origin ofPERT and CPM, Network, Network Techniques, Need for Network Techniques, Steps in PERT, CPM, Advantages, Limitations and Differences.
(Selected topics from Chapters 20, Text 3). Ll,L2,L3

Course Outcomes:
After studying this course, students will be able to:
1. Understand the fundamental concepts of Management and Entrepre neurship and opportunities in order to setup a business
2. Identify the various organizations' architecture
3. Describe the functions of Managers, Entrepreneurs and their social responsibilities
4. Understand the components in developing a business plan
5. Recognize the various sources of funding and institutions supporting entrepreneurs.

TextBooks:
1. Principles of Management - P.C Tripathi, P.N Reddy, McGraw Hill Education, fYhEdition, 2017. ISBN-13:978-93-5260-5354.
2 Entrepreneurship Development Small Business Enterprises- Poomima MCharantimath, Pearson Education 2008, ISBN 978-81-7758-260-4.
3. Dynamics ofEntrepreneurial Development and Management byVasant Desai. HPH 2007, ISBN: 978-81-8488-801-2.
4. Robert D. Hisrich, Mathew J. Manimala, Michael PPeters and DeanA. Shepherd, "Entrepreneurship", S1h Edition, Tata Mc-Graw HillPublishing Co.Ltd.- New Delhi, 2012

Reference Book:
1. Essentials of Management: An International, Innovation and Leadership perspective by Harold Koontz, Heinz Weihrich McGraw Hill Education, I01h Edition 2016. ISBN- 978-93-392-2286-4.

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Choice Based Credit System (CBCS) and Out come Based Education (OBE)SEMESTER -III

CONSTITUTIONOFINDIA, PROFESSIONAL ETHICS AND CYBER LAW(CPC)

CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

CourseLearningObjectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights,directiveprinciples,andthedutiesofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowardssociety.
- Knowaboutthecybercrimesandcyberlawsforcybersafetymeasures.

Module-1

IntroductiontoIndianConstitution:

TheNecessityoftheConstitution,TheSocietiesbeforeandaftertheConstitutionadoption.IntroductiontotheIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalientfeaturesoftheConstitutionofIndia.FundamentalRightsanditsRestrictionandlimitationsindifferentComplexSituations. DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour

societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies.SupremeCourtofIndia,JudicialReviewsandJudicialActivism.StateExecutives– Governor,ChiefMinister,StateCabinet,StateLegislature,HighCourtandSubordinateCourts,SpecialProvisions(Articles

370.371,371J)forsomeStates.

Module-3

Elections,AmendmentsandEmergencyProvisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44,61,73,74,,75,86,and 91,94,95,100,101,118and someimportant Case Studies.EmergencyProvisions,typesofEmergenciesandits consequences.

Constitutionalspecialprovisions:

SpecialProvisionsforSCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:

Scope & Aims of Engineering &Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering and Professionalism, Positive and Negative Faces of Engineering & Professional Ethics, Code of Ethics asdefined in the website of Institution of Engineers (India): Profession, Professionalism, and ProfessionalResponsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities inEngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityin

Engineering,IPRs(IntellectualPropertyRights),Risks,SafetyandliabilityinEngineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:

InternetandNeedforCyberLaws,ModesofRegulationofInternet, Typesofcyberterrorcapability,Net

neutrality,TypesofCyberCrimes,Indiaandcyberlaw,CyberCrimesandtheinformationTechnologyAct2000,InternetCensorship.Cybercrimesandenforcementagencies.

CourseOutcomes: Oncompletionofthiscourse,studentswillbeableto,CO1:Haveconstitutional knowledgeandlegalliteracy.

CO2:UnderstandEngineeringandProfessionalethicsandresponsibilitiesofEngineers.

CO3:Understandthethecybercrimesandcyberlawsforcybersafetymeasures.

QuestionpaperpatternforSEEandCIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students willproportionately be reduced to 60.The pattern of the question paper will be objective type(MCQ).
- Fortheawardof40CIEmarks,refertheUniversityregulations2018.

Sl. No.	TitleoftheBook	Nameofthe Author/s	Nameofthe Publisher	EditionandYear
Textbook/s				
1	Constitution of India,ProfessionalEthicsandHuman Rights	ShubhamSingles,CharlesE.Haries, andetal	CengageLearningIndia	2018
2	CyberSecurityandCyberLaws	AlfredBastaandet al	CengageLearning India	2018
ReferenceBooks				
3	Introductiontothe ConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M.Govindarajan,S. Natarajan,V.S.Senthilkumar	Prentice–Hall,	2004

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E-mail: engprincipal@theoxford.edu Web: www.theoxfordengg.org

Computer Science & Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education
(OBE) (Effective from the academic year 2018 – 19)

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical / Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series And Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CS32	Data Structures and Applications	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS33	Analog and Digital Electronics	CS / IS	3	0	--	03	40	60	100	3
4	PCC	18CS34	Computer Organization	CS / IS	3	0	--	03	40	60	100	3
5	PCC	18CS35	Software Engineering	CS / IS	3	0	--	03	40	60	100	3
6	PCC	18CS36	Discrete Mathematical Structures	CS / IS	3	0	--	03	40	60	100	3
7	PCC	18CSL37	Analog and Digital Electronics Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL38	Data Structures Laboratory	CS / IS	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
		OR	**OR**									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

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B. E. Common to all Programmes
Outcome Based Education (OBE) and Choice Based Credit System (CBCS) SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code	**18CPC39/49**	CIE Marks	40
Teaching Hours/Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our
society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles
370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics:
Scope & Aims of Engineering &Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliabilityin Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes: On completion of this course, students will be able to, CO 1: Have constitutional knowledge and legal literacy. CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers. CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.				
Question paper pattern for SEE and CIE: • The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type(MCQ). • For the award of 40 CIE marks, refer the University regulations2018.				
Sl. No.	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
Textbook/s				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction tothe Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

Department of Automobile Engineering

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS (CPH)

MODULE- I - Introduction and Basic Information about Indian Constitution • The Necessity of the Constitution, The Societies before and after the Constitution adoption. • Introduction to the Indian constitution, The making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. • Directive Principles of State Policy (DPSP) & it's present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- II - Union Excutive and State Excutive • Parliamentary System, Federal System, Centre-State Relations. • Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. • State Executives – Governor , Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Article 370.371,371J) for some States.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE-III - Elections, Amendments and Emergency Provisions • Elections, Electoral Process, and Election Commission of India, Election Laws. • Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Recent Amendments with

explanation. Important Judgements with Explanation and its impact on society (from the list of Supreme Court Judgements). • Emergency Provisions, types of Emergencies and it's consequences.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Module- IV - Constitutional Provisions/ Local Administration/ Human Rights • Special Constitutional Provisions for SC & ST, OBC, Special Provision for Women, Children & Backward Classes. • Local Administration : Powers and functions of Municipalities and Panchyats System. Co – Operative Societies and Constitutional and Non-constitutional Bodies. • Human Rights/values – Meaning and Definitions, Legislative Specific Themes in Human Rights and Functions/ Roles of National Human Rights Commission of India. Human Rights (Amendment Act)2006.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- V Professional / Engineering Ethics • Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India) : Profession, Professionalism, Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering • Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility.Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), • Risks, Safety and liability in Engineering.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Constitution of India & Professional Ethics
18CPC39/49
Course Code:18CPC39/49 CIE Marks:40
SEE Marks:60
Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To
• know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
• Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
• Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours
Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.
Module-2Union Executive and State Executive0 hours
Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.
Module-3Elections, Amendments and Emergency Provisions0 hours
Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.
Module-4Professional / Engineering Ethics0 hours
Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.
Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours
Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.
Course Outcomes:
On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.
CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:
• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
• For the award of 40 CIE marks, refer the University regulations 2018.

Textbook/s
1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.
4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

Master of Business Administration

MARKETING MANAGEMENT			
Course Code	20MBA15	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:2	SEE Marks	60
Credits	04	Exam Hours	03

Course Objectives

1. Make students have an understanding of the fundamental concepts of marketing & the environment in which marketing system operates.
2. To analyze the motives influencing buying behaviour & Describe major bases for segment marketing, target marketing, and market positioning.
3. Identify a Conceptual framework, covering basic elements of the marketing mix.
4. To understand fundamental premise underlying market driven strategies.
5. Giving them hands on practical approach to subject study.

Module-1 Introduction to Marketing **9 hours**

Marketing V/s Selling, Customer value, Components of customer value and components of customer cost. Marketing Ethics- green marketing and green economy. Marketing Myopia.Marketing Environment - Components of Environment to be analysed- Micro/ Macro Environment, Technological environment, Socio-cultural environment, Economic Environment, Legal Environment, Consumer/demographic environment, Government policies, Political environment. Techniques used in Environment Analysis. Contemporary Indian Marketing Environment. Cause and Social Marketing alternate concepts like 3V concepts of Nirmalaya Kumar Social Responsibility of marketing- new marketing realities, new responsibilities, new-age marketing, societal marketing concept, Corporate Social Responsibility. Emerging areas- Neuro Marketing , Sensory Marketing-concepts only. **Assignment:** Contemporary Indian Marketing Environment

Module -2 Analysing Consumer Behaviour **9 hours**

Connecting with consumers and consumer in sighting, Factors influencing Consumer Behaviour, Consumer characteristics influencing buying behaviour- personal factors and cultural factors. Consumer Buying Decision Process, Buying Roles, Buying Motives. The black box model of consumer behaviour. Psychological Processes underlying consumer behaviour. **Market Segmentation:** Concept of Market Segmentation, Benefits, Requisites of Effective Segmentation, Bases for Segmenting Consumer Markets, Market Segmentation Strategies. Segmentation method – Geographic segmentation and Demographic segmentation, psychographic segmentation, behavioural segmentation, volume segmentation, deep segmentation. Indian Consumer- Features about consumer India, Classifying Indian consumer by Income B2B marketing Vs Consumer Marketing. **Assignment- Live projects on Consumer Behaviour.**

Module -3 Product, Brand Equity, Services Marketing **9 hours**

Product Management- fundamentals, primary objective of product management, product hierarchy, product line, product mix, product mix strategies, Appraisal of product lines, products and brands. Managing PLC of product/brand, New Product Development, packing as a marketing tool, Role of labelling in packing. Main tasks in product management. Components of Product personality. Brand- selecting brand name, selecting logo, brand extension- effects. Introducing new product, innovations, new product development, stages in new product development, pricing strategy for new product. Branding - Concept of Branding, Types, Brand Equity, Branding strategies.Services Marketing & its Characteristics- tasks involved in service marketing, differentiating, positioning and brand building in services, premiumisation in service marketing.Market Segmentation, Targeting & Positioning (STP): Targeting - Bases for identifying target Customer target Marketing strategies, Positioning - Meaning, Product Differentiation Strategies, Tasks involved in Positioning. Monitoring brands performance and positioning.

Module -4 Pricing , Marketing Channels **7 hours**

Pricing decisions: Significance of pricing, factor influencing pricing (Internal factor and External factor), objectives, Pricing Strategies-Value based, Cost based, Market based, Competitor based, Pricing Procedure.
Marketing Channels: Roles and purpose of Marketing Channels, Factors Affecting Channel Choice, Channel Design, Channel Management Decision, Channel Conflict, Designing a physical Distribution System, Network Marketing. Contemporary Channels and Retailing in India.**Product Distribution Logistics:** Product distribution Concept. Distinction between distribution logistics and Supply Chain Management..

Module -5 Direct Marketing & Digital Marketing: **9 hours**

Concept and scope of direct marketing, concept and components of digital marketing. Digital marketing communications, digital marketing in India. **Promotions-** Marketing communications- Integrated Marketing

Communications (IMC)-communication objectives, steps in developing effective communication, Stages in designing message. Advertising: Advertising Objectives, Advertising Budget, Advertising Copy, AIDA model, Traditional Vs Modern Media- Online and Mobile Advertising, Social Media for Advertising. Customer Relationship Management- components. Significance of Marketing Research- importance of data.

Module - 6 Sales Promotion, Marketing Planning and Rural Marketing **7 hours**

Sales Promotion: Tools and Techniques of sales promotion, Push-pull strategies of promotion. Personal selling: Steps/process involved in Personal Selling. Publicity/Public Relation-word of mouth, sponsorships. Database marketing: Basic concepts of e-commerce, e-marketing, m-Commerce, m-marketing, e-networking, CRM, MkIS.
Marketing Planning: Meaning, Steps involved in Marketing planning. Marketing Audit- Meaning, components of Marketing Audit. Market Share analysis, Marketing cost analysis, Marketing Strategic Planning Process.
Concept of Rural Marketing: Flumist (HBR) and Saffola Journey- Case Studies
Classroom Exercise: Brand Communication (create and enact a commercial)

Course outcomes:

At the end of the course the student will be able to:

1. Develop an ability to assess the impact of the environment on marketing function.
2. To formulate marketing strategies that incorporate psychological and sociological factors which influence buying .
3. Understand concept of Branding, development of product and significance of market segmentation , targeting and positioning.
4. Identifying marketing channels and the concept of product distribution.
5. Identifying techniques of sales promotion , significance of marketing research.
6. Synthesize ideas into a viable marketing plan for various modes of marketing

Practical Components:

- Understanding Contemporary Indian Marketing Environment.
- Understanding and demonstrating their exposure on consumer behaviour
- Effectively using their skill in creating and enacting a commercial on brand communication.

ENTREPRENEURSHIP AND LEGAL ASPECTS			
Course Code	20MBA26	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:2	SEE Marks	60
Credits	04	Exam Hours	03

Course Objectives:

1. To develop and strengthen entrepreneurial quality and motivation in students.
2. To impart basic entrepreneurial skills and understandings to run a business efficiently and effectively.
3. To provide insights to students on entrepreneurship opportunities, sources of funding and institutions supporting entrepreneurs.
4. To make students understand the ways of starting a company of their own.

Module -1 Introduction to Entrepreneur & Entrepreneurship **7 hours**

Meaning of entrepreneur - Evolution of the concept - Functions of an Entrepreneur - Types of Entrepreneur - Intrapreneur- an emerging class - Concept of Entrepreneurship -Entrepreneurial Culture - Stages in entrepreneurial process.

Creativity and Innovation: The role of creativity – The innovation Process – Sources of New Ideas – Methods of Generating Ideas – Creative Problem Solving – Entrepreneurial Process.

Module -2 Developing Business Model **9 hours**

Importance of Business Model – Starting a small scale industry -Components of an Effective Business Model, Osterwalder Business Model Canvas.

Business Planning Process: Meaning of business plan - Business plan process - Advantages of business planning - Final Project Report with Feasibility Study - preparing a model project report for starting a new venture.

Lab Component and assignment: Designing a Business Model Canvas

Module -3 Marketing function and forms of organisation **9 hours**

Industry Analysis – Competitor Analysis – Marketing Research for the New Venture – Defining the Purpose or Objectives – Gathering Data from Secondary Sources – Gathering Information from Primary Sources – Analyzing and Interpreting the Results – The Marketing Process

Forms of business organization: Sole Proprietorship – Partnership – Limited liability partnership - Joint Stock Companies and Cooperatives.

Module -4 Entrepreneurial finance **7 hours**

Entrepreneurial finance- Estimating the financial needs of a new venture, internal sources of finance, external sources of finance, components of financial plan

Institutions supporting Entrepreneurs: Small industry financing developing countries - A brief overview of financial institutions in India - Central level and state level institutions - SIDBI - NABARD - IDBI - SIDCO - Indian Institute of Entrepreneurship - DIC - Single Window - Latest Industrial Policy of Government of India.

Module -5 Rules And Legislation **9 hours**

Applicability of Legislation; Industries Development (Regulations) Act, 1951; Factories Act, 1948; Industrial Employment (Standing Orders) Act, 1946, Suspension, Stoppage of work, Termination of employment; Karnataka Shops and Establishment Act, 1961; Environment (Protection) Act, 1986; The sale of Goods Act, 1930; Industrial Dispute Act 1947.

Module-6 Company Incorporation **9 hours**

Process of Company Incorporation; process of registration; Importance of Marketing; Funding, Four stages of Start Up.

Intellectual property protection and Ethics: Patents – Copyright - Trademark- Geographical indications – Ethical and social responsibility and challenges.

Course outcomes:

At the end of the course the student will be able to:

1. Display keen interest and orientation towards entrepreneurship, entrepreneurial opportunity Modules' in order to setup a business and to think creatively.
2. To know about the various business models and B-Plans across Business sectors.
3. Able to understand the importance of marketing and different forms of businesses.
4. Become aware about various sources of funding and institutions supporting entrepreneurs.
5. Awareness about legal aspects and ways to protect the ideas.
6. To understand the ways of starting a company and to know how to protect their ideas.

III SEMESTER

CORE COURSES

EMERGING EXPONENTIAL TECHNOLOGIES			
Course Code	20MBA301	CIE Marks	40
Teaching Hours/Week	3:0:2	SEE Marks	60
Credits	04	Exam Hours	03

Objective of the Course:

1. To understand the emerging technologies applicable in field of Management.
2. To study data science as a tool for decision making in Management
3. To understand the concept of AI, IOT and AR.
4. To study other emerging technologies in Management.

Module -1 Introduction to Emerging Technologies **9 hours**

Evolution of technologies; Introduction to Industrial revolution; Historical background of the Industrial Revolution; Introduction to Fourth industrial revolution (IR 4.0); Role of data for Emerging technologies; Enabling devices and networks for emerging technologies (programmable devices); Human to Machine Interaction; Future trends in emerging technologies.

Module -2 Data Science **7 hours**

Overview for Data Science; Definition of data and information; Data types and representation; Data Value Chain; Data Acquisition; Data Analysis; Data Curating; Data Storage; Data Usage; Basic concepts of Big Data.

Module -3 Artificial Intelligence(AI) **9 hours**

Concept of AI, meaning of AI, History of AI, Levels of AI, Types of AI, Applications of AI in Agriculture, Health, Business (Emerging market), Education, AI tools and platforms (eg: scratch/object tracking).

Module -4 Internet of Things (IoT) **9 hours**

Overview of IOT; meaning of IOT; History of IOT; Advantages of IOT; Challenges of IOT; IOT working process; Architecture of IOT; Devices and network; Applications of IOT at Smart home; Smart grid; Smart city; Wearable devices; Smart farming; IOT tools and platforms; Sample application with hands on activity.

Module-5 Augmented Reality (AR) and Virtual Reality (VR) **9 hours**

Introduction to AR, Virtual reality (VR), Augmented Reality (AR) vs mixed reality (MR), Architecture of AR systems. Application of AR systems (education, medical, assistance, entertainment) workshop oriented hands demo.

Module-6 Ethics, Professionalism and Other Emerging Technologies **7 hours**

Technology and ethics, Digital privacy, Accountability and trust, Treats and challenges.

Other Technologies: Block chain technology, Cloud and quantum computing, Autonomic computing, Computer vision, Cyber security, Additive manufacturing (3D Printing)

Course Outcomes:

By the end of this course the student will able to:

1. Identify different emerging technologies
2. Select appropriate technology and tools for a given task
3. Identify necessary inputs for application of emerging technologies
4. Understand the latest developments in the area of technology to support business

Practical Component:

- Big data analysis using an analytical tool
- Study the Application of AI in any one field and prepare a Report
- Study the Ethical practices of a Company
- 3D model Printing by Group or team
- Exposing the students to usage of IoT

MARKETING RESEARCH & ANALYTICS			
Course Code	20MBAMM304	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:2	SEE Marks	60
Credits	04	Exam Hours	03

Course Objectives

1. To provide an understanding of the basics of marketing research process.
2. To orient on the theoretical and practical aspects of marketing research.
3. Encourage the students to take up analytical thinking through research.
4. To highlight importance marketing research for enhancing marketing strategies.

Module-1 Marketing Research Dynamics **9 hours**

Meaning of Marketing research; when marketing research is unnecessary; Nature and Scope of Marketing Research; Marketing Research in the 21st Century (Indian Scenario); limitations of Marketing Research; threats to marketing research; Introduction to marketing intelligence: concept of marketing intelligence (MI), components, need for MI, Domains of MI. Ethics in marketing research. Design of consumer experiments using Conjoint Analysis. Case Study on Marketing Research Dynamics.

Module -2 Marketing Research Projects **7 hours**

Design and implementation of Marketing Research Projects, defining research questions, identifying respondents, sampling accuracy and sufficiency. Issues around studying human subjects.

Lab on socially acceptable responses- managing

Module -3 Decision Support System **9 hours**

Marketing Decision Support System-meaning, Use of Decision Support Systems in Marketing Research, Data base & Data warehousing. The three Vs: Volume, Velocity & Varity, The Fourth V: Value. Elements of data base, types of data base, using marketing data base for marketing intelligence, ways to gather consumer data.

Module -4 Applications of Marketing Research **9 hours**

Applications of Marketing Research: Introduction, Consumer Market Research, Business-to-Business Market Research, Product Research, Pricing Research, Motivational Research, Distribution Research, Advertising Research, Media research, Sales Analysis and Forecasting.

Live project & Assignment: Agriculture Marketing or B2B marketing

Module -5 Predictive analysis **9 hours**

Meaning of predictive analysis, how good are models at predictive behavior, benefits of predictive models and applications of predictive analysis, reaping the benefits, avoiding the pitfalls, importance of predictive model, process of predictive analytics. Predictive Analytics, Data Mining and Big Data_ Myths, Misconceptions and Methods by Steven Finlay.

Module - 6 Product Research **7 hours**

Product Research- Analysis of Diffusion of products, Adoption decisions, Product – services tradeoffs, evaluating prototypes, Luxury and Lifestyle products.

Live project: New Product adoption

Course outcomes:

The student should be able to:

1. Comprehend the objectives of Market research & its application in solving marketing problems.
2. Appreciate the use of different data collection methods, sampling design techniques, measurement methods to analyze the data.
3. Generalize and interpret the data with the help of various measurement techniques.
4. To understand the emergence of new trends in research.

Practical Component:

- Choose 5 successful products or services and identify the insight behind them through a field survey.
- Do a comprehensive essay on the difference between consumers vs. trade vs. Competition insights & how best to exploit them.
- Take 5 recent digital innovations like twitter or face book and identify the insights.
- Running case with real data Dell, Comprehensive critical thinking case Baskin-Robbins.
- Data Analysis case with real data IBM.

HUMAN RESOURCE SPECIALISATION COURSES

RECRUITMENT AND SELECTION			
Course Code	20MBAHR303	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:2	SEE Marks	60
Credits	04	Exam Hours	03

Course Objectives

1. The student will be able to recite the theories and various steps involved in Recruitment and Selection
2. The student will be able to describe and explain in her/his own words, the relevance and importance of Recruitment and Selection in the Organization
3. The student will be able to apply and solve the workplace problems through Recruitment and Selection intervention
4. The student will be able to classify and categorize in differentiating between the best method to be adopted by organization related to Recruitment and Selection
5. The student will be able to compare and contrast different approaches of Recruitment and Selection framework for solving the complex issues and problems
6. The student will be able to design and develop an original framework and framework in dealing with the problems in the organization.

Module-1 Workforce Planning and Recruitment Analytics **9 hours**

Concept of Work, Organisation's Work and Jobs; Millennials at the work place; Key Characteristics of Millennials; Types of Millennial; The Evolution of Work Structure; Organising the Work; Strategic Job Redesign and Its Benefits; Strategic Issues in Recruitment; What make Bad Recruitment; Overview of the Hiring Process; Recruitment Metrics; Factors Affecting Recruitment; Recruitment Strategy: An Internal Approach; Recruitment Strategy: An External Approach; Legal and Ethical Considerations; Organisational Best Practices.

Module -2 Job Analysis, Job Description and Job Design **9 hours**

Identify the Job to Examine; Determine Appropriate Information Sources and Collect Job-Related Data; Job Description; Competency and Competency Ice Berg Model; Why Competency Based Recruitment; Sources of Recruitment; Different steps of job search; Motivational Job Specification; Creation of Functional Specification; Creation of Behavioural Specification; Employer branding; Social Media; Job Design.

Module -3 Job Evaluation **7 hours**

The Job Evaluation Process; Obtain Job KSAOs, Qualifications, Working Conditions, and Essential Duties; Examine Compensable Factors Using the Rating/Weighting Evaluation Method; Determine Overall Job Value; Hay Group—Pioneer in Job Evaluation; Determining Compensation using Job Evaluation Data; Legal and Ethical Considerations for Job Evaluation; Online Salary Survey.

Module -4 Selection and Interview Strategy **9 hours**

Interview Strategy and Process; Millennials shaping the Recruitment landscape in the organizations; Strategies for recruiting and selecting Generation Y into the workforce Developing Effective. Interviewers; Interviewing Techniques; Legal and Ethical Considerations in the Interview Process; The overall BEI Process; Assessment Centre's; Simulations.

Module -5 Testing and Assessment **9 hours**

Testing in Occupational Selection; Test related to Assessment of Knowledge, Skills, and Abilities; Personality Assessment; The Birkman method and MBTI® comparison; FIRO-B; Honesty and Integrity Assessment; Various Non-Interviewing Methods; Graphology; Skills Assessment; Games and Group Activity for Leadership Assessment; Administration of Tests and Assessments; Key Interviewer Skills.

Module – 6 Making the Hire; Assessment of Candidate and Job Fit **7 hours**

Unique Recruitment strategies; Biodata and Application Forms; Implications of Using Social Media Content in Hiring Decisions; Background Checks; Reference Checks; Pre-employment Testing; Making a Job Offer; Transitioning from Job Candidate to Employee; Induction; Placement.

Course outcomes:

At the end of the course the student will be able to:

1. Gain the practical insight of various principles and practices of recruitment and selection.
2. Acquire knowledge of latest conceptual framework used in recruitment and selection process and procedure applied in various industries.

IV SEMESTER
MARKETING SPECIALISATION COURSES

B2B MARKETING MANAGEMENT			
Course Code	20MBAMM401	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Objectives

1. Make students have an understanding of B2B Marketing and its characteristics
2. To analyze the purchasing decisions of online customers
3. Analysing traditional marketing approach vis-a vis modern marketing approach using the B2B strategy
4. To enhance knowledge of emerging trends in integrated marketing communications.
5. Managing innovation in the B2B context and understand concept of Relationship portfolio and Key Account Management.

Module-1 B2B Marketing **7 hours**

B2B-Introduction, significance and concept of B2B Marketing. Business Markets, characteristics. Classification of Business Products and Markets.

Module -2 Purchasing Behaviour **7 hours**

Factors affecting purchasing decisions, purchasing orientation, Segmenting purchase categories. Purchase Process- variations. Buying situations and marketer actions. Online buying.
Traditional marketing approach- uncertainties of buyer and supplier/ marketer. Supplier uncertainties. Relationship variables. Impact of IT. Inter-firm Relationships and Networks. **Case Study**

Module -3 B2B strategy and Market Segmentation **7 hours**

Process, approach. Responsible strategy-CSR and sustainability, Customer value and strategy.
Researching B2B markets. Standard industrial classification.
B2B Market Segmentation- Significance of segmentation. Basis of segmentation. Challenges of segmentation in B2B markets. B2B positioning**. Case Study.**

Module -4 Market Communication **7 hours**

Brand expression, Communication mix and customer acquisition process. Relationship Communication, sales responsibilities. The relationship communication process, call preparation, selling to low-priority and high-priority customers. Value selling and consequences- order fulfilment-relationship building**. Case Study.**

Module -5 Relationship Portfolio & Key Account Management **7 hours**

Principles of Portfolio management, identifying key accounts, Classification criteria. Relationship life-cycle, declassification, managing loyalty. **Case Study**.
Assignment: Implementing KAM

Module – 6 B2B product Offerings and Price Setting **5 hours**

Elements of B2B offering, strategic tools for managing product offerings, managing innovation in the B2B context.
Price setting in B2B markets- 3 C's of pricing-cost, customer and competition-Pricing- strategy, price positioning, role of sales force in pricing, bid pricing, internet auctions, ethical aspects of B2B pricing.
Case Study

Course outcomes:
At the end of the course the student will be able to:

1. Understand significance of B2B marketing .
2. Ability to create an integrated marketing communications plan which includes promotional strategies.
3. Effectively use marketing communication for customer acquisition
4. Define and apply knowledge of various aspects of managerial decision making related to marketing communications strategy and tactics.

Practical Component:

- Interview a salesperson and write a brief report about what they like and dislike about their jobs, their salary, travelling allowances, sales quotas, why chose sales career, and what does it take to succeed in this profession.
- Ask your friends if they would buy certain goods like groceries, vegetables, socks, mobile, pens etc from the roadside vendor as against a regular shop. Group the products into low risk and high risk ones. Does this buying behaviour also depend on the personality of the individual doing the buying? Or the one doing the selling?
- Students can make a presentation on any product or the services of student choice, covering selling strategies

Choice Based Credit System
Semester: I
CIE Marks:40
Course Code:20MCA15
SEE Marks:60
Contact Hours (L: T:P):2:2:0
Exam Hours:03

Course Outcomes: At the end of the course students will be able to
1. CO1: Identify the suitable research methods and articulate the research steps in a proper sequence for the given problem.
2. CO2: Carry out literature survey, define the problem statement and suggest suitable solution for the given problem and present in the format of the research paper (IEEE).
3. CO3: Analyse the problem and conduct experimental design with the samplings.
4. CO4:Perform the data collection from various sources segregate the primary and secondary data
5. CO5: Apply some concepts/section of Copy Right Act /Patent Act /Cyber Law/ Trademark to the given case and develop –conclusions

Module-1 Research Methodology: Introduction, Meaning of Research, Objectives of Research, Motivation in Research, Types of Research,Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Importance of Knowing How Research is Done, Research Process, Criteria of Good Research, and Problems Encountered by Researchers in India.

Module-2 Defining the Research Problem: Research Problem, Selecting the Problem, Necessity of Defining the Problem, Technique Involved in Defining a Problem, An Illustration. Reviewing the literature: Place of the literature review in research, Bringing clarity and focus to your research problem, Improving research methodology, Broadening knowledge base in research area, Enabling contextual findings, How to review the literature, searching the existing literature, reviewing the selected literature, Developing a theoretical framework, Developing a conceptual framework, Writing about the literature reviewed.

Module-3 Research Design: Meaning of Research Design, Need for Research Design, Features of a Good Design, Important Concepts Relating to Research Design, Different Research Designs, Basic Principles of Experimental Designs, Important Experimental Designs. Design of Sample Surveys: Introduction, Sample Design, Sampling and Non-sampling Errors, Sample Survey versus Census Survey, Types of Sampling Designs

Module-4 Data Collection: Experimental and Surveys, Collection of Primary Data, Collection of Secondary Data, Selection of Appropriate Method for Data Collection, Case Study Method. Interpretation and Report Writing: Meaning of Interpretation, Technique of Interpretation, Precaution in Interpretation, Significance of Report Writing, Different Steps in Writing Report, Layout. Types of Reports, Oral Presentation, Mechanics of Writing a Research Report, Precautions for Writing Research Reports.

Module-5 Intellectual Property (IP) Acts:Introduction to IP: Introduction to Intellectual Property (IP), different types of IPs and its importance in the present scenario, Patent Acts: Indian patent acts 1970.Design Act: Industrial Design act 2000. Copy right acts: Copyright Act 1957. Trade Mark Act, 1999

Text books

1. Research Methodology: Methods and Techniques, C.R. Kothari, Gaurav Garg New Age International 4th Edition, 2018.

2. Research Methodology a step-by- step guide for beginners. (For the topic Reviewing the literature under module 2) Ranjit Kumar SAGE Publications Ltd 3rd Edition, 2011 Study Material. 3. Intellectual property, Debirag E. Bouchoux, Cengage learning, 2013. References 1. 1.Research Methods: the concise knowledge base Trochim, Atomic Dog Publishing, 2005. 2. 2.Conducting Research Literature Reviews: From the Internet to Paper Fink A Sage Publications, 2009.

3)1st Year / 2nd Semester Cyber Security(20MCA251)

Human Values

Human Values

Department of Civil Engineering

Visvesvaraya Technological University, Belagavi
Scheme of Teaching and Examinations 2021
Outcome-Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2021 – 22)

I Semester (Physics Group) **[Common to all B.E./B.Tech. Programs]**

Sl. No	Course and Course Code		Course Title	Teaching Department (TD)and Paper Setting Board(PSB)	Teaching Hours /Week				Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Self-Study	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P	S					
1	BSC	21MAT11	**Calculus & Differential Equations**	TD and PSB: Mathematics	2	2	--		03	50	50	100	3
2	BSC	21PHY12	Engineering Physics	TD and PSB: Physics	2	2	--		03	50	50	100	3
3	ESC	21ELE13	Basic Electrical Engineering	TD and PSB: E and E Engineering	2	2	--		03	50	50	100	3
4	ESC	21CIV14	Elements of Civil Engineering and Mechanics	TD and PSB: Civil Engineering	3	--	--		03	50	50	100	3
5	ESC	21EVN 15	Engineering Visualization	TD: ME, Auto, IP, IEM, Mfg. Engineering PSB: Mechanical Engg	2	--	2		03	50	50	100	3
6	BSC	21PHYL16	Engineering Physics Laboratory	TD and PSB: Physics	--	--	2		03	50	50	100	1
7	ESC	21ELEL17	Basic Electrical Engineering Laboratory	TD and PSB: E and E Engineering	--	--	2		03	50	50	100	1
8	HSMC	21EGH18	Communicative English	TD and PSB: Humanities	1	1	1		02	50	50	100	2
9	AEC	21IDT19/29	Innovation and Design Thinking	Any Engineering Department	1	--	--		01	50	50	100	1
		OR											
		21SFH19/29	Scientific Foundations of Health										

I Semester
INNOVATION and DESIGN THINKING
Course Code 21IDT19/29 CIE Marks 50
Teaching Hours/Week (L: T:P: S) 1:0:0 SEE Marks 50
Total Hours of Pedagogy 25 Total Marks 100
Credits 01 Exam Hours 01

Course Category: Foundation

Preamble: This course provides an introduction to the basic concepts and techniques of engineering and reverses engineering, the process of design, analytical thinking and ideas, basics and development of engineering drawing, application of engineering drawing with computer aide.

Course objectives:

- To explain the concept of design thinking for product and service development
- To explain the fundamental concept of innovation and design thinking
- To discuss the methods of implementing design thinking in the real world.

Teaching-Learning Process (General Instructions)

These are sample Strategies; which teachers can use to accelerate the attainment of the various course outcomes.

1. Lecturer method (L) does not mean only the traditional lecture method, but a different type of teaching method may be adopted to develop the outcomes.
2. Show Video/animation films to explain concepts
3. Encourage collaborative (Group Learning) Learning in the class
4. Ask at least three HOTS (Higher-order Thinking) questions in the class, which promotes critical thinking
5. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills, develops thinking skills such as the ability to evaluate, generalize, and analyze information rather than simply recall it.
6. Topics will be introduced in multiple representations.
7. Show the different ways to solve the same problem and encourage the students to come up with their own creative ways to solve them.
8. Discuss how every concept can be applied to the real world - and when that's possible, it helps improve the students' understanding.

Module-1

PROCESS OF DESIGN

Understanding Design thinking

Shared model in team-based design – Theory and practice in Design thinking – Explore presentation signers across globe – MVP or Prototyping

TeachingLearning

Process

Introduction about the design thinking: Chalk and Talk method

Theory and practice through presentation

MVP and Prototyping through live examples and videos

Module-2

Tools for Design Thinking

Real-Time design interaction capture and analysis – Enabling efficient collaboration in digital space – Empathy for design – Collaboration in distributed Design

TeachingLearning

Case studies on design thinking for real-time interaction and analysis

Process Simulation exercises for collaborated enabled design thinking

Live examples on the success of collaborated design thinking

Module-3

Design Thinking in IT

Design Thinking to Business Process modelling – Agile in Virtual collaboration environment – Scenario based Prototyping

TeachingLearning

Process

Case studies on design thinking and business acceptance of the design

Simulation on the role of virtual eco-system for collaborated prototyping
Module-4
DT For strategic innovations
Growth – Story telling representation – Strategic Foresight - Change – Sense Making - Maintenance Relevance – Value redefinition - Extreme Competition – experience design - Standardization – Humanization - Creative Culture – Rapid prototyping, Strategy and Organization – Business Model design.
TeachingLearning
Process
Business model examples of successful designs
Presentation by the students on the success of design
Live project on design thinking in a group of 4 students
Module-5
Design thinking workshop
Design Thinking Work shop Empathize, Design, Ideate, Prototype and Test
TeachingLearning
Process
8 hours design thinking workshop from the expect and then presentation by the students on the learning from the workshop

Department of Electrical and Electronics Engineering

I Semester

INNOVATION and DESIGN THINKING

Course Code 21IDT19/29

CIE Marks 50 Teaching Hours/Week (L: T:P: S) 1:0:0 SEE Marks 50 Total Hours of Pedagogy 25 Total Marks 100 Credits 01 Exam Hours 01

Course Category: Foundation Preamble: This course provides an introduction to the basic concepts and techniques of engineering and reverses engineering, the process of design, analytical thinking and ideas, basics and development of engineering drawing, application of engineering drawing with computer aide.

Course objectives:

- To explain the concept of design thinking for product and service development
- To explain the fundamental concept of innovation and design thinking
- To discuss the methods of implementing design thinking in the real world.

Module-1PROCESS OF DESIGN0 hours
Understanding Design thinking
Shared model in team-based design - Theory and practice in Design thinking - Explore presentation signers across globe - MVP or Prototyping
Teaching Learning Process
Introduction about the design thinking: Chalk and Talk method
Theory and practice through presentation
MVP and Prototyping through live examples and videos
Module-2Tools for Design Thinking0 hours
Tools for Design Thinking
Real-Time design interaction capture and analysis - Enabling efficient collaboration in digital space - Empathy for design - Collaboration in distributed Design

Teaching Learning Process
Case studies on design thinking for real-time interaction and analysis
Simulation exercises for collaborated enabled design thinking Live examples on the success of collaborated design thinking
Module-3Design Thinking in IT0 hours
Design Thinking in IT
Design Thinking to Business Process modelling - Agile in Virtuai collaboration environment - Scenario based Prototyping.
Teaching Learning Process
Case studies on design thinking and business acceptance ofthe design Simulation on the role of virtual eco-system for collaborated prototyping.
Module-4DT For strategic innovations0 hours
DT For strategic innovations
Growth - Story telling representation - Strategic Foresight - Change - Sense Making - Maintenance Relevance - Value redefinition - Extreme Competition - experience design - Standardization - Humanization - Creative Culture - Rapid prototyping, Strategy and Organization - Business Model design.
Teaching Learning Process
Business model examples of successful designs
Presentation by the students on the success of design
Live oroiect on desisn thinking in a group of 4 students
Module-5Design thinking workshop0 hours
Design thinking workshop
Design Thinking Work shop Empathize, Design, Ideate, Prototype and Test

TeachingLearning Process
8 hours design thinking workshop from the expect and then presentation by the students on the learning from the workshop

Course Outcomes:
Upon the successful completion of the course, students will be able to:
- Appreciate various design process procedure.
- Generate and develop design ideas through different technique.
- Identify the significance of reverse Engineering toUnderstand.
- Draw technical drawing for design ideas.

Assessment Details (both CIE and SEE)
methods of CIE need to be defined topic wise i.e.- Tests, MCQ, Quizzes, Seminar or micro project/Course Project, Term Paper) The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The student has to obtain a minimum of 35% of maximum marks in SEE and a minimum of 40% of maximum marks in CIE. Semester End Exam (SEE) is conducted for 100 marks (3 hours duration) and scaled down to 50 marks. Based on this grading will be awarded. The student has to score a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE [Semester End Examination) taken together,
Continuous Internal Evaluation:
Three Unit Tests each of 20 Marks (duration 01 hour)
1. First test at the end of 5th week of the semester

Semester–AECCourse

Scientific Foundationsof Health

CourseCode	**21SFH19/29**	CIEMarks	50
TeachingHours/Week(L:T:P:S)	1:0:0	SEEMarks	50
TotalHoursofPedagogy	02Hours/Week	TotalMarks	100
Credits	01	ExamHours	60Minutes/ 01Hour

Courseobjectives:

Thecourse21**SFH29**will enablethestudents:

- ToknowaboutHealthandwellness(and itsBeliefs)
- ToacquireGoodHealth &It'sbalancefor positivemind-set
- ToBuildthehealthylifestylesforgoodhealth fortheirbetterfuture
- ToCreateof Healthyandcaringrelationships tomeettherequirementsofMNCandLPGworld
- TolearnaboutAvoiding risksandharmfulhabitsintheir campusandoutsidethecampusfortheir brightfuture
- ToPreventandfightagainstharmfuldiseasesforgoodhealththroughpositivemindset

Teaching-LearningProcess(GeneralInstructions)

ThesearesampleStrategies,whichteachercanuseto acceleratetheattainmentof thevariouscourseoutcomes.

- ✓ Teachers shall adopt suitable pedagogy for effective teaching - learning process. The pedagogy shallinvolvethecombinationofdifferentmethodologieswhichsuitmoderntechnologicaltoolsandsoftware'st omeetthe present requirementsoftheGlobalemploymentmarket.
  - (i) Directinstructionalmethod(Low /OldTechnology),
  - (ii) Flippedclassrooms(High/advancedTechnologicaltools),
  - (iii) Blendedlearning(combinationofboth),
  - (iv) Enquiryandevaluationbasedlearning,
  - (v) Personalizedlearning,
  - (vi) Problemsbasedlearningthroughdiscussion,
  - (vii) FollowingthemethodofexpeditionarylearningToolsandtechniques,
- ✓ Apartfromconventionallecturemethods,varioustypes ofinnovativeteachingtechniques throughvideos,animation films may be adapted so that the delivered lesson can progress the students In theoreticalappliedand practicalskillsinteaching oftheconceptsof HealthandWellnessingeneral.

Module-1

GoodHealthandIt'sbalanceforpositivemindset:

WhatisHealth,WhyHealthisvery importantNow?–WhatinfluencesyourHealth?,HealthandBehaviour,Health beliefsand advertisements, Advantages of good health (Short term and long term benefits),Healthand Society,Health and family,Health and Personality -Profession. Health and behaviour, Disparities ofhealth in different vulnerable groups. Health and psychology, Methods to improve good psychologicalhealth. Psychological disorders (Stress and Health - Stress management), how to maintain good health,MindfulnessforSpiritual andIntellectualhealth,Changinghealthhabits for goodhealth.Healthand Personality related to Human values

Teaching-LearningProcess	Chalkandtalkmethod,PowerPointpresentationandYouTubevideos,Animationvideosmeth ods.creatingrealtimestationsinclassroomdiscussions.Givingactivities &assignments.

Module-2

Buildingofhealthylifestylesforbetterfuture:

Developing a healthy diet for good health, Food and health, Nutritional guidelines for good health and wellbeingness, Obesity and overweight disorders and its management, Eating disorders-proper exercises foritsmaintenance(Physicalactivitiesforhealth),Fitnesscomponentsforhealth,Wellnessandphysical function,

Teaching-LearningProcess	Chalkandtalkmethod,PowerPointpresentationandYouTubevideos,Animation videos methods.creatingrealtimestationsinclassroomdiscussions.Giving activities&assignments.

Module-3

CreationofHealthyandcaringrelationships:

Building communication skills (Listening and speaking),Friends and friendship -education, the value ofrelationships and communication, Relationships for Better or worsening of life,understanding of basicinstincts oflife(morethana biology),Changing healthbehaviorsthroughsocialengineering,

Teaching-Learning Process	Chalkandtalkmethod,PowerPointpresentationandAnimationvideosmethods.creating realtimestations inclassroomdiscussions.Giving activities andassignments. To Improve Human health Values

Module-4

Avoidingrisksandharmfulhabits:

Characteristics of health compromising behaviors, Recognizing and avoiding of addictions, How addictiondevelopsandaddictive behaviors, Typesof addictions,influencing factorsfor addictions,Differencesbetween addictive people and non addictive people and their behavior with society,Effects and healthhazardsfromaddictionsSuchas...,how torecoveryfromaddictions.

Teaching-Learning Process	Chalkandtalkmethod,PowerPointpresentationandAnimationvideosmethods.creating realtimestations inclassroomdiscussions.Giving activities andassignments.

Module-5

Preventingandfightingagainstdiseasesforgoodhealth:

Processofinfectionsandreasonsforit,Howtoprotectfromdifferenttypesoftransmittedinfectionssuchas…., Currenttrendsofsocioeconomicimpactofreducingyourriskofdisease,Howtoreducerisksforgoodhealth, Reducingrisksand copingwithchronicconditions,ManagementofchronicillnessforQualityoflife, Healthand Wellnessofyouth:achallengefor theupcomingfutureMeasuringofhealthandwealthstatus.

Teaching-LearningProcess	Chalkandtalkmethod,PowerPointpresentationandYouTubevideos,Animationvideosmethods. creatingrealtimestationsinclassroomdiscussions.Givingactivities & assignments.

Courseoutcome(Course SkillSet)

Attheend ofthecoursethestudentwillbeable:

CO1: TounderstandHealthandwellness(anditsBeliefs)

CO2:ToacquireGoodHealth&It'sbalanceforpositivemindset

CO3: Toinculcateanddevelopthehealthylifestylehabits for goodhealth.

CO4: ToCreateofHealthyandcaringrelationshipstomeettherequirementsof MNCandLPGworld

CO5: Toadopttheinnovative&positivemethods toavoidrisksfromharmfulhabitsintheir campus& outsidethecampus.

CO6:Topositivelyfight againstharmfuldiseases forgoodhealththroughpositivemindset.

AssessmentDetails(bothCIEandSEE)

methods of CIE need to be defined topic wise i.e.-Tests, MCQ, Quizzes, Seminar or micro project/CourseProject,Term Paper)

The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%.The student has to obtain a minimum of 35% of maximum marks in SEE and a minimum of 40% ofmaximum marks in CIE.Semester End Exam (SEE) is conducted for 50 marks (hours' duration). Basedonthis gradingwillbe awarded.

The student has to score a minimum of 40% (40 marks out of 100) in the sum total of the CIE(ContinuousInternalEvaluation)andSEE(SemesterEndExamination)takentogether.

ContinuousInternalEvaluation:

ThreeUnitTestseachof**20Marks(duration01hour**)

1. Firsttestattheendof5thweekofthesemester
2. Secondtestattheendofthe10thweekofthesemester
3. Thirdtestattheendofthe15thweekofthesemester

(Alltestsaresimilar totheSEEpatterni.equestionpaperpatternisMCQ)

Twoassignmentseachof**10Marks**

4. Firstassignmentattheendof4thweekofthesemester
5. Secondassignmentattheendof9thweekofthesemester

Reportwriting/Groupdiscussion/Seminaranyone ofthreesuitablyplannedtoattaintheCOsand POsfor**20Marks**(**duration01hours**)

6. Attheendofthe13thweekofthesemester

Thesumofthreetests,twoassignments, andquiz/seminar/groupdiscussionwillbeoutof100marksandwillbe**scaleddownto50marks**

CIEmethods/questionpaperisdesignedtoattainthedifferentlevelsofBloom'staxonomyasper theoutcomedefinedforthecourse.

SemesterEndExamination:

TheorySEEwillbeconductedbyUniversityasperthescheduledtimetable,withcommonquestionpapers forsubject

SEEpaperwillbesetfor50questionsofeachof01marks.ThepatternofthequestionpaperisMCQ.Thetimeal lottedforSEEis**01hours**

SuggestedLearningResources:

1. **Health Psychology**(Secondedition)byCharlesAbraham, MarkConner, FionaJonesand DarylO'Connor–Publishedby Routledge711 ThirdAvenue,NewYork,NY10017.
2. **HealthPsychology-ATextbook,**FOURTHEDITIONbyJaneOgdenMcGrawHillEducation(India)PrivateLimited-OpenUniversityPress
3. **HEALTHPSYCHOLOGY(NinthEdition)**bySHELLEYE.TAYLOR-UniversityofCalifornia,LosAngeles,McGrawHillEducation(India)Private Limited-OpenUniversityPress

4. **ScientificFoundationsofHealth(Health&Welness)-GeneralBooks**publishedforuniversityandcolleges referencesbypopularauthorsandpublishedbythe reputedpublisher.

1) **SWAYAM/NPTL/ MOOCS/Weblinks/ Internetsources/YouTubevideos**andothermaterials

B.E.ECE

ChoiceBasedCreditSystem(CBCS)andOutcomeBasedEducation(OBE)SEMESTER–VIII

BIOMEDICALSIGNALPROCESSING

CourseCode	**18EC825**	**CIEMarks**	**40**
NumberofLectureHours/Week	**3**	**SEEMarks**	**60**
TotalNumberofLectureHours	**40(8Hours/Module)**	**ExamHours**	**03**

CREDITS–03

CourseLearningObjectives: Thiscoursewillenablestudentsto:

- Describetheorigin,propertiesandsuitablemodelsofimportantbiologicalsignalssuchasECGandEEG.
- Knowthebasicsignalprocessingtechniquesinanalyzingbiologicalsignals related to human health values
- Acquiremathematicalandcomputationalskillsrelevanttothefieldofbiomedicalsignalprocessing.
- DescribethebasicsofECGsignalcompressionalgorithms.
- Knowthecomplexityofvariousbiologicalphenomena.
- Understandthepromises,challengesofthebiomedicalengineering.

Module-1	**RBTLevel**
IntroductiontoBiomedicalSignals: ThenatureofBiomedicalSignals,ExamplesofBiomedicalSignals,Objectivesand difficultiesinBiomedicalanalysis. **Electrocardiography:**Basicelectrocardiography,ECGleadssystems,ECGsignalcharacteristics. **SignalConversion**:Simplesignalconversionsystems,Conversionrequirementsforbiomedicalsignals,Signalconversion circuits**(Text-1)**	**L1,L2**
Module-2	
SignalAveraging: Basicsofsignalaveraging,signalaveragingasadigitalfilter,atypicalaverager,softwareforsignalaveraging,limitationsofsignalaveraging. **AdaptiveNoiseCancelling:**Principalnoisecancellermodel,60-Hzadaptivecancellingusingasinewavemodel,otherapplicationsofadaptivefiltering**(Text-1)**	**L1,L2,L3**
Module-3	
DataCompressionTechniques: Turningpointalgorithm,AZTECalgorithm,Fanalgorithm,Huffman coding, data reduction algorithms The Fourier transform, Correlation, Convolution,Powerspectrumestimation,FrequencydomainanalysisoftheECG**(Text-1)**	**L1,L2,L3**
Module-4	
Cardiologicalsignalprocessing: BasicElectrocardiography,ECGdataacquisition,ECGleadsystem,ECGsignalcharacteristics (parameters and their estimation), Analog filters, ECG amplifier, and QRSdetector,PowerspectrumoftheECG,Bandpassfilteringtechniques,Differentiationtechniques, Templatematching techniques,AQRS detectionalgorithm,Real-timeECGprocessingalgorithm,ECGinterpretation,STsegmentanalyzer,Portablearrhythmiamonitor.	**L1,L2,L3**

(Text-2)	
Module-5	
Neurological signal processing: The brain and its potentials, The electrophysiological originof brain waves, The EEG signal and its characteristics (EEG rhythms, waves, and transients),Correlation. **AnalysisofEEGchannels:**DetectionofEEGrhythms,TemplatematchingforEEG,spike andwavedetection**(Text-2)**	**L1,L2,L3**
CourseOutcomes: Attheendofthecourse,studentswillbeableto: • Possessthebasicmathematical,scientificandcomputationalskillsnecessarytoanalyseECGandEEGsignals to improvise human health Values • ApplyclassicalandmodernfilteringandcompressiontechniquesforECGandEEGsignals • DevelopathoroughunderstandingonbasicsofECGandEEGfeatureextraction.	

Mechanical Engineering

INNOVATION and DESIGN THINKING
Course Code 21IDT19/29 CIE Marks 50
Teaching Hours/Week (L: T:P: S) 1:0:0 SEE Marks 50
Total Hours of Pedagogy 25 Total Marks 100
Credits 01 Exam Hours 01
Course Category: Foundation

Preamble: This course provides an introduction to the basic concepts and techniques of engineering and reverses engineering, the process of design, analytical thinking and ideas, basics and development of engineering drawing, application of engineering drawing with computer aide.
Course objectives:
- To explain the concept of design thinking for product and service development
- To explain the fundamental concept of innovation and design thinking
- To discuss the methods of implementing design thinking in the real world.

Teaching-Learning Process (General Instructions)
These are sample Strategies; which teachers can use to accelerate the attainment of the various course outcomes.
1. Lecturer method (L) does not mean only the traditional lecture method, but a different type of teaching method may be adopted to develop the outcomes.
2. Show Video/animation films to explain concepts
3. Encourage collaborative (Group Learning) Learning in the class
4. Ask at least three HOTS (Higher-order Thinking) questions in the class, which promotes critical thinking
5. Adopt Problem Based Learning (PBL), which fosters students' Analytical skills, develops thinking

skills such as the ability to evaluate, generalize, and analyze information rather than simply recall it.
6. Topics will be introduced in multiple representations.
7. Show the different ways to solve the same problem and encourage the students to come up with their own creative ways to solve them.
8. Discuss how every concept can be applied to the real world - and when that's possible, it helps improve the students' understanding.

Module-1

PROCESS OF DESIGN

Understanding Design thinking

Shared model in team-based design – Theory and practice in Design thinking – Explore presentation signers across globe – MVP or Prototyping

TeachingLearning

Process

Introduction about the design thinking: Chalk and Talk method

Theory and practice through presentation

MVP and Prototyping through live examples and videos

Module-2

Tools for Design Thinking

Real-Time design interaction capture and analysis – Enabling efficient collaboration in digital space – Empathy for design – Collaboration in distributed Design

TeachingLearning

Case studies on design thinking for real-time interaction and analysis

Process Simulation exercises for collaborated enabled design thinking

Live examples on the success of collaborated design thinking

Module-3

Design Thinking in IT

Design Thinking to Business Process modelling – Agile in Virtual collaboration environment – Scenario based Prototyping

TeachingLearning

Process

Case studies on design thinking and business acceptance of the design

Simulation on the role of virtual eco-system for collaborated prototyping

Module-4

DT For strategic innovations

Growth – Story telling representation – Strategic Foresight - Change – Sense Making - Maintenance Relevance – Value redefinition - Extreme Competition – experience design - Standardization – Humanization - Creative Culture – Rapid prototyping, Strategy and Organization – Business Model design.

TeachingLearning

Process

Business model examples of successful designs

Presentation by the students on the success of design

Live project on design thinking in a group of 4 students

Module-5

Design thinking workshop

Design Thinking Work shop Empathize, Design, Ideate, Prototype and Test

TeachingLearning

Process

8 hours design thinking workshop from the expect and then presentation by the students

on the learning from the workshop

TECHNOLOGICAL INNOVATION MANAGEMENT AND ENTREPRENEURSHIP SEMESTER – V (MT)
[
As per Choice Based Credit System (CBCS) Scheme
Course Code 18ES51
CIE Marks 40 Number of Lecture Hours/Week 03 SEE Marks 60 Total Number of Lecture Hours 40 (08 Hours / Module) Exam Hours 03 CREDITS – 03

Course Objectives: This course will enable students to:
• Understand basic skills of Management
• Understand the need for Entrepreneurs and their skills
• Identify the Management functions and Social responsibilities
• Understand the Ideation Process, creation of Business Model, Feasibility Study and sources of funding

Module-1Management8 hours
Management: Nature and Functions ofManagement- Importance, Definition, Management Functions, Levels of Management, Roles of Manager, Managerial Skills, Management & Administration, Management as a Science, Art & Profession
(Selected topics of Chapter 1, Text 1).

Planning: Planning-Nature, Importance, Types, Steps and Limitations of Planning; Decision Making-Meaning, Types and Steps in Decision Making
(Selected topics from Chapters 4 & S, Text 1). L1,L2
Module-2Organizing and Staffing8 hours
Organizing and Staffing: Organization-Meaning, Characteristics, Process of Organizing, Principles of Organizing, Span of Management (meaning and importance only), Departmentalisation, Committees-Meaning, Types of Committees; Centralization Vs Decentralization of Authority and Responsibility; Staff"mg-Need and Importance, Recruitment and Selection Process
(Selected topics from Chapters 7, 8 & 11,Text 1).

Directing and Controlling: Meaning and Requirements ofEffective Direction, Giving Orders; Motivation-Nature of Motivation, Motivation Theories (Maslow's Need-Hierarchy Theory and Herzberg's Two Factor Theory); Communication - Meaning, Importance and Purposes of Communication; Leadership-Meaning, Characteristics, Behavioural Approach of Leadership; 93 Coordination-Meaning, Types, Techniques of Coordination; Controlling Meaning, Need for Control System, Benefits of Control, Essentials ofEffective Control System, Steps in Control Process.
(Selected topics from Chapters 15to 18and 9, Text 1). Ll,Ll
Module-3Social Responsibilities of Business8 hours
Social Responsibilities of Business: Meaning of Social Responsibility, Social Responsibilities ofBusiness towards Different Groups, Social Audit, Business Ethics and Corporate Governance
(Selected topics from Chapter 3, Text 1).
Entrepreneurship: Definition ofEntrepreneur, Importance ofEntrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacitybuilding for Entrepreneurship
(Selected topics from Chapter 2, Text 2). Ll,L2
Module-4Family Business8 hours
Family Business: Role and Importance ofFamily Business, Contributions of Family Business in India, Stages of Development of a Family Business, Characteristics of a Famity-owned Business in India, Various types of fumily businesses

(Selected topics from Chapter 4,(Page 71-75) Text 2).

Idea Generation and Feasibility Analysis- Idea Generation; Creativity and Innovation; Identification of Business Opportunities; Market Entry Strategies; Marketing Feasibility; FinancialFeasibilities; Political Feasibilities; Economic Feasibility; Social and Legal Feasibilities; Technical Feasibilities; Managerial Feasibility, Location and Other Utilities Feasibilities.
(Selected topics from Chapter 6(Page No. 111-117) & Chapter 7(Page No. 140-142), Text 2) Ll,L2
Module-5Business model8 hours
Business model- Meaning, designing, analyzing and improvising; Business Plan - Meaning, Scope and Need; Financial, Marketing, Human Resource and Production/Service Plan; Business plan Formats; Project report preparation and presentation; Why some Business Plan fails?
(Selected topics from Chapter 8 (Page No 159-164, Text 2)

Financing and How to start a Business? Financial opportunity identification; Banking sources; Nonbanking Institutions and Agencies; Venture Capital - Meaning and Role in Entrepreneurship; Government Schemes for funding business; Pre launch, Launch and Post launch requirements; Procedure for getting License and Registration; Challenges and Difficulties in Starting an Enterprise
(Selected topics from Chapter 7(Page No 147-149), Chapter 5(Page No 93-99) & Chapter 8(Page No. 166-172) Text 2)

Project Design and Network Analysis: Introduction, Importance ofNetwork Analysis, Origin ofPERT and CPM, Network, Network Techniques, Need for Network Techniques, Steps in PERT, CPM, Advantages, Limitations and Differences.
(Selected topics from Chapters 20, Text 3). Ll,L2,L3

Course Outcomes:
After studying this course, students will be able to:
1. Understand the fundamental concepts of Management and Entrepre neurship and opportunities in order to setup a business
2. Identify the various organizations' architecture
3. Describe the functions of Managers, Entrepreneurs and their social responsibilities
4. Understand the components in developing a business plan
5. Recognize the various sources of funding and institutions supporting entrepreneurs.

TextBooks:
1. Principles of Management - P.C Tripathi, P.N Reddy, McGraw Hill Education, fYhEdition, 2017. ISBN-13:978-93-5260-5354.
2 Entrepreneurship Development Small Business Enterprises- Poomima MCharantimath, Pearson Education 2008, ISBN 978-81-7758-260-4.
3. Dynamics ofEntrepreneurial Development and Management byVasant Desai. HPH 2007, ISBN: 978-81-8488-801-2.
4. Robert D. Hisrich, Mathew J. Manimala, Michael PPeters and DeanA. Shepherd, "Entrepreneurship", S1h Edition, Tata Mc-Graw HillPublishing Co.Ltd.- New Delhi, 2012

Reference Book:
1. Essentials of Management: An International, Innovation and Leadership perspective by Harold Koontz, Heinz Weihrich McGraw Hill Education, I01h Edition 2016. ISBN- 978-93-392-2286-4.

TECHNOLOGICAL INNOVATION MANAGEMENT AND ENTREPRENEURSHIP SEMESTER – V (MT)
[
As per Choice Based Credit System (CBCS) Scheme
Course Code 18ES51
CIE Marks 40 Number of Lecture Hours/Week 03 SEE Marks 60 Total Number of Lecture Hours 40 (08 Hours / Module) Exam Hours 03 CREDITS – 03

Course Objectives: This course will enable students to:
• Understand basic skills of Management
• Understand the need for Entrepreneurs and their skills
• Identify the Management functions and Social responsibilities
• Understand the Ideation Process, creation of Business Model, Feasibility Study and sources of funding

Module-1Management8 hours
Management: Nature and Functions ofManagement- Importance, Definition, Management Functions, Levels of Management, Roles of Manager, Managerial Skills, Management & Administration, Management as a Science, Art & Profession
(Selected topics of Chapter 1, Text 1).

Planning: Planning-Nature, Importance, Types, Steps and Limitations of Planning; Decision Making-Meaning, Types and Steps in Decision Making
(Selected topics from Chapters 4 & S, Text 1). L1,L2
Module-2Organizing and Staffing8 hours
Organizing and Staffing: Organization-Meaning, Characteristics, Process of Organizing, Principles of Organizing, Span of Management (meaning and importance only), Departmentalisation, Committees-Meaning, Types of Committees; Centralization Vs Decentralization of Authority and Responsibility; Staff"mg-Need and Importance, Recruitment and Selection Process
(Selected topics from Chapters 7, 8 & 11,Text 1).

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(Selected topics from Chapters 15to 18and 9, Text 1). Ll,Ll
Module-3Social Responsibilities of Business8 hours
Social Responsibilities of Business: Meaning of Social Responsibility, Social Responsibilities ofBusiness towards Different Groups, Social Audit, Business Ethics and Corporate Governance
(Selected topics from Chapter 3, Text 1).
Entrepreneurship: Definition ofEntrepreneur, Importance ofEntrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacitybuilding for Entrepreneurship
(Selected topics from Chapter 2, Text 2). Ll,L2
Module-4Family Business8 hours
Family Business: Role and Importance ofFamily Business, Contributions of Family Business in India, Stages of Development of a Family Business, Characteristics of a Famity-owned Business in India, Various types of fumily businesses
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Feasibilities; Economic Feasibility; Social and Legal Feasibilities; Technical Feasibilities; Managerial Feasibility, Location and Other Utilities Feasibilities.
(Selected topics from Chapter 6(Page No. 111-117) & Chapter 7(Page No. 140-142), Text 2) Ll,L2
Module-5Business model8 hours
Business model- Meaning, designing, analyzing and improvising; Business Plan - Meaning, Scope and Need; Financial, Marketing, Human Resource and Production/Service Plan; Business plan Formats; Project report preparation and presentation; Why some Business Plan fails?
(Selected topics from Chapter 8 (Page No 159-164, Text 2)

Financing and How to start a Business? Financial opportunity identification; Banking sources; Nonbanking Institutions and Agencies; Venture Capital - Meaning and Role in Entrepreneurship; Government Schemes for funding business; Pre launch, Launch and Post launch requirements; Procedure for getting License and Registration; Challenges and Difficulties in Starting an Enterprise
(Selected topics from Chapter 7(Page No 147-149), Chapter 5(Page No 93-99) & Chapter 8(Page No. 166-172) Text 2)

Project Design and Network Analysis: Introduction, Importance ofNetwork Analysis, Origin ofPERT and CPM, Network, Network Techniques, Need for Network Techniques, Steps in PERT, CPM, Advantages, Limitations and Differences.
(Selected topics from Chapters 20, Text 3). Ll,L2,L3

Course Outcomes:
After studying this course, students will be able to:
1. Understand the fundamental concepts of Management and Entrepre neurship and opportunities in order to setup a business
2. Identify the various organizations' architecture
3. Describe the functions of Managers, Entrepreneurs and their social responsibilities
4. Understand the components in developing a business plan
5. Recognize the various sources of funding and institutions supporting entrepreneurs.

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1. Principles of Management - P.C Tripathi, P.N Reddy, McGraw Hill Education, fYhEdition, 2017. ISBN-13:978-93-5260-5354.
2 Entrepreneurship Development Small Business Enterprises- Poomima MCharantimath, Pearson Education 2008, ISBN 978-81-7758-260-4.
3. Dynamics ofEntrepreneurial Development and Management byVasant Desai. HPH 2007, ISBN: 978-81-8488-801-2.
4. Robert D. Hisrich, Mathew J. Manimala, Michael PPeters and DeanA. Shepherd, "Entrepreneurship", S1h Edition, Tata Mc-Graw HillPublishing Co.Ltd.- New Delhi, 2012

Reference Book:
1. Essentials of Management: An International, Innovation and Leadership perspective by Harold Koontz, Heinz Weihrich McGraw Hill Education, I01h Edition 2016. ISBN- 978-93-392-2286-4.

Computer Science & Engineering

I Semester

INNOVATION and DESIGN THINKING

Course Code 21IDT19/29

CIE Marks 50 Teaching Hours/Week (L: T:P: S) 1:0:0 SEE Marks 50 Total Hours of Pedagogy 25 Total Marks 100 Credits 01 Exam Hours 01

Course Category: Foundation Preamble: This course provides an introduction to the basic concepts and techniques of engineering and reverses engineering, the process of design, analytical thinking and ideas, basics and development of engineering drawing, application of engineering drawing with computer aide.

Course objectives:

- To explain the concept of design thinking for product and service development
- To explain the fundamental concept of innovation and design thinking
- To discuss the methods of implementing design thinking in the real world.

Module-1PROCESS OF DESIGN0 hours

Understanding Design thinking

Shared model in team-based design - Theory and practice in Design thinking - Explore presentation signers across globe - MVP or Prototyping

Teaching Learning Process

Introduction about the design thinking: Chalk and Talk method
Theory and practice through presentation
MVP and Prototyping through live examples and videos

Module-2Tools for Design Thinking0 hours

Tools for Design Thinking

Real-Time design interaction capture and analysis - Enabling efficient collaboration in digital space - Empathy for design - Collaboration in distributed Design

Teaching Learning Process

Case studies on design thinking for real-time interaction and analysis
Simulation exercises for collaborated enabled design thinking Live examples on the success of collaborated design thinking

Module-3Design Thinking in IT0 hours

Design Thinking in IT

Design Thinking to Business Process modelling - Agile in Virtuai collaboration environment - Scenario based Prototyping.

Teaching Learning Process

Case studies on design thinking and business acceptance ofthe design Simulation on the role of virtual eco-system for collaborated prototyping.

Module-4DT For strategic innovations0 hours

DT For strategic innovations

Growth - Story telling representation - Strategic Foresight - Change - Sense Making - Maintenance Relevance - Value redefinition - Extreme Competition - experience design - Standardization - Humanization - Creative Culture - Rapid prototyping, Strategy and Organization - Business Model design.

Teaching Learning Process

Business model examples of successful designs
Presentation by the students on the success of design
Live oroiect on desisn thinking in a group of 4 students

Module-5Design thinking workshop0 hours

Design thinking workshop
Design Thinking Work shop Empathize, Design, Ideate, Prototype and Test

TeachingLearning Process
8 hours design thinking workshop from the expect and then presentation by the students on the learning from the workshop

Course Outcomes:
Upon the successful completion of the course, students will be able to:

- Appreciate various design process procedure.
- Generate and develop design ideas through different technique.
- Identify the significance of reverse Engineering toUnderstand.
- Draw technical drawing for design ideas.

Assessment Details (both CIE and SEE)
methods of CIE need to be defined topic wise i.e.- Tests, MCQ, Quizzes, Seminar or micro project/Course Project, Term Paper) The weightage of Continuous Internal Evaluation (CIE) is 50% and for Semester End Exam (SEE) is 50%. The student has to obtain a minimum of 35% of maximum marks in SEE and a minimum of 40% of maximum marks in CIE. Semester End Exam (SEE) is conducted for 100 marks (3 hours duration) and scaled down to 50 marks. Based on this grading will be awarded. The student has to score a minimum of 40% (40 marks out of 100) in the sum total of the CIE (Continuous Internal Evaluation) and SEE [Semester End Examination) taken together,

Continuous Internal Evaluation:
Three Unit Tests each of 20 Marks (duration 01 hour)

1. First test at the end of 5th week of the semester

PERSONAL GROWTH AND INTERPERSONAL EFFECTIVENESS			
Course Code	20MBAHR402	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Objectives

1. The student will be able to describe and Identify the application of various PG and IE framework
2. The student will be able to describe and explain in her/his own words, the relevance and importance of various PG and IE to be adopted in the Organisation
3. The student will be able to apply and improve the workplace effectiveness through various PG and IE
4. The student will be able to classify and categorise different PG and IE practices and to be followed in the Organisation
5. The student will be able to create and reconstruct Leadership required to manage the Human Resources in the Organisation
6. The student will be able to appraise and judge the practical applicability of various PG and IE practices to be followed in the Organisation

Module-1 Dynamics of Personal Growth **4 hours**

Dynamics of Personal Growth Meaning, nature and scope of personal growth. Self-awareness and self-esteem, life roles, social roles and organisational roles, role clarity and role boundaries. Ego states- Id, ego and super ego and defense mechanism. Developing a self-improvement plan.

Module -2 Interpersonal Trust **4 hours**

Openness, confidentiality, blind spot and unknown part of personality. Self-disclosure, seeking feedback, self-reflection and practicing new behaviors. Discovering facets of interpersonal trust through Johari Window.

Module -3 Understanding Human Personality and Neuro Functioning **7 hours**

Personality theories, Carl Jung's theory of personality types and Myers Briggs Type Indicator test (MBTI), Trait theories- Guilford Peogut, PF 16 and Type A and B, Emotional intelligence. **Basic functions of mind:** Creativity and innovation. Blocks to creativity. Creativity processes and tools- convergent and divergent thinking. Six thinking Hats, Neuro Linguistic Programming.

Module -4 Attitudes, Beliefs, Values and their impact on Behaviour **7 hours**

Personal change meaning, nature and requisites. Social adjustments and habit formation. Locus of control. Habits of personal effectiveness. Seven habits of highly effective people.

Module -5 **9 hours**

Interpersonal relations and personal growth: Interpersonal needs for openness, inclusion and control. Discovering the interpersonal orientation through FIRO-B. Conflict resolution and negotiation, time management and honouring the commitments

Module – 6 Transactional Analysis **9 hours**

Ego states, types of transactions and time structuring. Life position, scripts and games; T-group sensitivity training, encounter groups, appreciative enquiry and group relations conference (students may go through three days personal growth lab for experiential learning)

Course Outcomes:

1. Have in-depth understanding the various personality traits which promotes personal growth.
2. Analyze the concepts of human personality, behaviour and functioning of mind
3. Learn and apply the psychometrics tests in understanding the personality traits.
4. Develop the greater insight of self, and others through various theories and prepare the developmental plan for interpersonal effectiveness.

Practical Components:

- Students are expected to conduct an in-depth study about various personality traits & TA and submit a detailed report.
- Students must undergo psychometric test like MBTI, FIRO-B, Big Five etc, conduct SWOT analysis and prepare a personal growth plan based on the results
- Ask the individual students to seek multisource feedback about their interpersonal effectiveness from peers, teachers, and parents; understand and reflect the feedback and prepare a development plan for interpersonal

Gender

Gender

Department of Civil Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV32	Strength of Materials	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV33	Fluid Mechanics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV34	Building Materials and Construction	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV35	Basic Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV36	Engineering Geology	Geology	3	0	--	03	40	60	100	3
7	PCC	18CVL37	Computer Aided Building Planning & Drawing	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL38	Building Materials Testing Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
			OR									
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
			OR									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

IV SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT41	Complex Analysis, Probability And Statistical Methods	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CV42	Analysis of Determinate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV43	Applied Hydraulics	Civil Engg.	3	0	--	03	40	60	100	3
4	PCC	18CV44	Concrete Technology	Civil Engg.	3	0	--	03	40	60	100	3
5	PCC	18CV45	Advanced Surveying	Civil Engg.	3	0	--	03	40	60	100	3
6	PCC	18CV46	Water Supply & Treatment Engineering	Civil Engg.	3	0	--	03	40	60	100	3
7	PCC	18CVL47	Engineering Geology Laboratory	Geology	--	2	2	03	40	60	100	2
8	PCC	18CVL48	Fluid Mechanics and Hydraulic Machines Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for Communication)/	HSMC	--	2	--	--	100	--	100	1
			OR									
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
			OR									
		18CPC39/49	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

Education

(OBE) and Choice Based Credit System (CBCS)

SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code 18CPC39/49 CIE Marks 40

Teaching Hours/Week (L:T:P) (1:0:0) SEE Marks 60

Credits 01 Exam Hours 02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens

- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
- Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1

Introduction to Indian Constitution: The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive: Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions: Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions: Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics: Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in

Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws: Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes: On completion of this course, students will be able to,

- CO1: Have constitutional knowledge and legal literacy.
- CO2: Understand Engineering and Professional ethics and responsibilities of Engineers.
- CO3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Textbooks				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction to the Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

Department of Electrical and Electronics Engineering

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques (Common to all Branches)	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18EE32	Electric Circuit Analysis	EEE	3	2	--	03	40	60	100	4
3	PCC	18EE33	Transformers and Generators	EEE	3	0	--	03	40	60	100	3
4	PCC	18 EE 34	Analog Electronic Circuits	EEE	2	2	--	03	40	60	100	3
5	PCC	18 EE 35	Digital System Design	EEE	3	0	--	03	40	60	100	3
6	PCC	18 EE 36	Electrical and Electronic Measurements	EEE	3	0	--	03	40	60	100	3
7	PCC	18 EE L37	Electrical Machines Laboratory -1	EEE	--	2	2	03	40	60	100	2
8	PCC	18 EE L38	Electronics Laboratory	EEE	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
			OR									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	16 OR 17	10 OR 12	04	24 OR 26	420 OR 360	480 OR 540	900	24

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code 18CPC39/49 CIE Marks 40

Teaching Hours/Week (L:T:P) (1:0:0) SEE Marks 60

Credits 01 Exam Hours 02

Module-1Introduction to Indian Constitution0 hours

Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2Union Executive and State Executive0 hours

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3Elections, Amendments and Emergency Provisions0 hours

Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:

Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4Professional / Engineering Ethics0 hours

Professional / Engineering Ethics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.

Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours

Internet Laws, Cyber Crimes and Cyber Laws:

Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:

On completion of this course, students will be able to,

CO 1: Have constitutional knowledge and legal literacy.

Department of Electronics & Communication Engineering

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques (Common to all Branches)	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18EE32	Electric Circuit Analysis	EEE	3	2	--	03	40	60	100	4
3	PCC	18EE33	Transformers and Generators	EEE	3	0	--	03	40	60	100	3
4	PCC	18 EE 34	Analog Electronic Circuits	EEE	2	2	--	03	40	60	100	3
5	PCC	18 EE 35	Digital System Design	EEE	3	0	--	03	40	60	100	3
6	PCC	18 EE 36	Electrical and Electronic Measurements	EEE	3	0	--	03	40	60	100	3
7	PCC	18 EE L37	Electrical Machines Laboratory -1	EEE	--	2	2	03	40	60	100	2
8	PCC	18 EE L38	Electronics Laboratory	EEE	--	2	2	03	40	60	100	2
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	16 OR 17	10 OR 12	04	24 OR 26	420 OR 360	480 OR 540	900	24

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code 18CPC39/49 CIE Marks 40

Teaching Hours/Week (L:T:P) (1:0:0) SEE Marks 60

Credits 01 Exam Hours 02

Module-1Introduction to Indian Constitution0 hours

Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2Union Executive and State Executive0 hours

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3Elections, Amendments and Emergency Provisions0 hours

Elections, Amendments and Emergency Provisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:

Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4Professional / Engineering Ethics0 hours

Professional / Engineering Ethics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.

Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours

Internet Laws, Cyber Crimes and Cyber Laws:

Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:

On completion of this course, students will be able to,

CO 1: Have constitutional knowledge and legal literacy.

B.E.CommontoallProgrammes **ChoiceBasedCreditSystem(CBCS)andOutcomeBasedEducation(OBE)SEMESTER -III**			
CONSTITUTIONOFINDIA,PROFESSIONALETHICSANDCYBERLAW(CPC)			
CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

CourseLearningObjectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights,directiveprinciples,andthedutiesofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowardssociety.
- Knowaboutthecybercrimesandcyberlawsforcybersafetymeasures.

Module-1

IntroductiontoIndianConstitution:

TheNecessityoftheConstitution,TheSocietiesbeforeandaftertheConstitutionadoption.IntroductiontotheIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalientfeaturesoftheConstitutionofIndia.FundamentalRightsanditsRestrictionandlimitationsindifferentComplexSituations. DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour

societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies.SupremeCourtofIndia,JudicialReviewsandJudicialActivism.StateExecutives– Governor,ChiefMinister,StateCabinet,StateLegislature,HighCourtandSubordinateCourts,SpecialProvisions(Articles

370.371,371J)forsomeStates.

Module-3

Elections,AmendmentsandEmergencyProvisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44,61,73,74,,75,86,and 91,94,95,100,101,118and someimportant Case Studies.EmergencyProvisions,typesofEmergenciesandits consequences.

Constitutionalspecialprovisions:

SpecialProvisionsforSCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:

Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering and Professionalism, Positive and Negative Faces of Engineering & Professional Ethics, Code of Ethics asdefined in the website of Institution of Engineers (India): Profession, Professionalism, and ProfessionalResponsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities inEngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityin

Engineering,IPRs(IntellectualPropertyRights),Risks,SafetyandliabilityinEngineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:

InternetandNeedforCyberLaws,ModesofRegulationofInternet, Typesofcyberterrorcapability,Net

neutrality,TypesofCyberCrimes,Indiaandcyberlaw,CyberCrimesandtheinformationTechnologyAct2000,InternetCensorship.Cy

bercrimesandenforcementagencies.

CourseOutcomes: Oncompletionofthiscourse,studentswillbeableto,CO1:Haveconstitutional knowledgeandlegalliteracy.

CO2:UnderstandEngineeringandProfessionalethicsandresponsibilitiesofEngineers.

CO3:Understandthethecybercrimesandcyberlawsforcybersafetymeasures.

QuestionpaperpatternforSEEandCIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students willproportionately be reduced to 60.The pattern of the question paper will be objective type(MCQ).
- Fortheawardof40CIEmarks,refertheUniversityregulations2018.

Sl. No.	TitleoftheBook	Nameofthe Author/s	Nameofthe Publisher	EditionandYear
Textbook/s				
1	Constitution of India,ProfessionalEthicsandHuman Rights	ShubhamSingles,CharlesE.Haries, andetal	CengageLearningIndia	2018
2	CyberSecurityandCyberLaws	AlfredBastaandet al	CengageLearning India	2018
ReferenceBooks				
3	Introductiontothe ConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M.Govindarajan,S. Natarajan,V.S.Senthilkumar	Prentice–Hall,	2004

B.E.BIOTECHNOLOGY
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)SEMESTER-III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)
(Mandatory Learning Course: Common to All Programmes)

CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

CourseLearningObjectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights, directive principles,and theduties ofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowards society.
- Knowaboutthecybercrimesandcyber lawsfor cybersafetymeasures.

Module-1

IntroductiontoIndianConstitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to theIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in differentComplexSituations.DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:
Parliamentary System, Federal System, Centre-State Relations.Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Courtof India, Judicial Reviews and Judicial Activism. State Executives–Governor, Chief Minister,
StateCabinet,StateLegislature, HighCourt andSubordinateCourts,SpecialProvisions(Articles

Module-3

Elections,AmendmentsandEmergencyProvisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutionalAmendments(HowandWhy)andImportant ConstitutionalAmendments.Amendments–7,9,10,12,42,44,61,73,74,,75,86,and
91,94,95,100,101,118andsomeimportantCaseStudies.EmergencyProvisions, types ofEmergenciesand itsconsequences.
Constitutionalspecialprovisions:
SpecialProvisionsfor SCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering andProfessionalism,PositiveandNegativeFaces of Engineering Ethics, Code of EthicsasdefinedinthewebsiteofInstitutionofEngineers(India):Profession,Professionalism,andProfessionalResponsibility.ClashofEthics,ConflictsofInterest.ResponsibilitiesinEngineeringResponsibilitiesin EngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityinEngineering,IPRs (Intellectual PropertyRights), Risks,Safetyand liabilityin Engineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:
Internet and Need for Cyber Laws,Modes of Regulation of Internet,Types of cyber terror capability, Netneutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act2000,InternetCensorship.Cybercrimes andenforcementagencies.

CourseOutcomes:
On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers. CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

QuestionpaperpatternforSEEandCIE:

- **The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).**
- **For the award of 40 CIE marks, refer the University regulations 2018.**

Sl. No.	Titleof theBook	Name of theAuthor/s	Name of thePublisher	EditionandYear
Textbook/s				
1	ConstitutionofIndia,Professional Ethics and HumanRights	Shubham Singles,Charles E. Haries,and etal	Cengage LearningIndia	2018
2	Cyber Securityand CyberLaws	AlfredBastaand et al	CengageLearning India	2018
ReferenceBooks				
3	IntroductiontotheConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M. Govindarajan, S.Natarajan, V. S.Senthilkumar	Prentice–Hall,	2004

Mechanical Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Mathematics	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18ME32	Mechanics of Materials		3	2	--	03	40	60	100	4
3	PCC	18ME33	Basic Thermodynamics		3	0	--	03	40	60	100	3
4	PCC	18ME34	Material Science		3	0	--	03	40	60	100	3
5	PCC	18ME35A or	Metal cutting and forming		3	0	--	03	40	60	100	3
		18ME35B	Metal Casting and Welding									
6	PCC	18ME36A or	Computer Aided Machine Drawing/		1	4						
		18ME36B	Mechanical Measurements and Metrology		3	0	--	03	40	60	100	3
7	PCC	18MEL37A or	Material Testing lab		--	2	2	03	40	60	100	2
		18MEL37B	Mechanical Measurements and Metrology lab									
8	PCC	18MEL38A	Workshop and Machine Shop Practice (Consists of Fitting, and Machining)		--	2	2	03	40	60	100	2
		18MEL38B	Foundry,Forging and Welding lab									
9	HSMC	18KVK39/49	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39/49	Aadalitha Kannada (Kannada for Administration)									
		OR										
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	17 OR 19	10 OR 14	04	24 OR 26	420 OR 360	480 OR 540	900	24

Note: BSC: Basic Science, PCC: Professional Core, HSMC: Humanity and Social Science, NCMC: Non-credit mandatory course.

18KVK39 Vyavaharika Kannada (Kannada for communication) is for non-Kannada speaking, reading and writing students and 18KAK39 Aadalitha Kannada (Kannada for Administration) is for students who speak, read and write Kannada.

18KL39/49- KANNADA

ಪಠ್ಯಕ್ರಮ

1. ಆಡಳಿತ ಭಾಷೆಯಾಗಿ ಕನ್ನಡ
2. ವಿವಿಧ ರೀತಿಯ ಅರ್ಜಿ ನಮೂನೆಗಳು
3. ಪತ್ರ ವ್ಯವಹಾರ – ಸರ್ಕಾರಿ ಅರೆಸರ್ಕಾರಿ ಪತ್ರಗಳು – ಆಹ್ವಾನ ಪತ್ರಿಕೆ, ಜಾಹೀರಾತು, ಪತ್ರಿಕಾ ಪ್ರಕಟಣೆ ಇತ್ಯಾದಿ ಪತ್ರಗಳು
4. ಭಾಷೆ ಮತ್ತು ಬರಹ – ಡಾ. ಎಂ ಚಿದಾನಂದ ಮೂರ್ತಿ ರವರ ಭಾಷಾ ವಿಜ್ಞಾನದ ಮೂಲ ತತ್ವಗಳು ಪುಸ್ತಕದಿಂದ
5. ಭಾಷಾಭ್ಯಾಸ – ತತ್ಸಮ ತದ್ಭವ, ಸಮಾನಾರ್ಥಕ ಪದಗಳು, ವಿರುದ್ಧಾರ್ಥಕ ಪದಗಳು, ನಾನಾರ್ಥ ಪದಗಳು, ನುಡಿಗಟ್ಟುಗಳು, ಅನುಕರಣಾವ್ಯಯಗಳು (ದ್ವಿರುಕ್ತಿ) ಮತ್ತು ಜೋಡು ನುಡಿಗಳು, ಕನ್ನಡದ ದೇಶ್ಯ ಪದಗಳು, ಅನ್ಯದೇಶ್ಯ ಪದಗಳು.
6. ಭಾಷಾ ರಚನೆ – ವಾಕ್ಯ ಪದ್ಧತಿ ಮತ್ತು ಲೇಖನ ಚಿಹ್ನೆಗಳು, ಪತ್ರ ಲೇಖನ, ವರದಿ ಲೇಖನ, ಪ್ರಬಂಧ ಲೇಖನ.
7. ಶ್ರಾವಣ (ಕವನ) – ದ ರಾ ಬೇಂದ್ರೆ
8. ಡಾ. ವಿಶ್ವೇಶ್ವರಯ್ಯ – ವ್ಯಕ್ತಿ ಮತ್ತು ಐತಿಹ್ಯ (ವ್ಯಕ್ತಿ ಚಿತ್ರ) – ಎ ಎನ್ ಮೂರ್ತಿರಾವ್
9. ದೋಣಿ ಹರಿಗೋಲುಗಳಲ್ಲಿ (ಪ್ರವಾಸ ಕಥನ) – ಶಿವರಾಮ ಕಾರಂತ
10. ಅಣ್ಣಪ್ಪನ ರೇಷ್ಮೆ ಕಾಯಿಲೆ (ಪ್ರಬಂಧ) – ಕುವೆಂಪು
11. ನಮ್ಮ ಎಮ್ಮೆಗೆ ಮಾತು ತಿಳಿಯುವುದೆ? (ವಿನೋದ) – ಗೊರೂರು ರಾಮಸ್ವಾಮಿ ಅಯ್ಯಂಗಾರ್
12. ಆನೆಹಳ್ಳದಲ್ಲಿ ಹುಡುಗಿಯರು (ವಿಜ್ಞಾನ ಲೇಖನ) – ಬಿ ಜಿ ಎಲ್ ಸ್ವಾಮಿ
13. ಬೆಡ್ ನಂಬರ್ ಏಳು (ಕತೆ) – ತ್ರಿವೇಣಿ
14. ರೊಟ್ಟಿ ಮತ್ತು ಕೋವಿ (ಕವನ) – ಸು ರಂ ಎಕ್‌ಕುಂಡಿ
15. ಗುಬ್ಬಚ್ಚಿಯ ಗೂಡು (ಅಂಕಣ ಬರಹ) – ಪಿ ಲಂಕೇಶ್
16. ಚೀಂಕ್ರ ಮೇಸ್ತ್ರಿ ಮತ್ತು ಅರಿಸ್ಟಾಟಲ್ (ಪರಿಸರ ಲೇಖನ) – ಕೆ ಪಿ ಪೂರ್ಣಚಂದ್ರ ತೇಜಸ್ವಿ
17. ಗಾಂಧಿ (ಕತೆ) – ಬೆಸಗರಹಳ್ಳಿ ರಾಮಣ್ಣ
18. ಬೆಲ್ಚಿಯ ಹಾಡು (ಕವನ) – ಸಿದ್ಧಲಿಂಗಯ್ಯ
19. ಎಲ್ಲ ಹುಡುಗಿಯರ ಕನಸು (ಕವನ) – ಸವಿತಾ ನಾಗಭೂಷಣ
20. ನೀರು (ಕತೆ) – ಬಸವರಾಜ ಕುಕ್ಕರಹಳ್ಳಿ
21. ಕರ್ನಾಟಕ ಸಂಸ್ಕೃತಿಯ ಒಂದು ಚಿತ್ರಣ (ಪರಿಚಯ ಲೇಖನ) – ರಹಮತ್ ತರೀಕೆರೆ
22. ವೃತ್ತಿ ಶಿಕ್ಷಣದಲ್ಲಿ ಕನ್ನಡ ಮಾಧ್ಯಮ (ತಂತ್ರಜ್ಞಾನ ಬರಹ) – ಎಸ್ ಸುಂದರ್
23. ಕೊಣವೇಗೌಡ (ಕಾವ್ಯ) – ಜಾನಪದ

18KL39/49- KANNADA

KANNADA KALI

Lesson 1 : Introducing each other – 1. Personal Pronouns, Possessive forms, Interrogative words.

Lesson 2 : Introducing each other – 2. Personal Pronouns, Possessive forms, Yes/No Type Interrogation

Lesson 3 :About Ramanaya. Possessive forms of nons, dubitive question, Relative nouns

Lesson 4 : Enquiring about a room for rent. Qualitative and quantitative adjectives.

Lesson 5 : Enquiring about the college. Predicative forms, locative case.

Lesson 6 : In a hotel Dative case defective verbs.

Lesson 7 : Vegetable market. Numeral, plurals.

Lesson 8 : Planning for a picnic. Imperative, Permissive, hortative.

Lesson 9 :Conversation between Doctor and the patient. Verb- iru, negation – illa, non – past tense.

Lesson 10: Doctors advise to Patient. Potential forms, no – past continuous.

Lesson 11: Discussing about a film. Past tense, negation.

Lesson 12: About Brindavan Garden. Past tense negation.

Lesson 13: About routine activities of a student. Verbal Participle, reflexive form, negation.

Lesson 14: Telephone conversation. Past and present perfect past continuous and their negation.

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS (CPH)

MODULE- I - Introduction and Basic Information about Indian Constitution • The Necessity of the Constitution, The Societies before and after the Constitution adoption. • Introduction to the Indian constitution, The making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. • Directive Principles of State Policy (DPSP) & it's present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- II - Union Excutive and State Excutive • Parliamentary System, Federal System, Centre-State Relations. • Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. • State Executives – Governor , Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Article 370.371,371J) for some States.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE-III - Elections, Amendments and Emergency Provisions • Elections, Electoral Process, and Election Commission of India, Election Laws. • Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Recent Amendments with explanation. Important Judgements with Explanation and its impact on society (from the list of Supreme Court Judgements). • Emergency Provisions, types of Emergencies and it's consequences.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Module- IV - Constitutional Provisions/ Local Administration/ Human Rights • Special Constitutional Provisions for SC & ST, OBC, Special Provision for Women, Children & Backward Classes. • Local Administration : Powers and functions of Municipalities and Panchyats System. Co – Operative Societies and Constitutional and Non-constitutional Bodies. • Human Rights/values – Meaning and Definitions, Legislative Specific Themes in Human Rights and Functions/ Roles of National Human Rights Commission of India. Human Rights (Amendment Act)2006.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- V Professional / Engineering Ethics • Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India) : Profession, Professionalism, Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering • Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility.Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), • Risks, Safety and liability in Engineering.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Constitution of India & Professional Ethics
18CPC39/49
Course Code:18CPC39/49 CIE Marks:40
SEE Marks:60
Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To
• know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
• Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
• Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours
Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.
Module-2Union Executive and State Executive0 hours
Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.
Module-3Elections, Amendments and Emergency Provisions0 hours
Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments –

7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4Professional / Engineering Ethics0 hours

Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.

Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours

Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:
On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.
CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:
• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
• For the award of 40 CIE marks, refer the University regulations 2018.

Textbook/s
1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.
4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

MECHATRONICS ENGINEERING

Constitution of India & Professional Ethics
18CPC39/49
Course Code:18CPC39/49 CIE Marks:40
SEE Marks:60
Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To
• know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens
• Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.
• Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours

Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.
Module-2Union Executive and State Executive0 hours
Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.
Module-3Elections, Amendments and Emergency Provisions0 hours
Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.
Module-4Professional / Engineering Ethics0 hours
Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.
Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours
Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:
On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.
CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:
• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
• For the award of 40 CIE marks, refer the University regulations 2018.

Textbook/s
1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.

4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

Department of Information Science & Engineering

B.E. Common to all Programmes

Choice Based Credit System (CBCS) and Outcome Based Education (OBE)SEMESTER -III

CONSTITUTIONOFINDIA, PROFESSIONAL ETHICS AND CYBER LAW(CPC)

CourseCode	**18CPC39/49**	CIEMarks	40
TeachingHours/Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02

Course Learning Objectives: To

- knowthefundamentalpoliticalcodes,structure,procedures,powers,anddutiesofIndiangovernmentinstitutions,fundamentalrights,directiveprinciples,andthedutiesofcitizens
- Understandengineeringethicsandtheirresponsibilities;identifytheirindividualrolesandethicalresponsibilitiestowardssociety.
- Knowaboutthecybercrimesandcyberlawsforcybersafetymeasures.

Module-1

Introduction to Indian Constitution:

TheNecessityoftheConstitution,TheSocietiesbeforeandaftertheConstitutionadoption.IntroductiontotheIndian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble andSalientfeaturesoftheConstitutionofIndia.FundamentalRightsanditsRestrictionandlimitationsindifferentComplexSituations. DirectivePrinciplesofStatePolicy(DPSP)anditspresentrelevanceinour

societywithexamples.FundamentalDutiesanditsScopeandsignificanceinNationbuilding.

Module-2

UnionExecutiveandStateExecutive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister,Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies.SupremeCourtofIndia,JudicialReviewsandJudicialActivism.StateExecutives– Governor,ChiefMinister,StateCabinet,StateLegislature,HighCourtandSubordinateCourts,SpecialProvisions(Articles

370.371,371J)forsomeStates.

Module-3

Elections,AmendmentsandEmergencyProvisions:

Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments-MethodsinConstitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44,61,73,74,,75,86,and 91,94,95,100,101,118and someimportant Case Studies.EmergencyProvisions,typesofEmergenciesandits consequences.

Constitutionalspecialprovisions:

SpecialProvisionsforSCandST,OBC,Women,ChildrenandBackwardClasses.

Module-4

Professional/EngineeringEthics:

Scope & Aims of Engineering &Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics.Engineering and Professionalism, Positive and Negative Faces of Engineering & Professional Ethics, Code of Ethics asdefined in the website of Institution of Engineers (India): Profession, Professionalism, and ProfessionalResponsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities inEngineeringandEngineeringStandards,theimpedimentstoResponsibility.TrustandReliabilityin

Engineering,IPRs(IntellectualPropertyRights),Risks,SafetyandliabilityinEngineering

Module-5

InternetLaws,CyberCrimesandCyberLaws:

InternetandNeedforCyberLaws,ModesofRegulationofInternet, Typesofcyberterrorcapability,Net

neutrality,TypesofCyberCrimes,Indiaandcyberlaw,CyberCrimesandtheinformationTechnologyAct2000,InternetCensorship.Cybercrimesandenforcementagencies.

CourseOutcomes: Oncompletionofthiscourse,studentswillbeableto,CO1:Haveconstitutional knowledgeandlegalliteracy.

CO2:UnderstandEngineeringandProfessionalethicsandresponsibilitiesofEngineers.

CO3:Understandthethecybercrimesandcyberlawsforcybersafetymeasures.

QuestionpaperpatternforSEEandCIE:

- The SEE question paper will be set for 100 marks and the marks scored by the students willproportionately be reduced to 60.The pattern of the question paper will be objective type(MCQ).
- Fortheawardof40CIEmarks,refertheUniversityregulations2018.

Sl. No.	TitleoftheBook	Nameofthe Author/s	Nameofthe Publisher	EditionandYear
Textbook/s				
1	Constitution of India,ProfessionalEthicsandHuman Rights	ShubhamSingles,CharlesE.Haries, andetal	CengageLearningIndia	2018
2	CyberSecurityandCyberLaws	AlfredBastaandet al	CengageLearning India	2018
ReferenceBooks				
3	Introductiontothe ConstitutionofIndia	DurgaDasBasu	Prentice–Hall,	2008.
4	EngineeringEthics	M.Govindarajan,S. Natarajan,V.S.Senthilkumar	Prentice–Hall,	2004

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education
(OBE) (Effective from the academic year 2018 – 19)

III SEMESTER

Sl. No	Course and Course Code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical / Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	BSC	18MAT31	Transform Calculus, Fourier Series And Numerical Techniques	Mathematics	2	2	--	03	40	60	100	3
2	PCC	18CS32	Data Structures and Applications	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS33	Analog and Digital Electronics	CS / IS	3	0	--	03	40	60	100	3
4	PCC	18CS34	Computer Organization	CS / IS	3	0	--	03	40	60	100	3
5	PCC	18CS35	Software Engineering	CS / IS	3	0	--	03	40	60	100	3
6	PCC	18CS36	Discrete Mathematical Structures	CS / IS	3	0	--	03	40	60	100	3
7	PCC	18CSL37	Analog and Digital Electronics Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL38	Data Structures Laboratory	CS / IS	--	2	2	03	40	60	100	2
9	HSMC	18KVK39	Vyavaharika Kannada (Kannada for communication)/	HSMC	--	2	--	--	100	--	100	1
		18KAK39	Aadalitha Kannada (Kannada for Administration)									
		OR	**OR**									
		18CPC39	Constitution of India, Professional Ethics and Cyber Law		1	--	--	02	40	60		
					Examination is by objective type questions							
				TOTAL	**17**	**08**	**04**	**24**	**420**	**480**	**900**	**24**
					OR	**OR**		**OR**	**OR**	**OR**		
					18	**10**		**26**	**360**	**540**		

B. E. Common to all Programmes
Outcome Based Education (OBE) and Choice Based Credit System
(CBCS) SEMESTER - III

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND CYBER LAW (CPC)

Course Code	**18CPC39/49**	CIE Marks	40
Teaching Hours/Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Course Learning Objectives: To

- know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties ofcitizens
- Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towardssociety.
- Know about the cybercrimes and cyber laws for cyber safetymeasures.

Module-1

Introduction to Indian Constitution:
The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our
society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2

Union Executive and State Executive:
Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles
370.371,371J) for some States.

Module-3

Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and itsconsequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.

Module-4

Professional / Engineering Ethics:
Scope & Aims of Engineering &Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliabilityin Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering

Module-5

Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes: On completion of this course, students will be able to, CO 1: Have constitutional knowledge and legal literacy. CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers. CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.				
Question paper pattern for SEE and CIE: • The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type(MCQ). • For the award of 40 CIE marks, refer the University regulations2018.				
Sl. No.	**Title of the Book**	**Name of the Author/s**	**Name of the Publisher**	**Edition and Year**
Textbook/s				
1	Constitution of India, Professional Ethics and Human Rights	Shubham Singles, Charles E. Haries, and et al	Cengage Learning India	2018
2	Cyber Security and Cyber Laws	Alfred Basta and et al	Cengage Learning India	2018
Reference Books				
3	Introduction tothe Constitution of India	Durga Das Basu	Prentice –Hall,	2008.
4	Engineering Ethics	M. Govindarajan, S. Natarajan, V. S. Senthilkumar	Prentice –Hall,	2004

Department of Automobile Engineering

CONSTITUTION OF INDIA, PROFESSIONAL ETHICS AND HUMAN RIGHTS (CPH)

MODULE- I - Introduction and Basic Information about Indian Constitution • The Necessity of the Constitution, The Societies before and after the Constitution adoption. • Introduction to the Indian constitution, The making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. • Directive Principles of State Policy (DPSP) & it's present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- II - Union Excutive and State Excutive • Parliamentary System, Federal System, Centre-State Relations. • Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. • State Executives – Governor , Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Article 370.371,371J) for some States.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE-III - Elections, Amendments and Emergency Provisions • Elections, Electoral Process, and Election Commission of India, Election Laws. • Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Recent Amendments with explanation. Important

Judgements with Explanation and its impact on society (from the list of Supreme Court Judgements). • Emergency Provisions, types of Emergencies and it's consequences.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Module- IV - Constitutional Provisions/ Local Administration/ Human Rights • Special Constitutional Provisions for SC & ST, OBC, Special Provision for Women, Children & Backward Classes. • Local Administration : Powers and functions of Municipalities and Panchyats System. Co – Operative Societies and Constitutional and Non-constitutional Bodies. • Human Rights/values – Meaning and Definitions, Legislative Specific Themes in Human Rights and Functions/ Roles of National Human Rights Commission of India. Human Rights (Amendment Act)2006.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

MODULE- V Professional / Engineering Ethics • Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India) : Profession, Professionalism, Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering • Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility.Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), • Risks, Safety and liability in Engineering.

(Duration: 03 Hours & RBT Levels: L1, L2 & L3)

Constitution of India & Professional Ethics

18CPC39/49

Course Code:18CPC39/49 CIE Marks:40

SEE Marks:60

Teaching Hours/Week (L:T:P):(1:0:0) Credits:01 Exam Hours:02

Course Learning Objectives: To

• know the fundamental political codes, structure, procedures, powers, and duties of Indian government institutions, fundamental rights, directive principles, and the duties of citizens

• Understand engineering ethics and their responsibilities; identify their individual roles and ethical responsibilities towards society.

• Know about the cybercrimes and cyber laws for cyber safety measures.

Module-1Introduction to Indian Constitution0 hours

Introduction to Indian Constitution:

The Necessity of the Constitution, The Societies before and after the Constitution adoption. Introduction to the Indian constitution, The Making of the Constitution, The Role of the Constituent Assembly - Preamble and Salient features of the Constitution of India. Fundamental Rights and its Restriction and limitations in different Complex Situations. Directive Principles of State Policy (DPSP) and its present relevance in our society with examples. Fundamental Duties and its Scope and significance in Nation building.

Module-2Union Executive and State Executive0 hours

Union Executive and State Executive:

Parliamentary System, Federal System, Centre-State Relations. Union Executive – President, Prime Minister, Union Cabinet, Parliament - LS and RS, Parliamentary Committees, Important Parliamentary Terminologies. Supreme Court of India, Judicial Reviews and Judicial Activism. State Executives – Governor, Chief Minister, State Cabinet, State Legislature, High Court and Subordinate Courts, Special Provisions (Articles 370.371,371J) for some States.

Module-3Elections, Amendments and Emergency Provisions0 hours

Elections, Amendments and Emergency Provisions:
Elections, Electoral Process, and Election Commission of India, Election Laws. Amendments - Methods in Constitutional Amendments (How and Why) and Important Constitutional Amendments. Amendments – 7,9,10,12,42,44, 61, 73,74, ,75, 86, and 91,94,95,100,101,118 and some important Case Studies. Emergency Provisions, types of Emergencies and its consequences.

Constitutional special provisions:
Special Provisions for SC and ST, OBC, Women, Children and Backward Classes.
Module-4Professional / Engineering Ethics0 hours
Professional / Engineering Ethics:
Scope & Aims of Engineering & Professional Ethics - Business Ethics, Corporate Ethics, Personal Ethics. Engineering and Professionalism, Positive and Negative Faces of Engineering Ethics, Code of Ethics as defined in the website of Institution of Engineers (India): Profession, Professionalism, and Professional Responsibility. Clash of Ethics, Conflicts of Interest. Responsibilities in Engineering Responsibilities in Engineering and Engineering Standards, the impediments to Responsibility. Trust and Reliability in Engineering, IPRs (Intellectual Property Rights), Risks, Safety and liability in Engineering.
Module-5Internet Laws, Cyber Crimes and Cyber Laws0 hours
Internet Laws, Cyber Crimes and Cyber Laws:
Internet and Need for Cyber Laws, Modes of Regulation of Internet, Types of cyber terror capability, Net neutrality, Types of Cyber Crimes, India and cyber law, Cyber Crimes and the information Technology Act 2000, Internet Censorship. Cybercrimes and enforcement agencies.

Course Outcomes:
On completion of this course, students will be able to,
CO 1: Have constitutional knowledge and legal literacy.
CO 2: Understand Engineering and Professional ethics and responsibilities of Engineers.
CO 3: Understand the the cybercrimes and cyber laws for cyber safety measures.

Question paper pattern for SEE and CIE:
• The SEE question paper will be set for 100 marks and the marks scored by the students will proportionately be reduced to 60. The pattern of the question paper will be objective type (MCQ).
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Textbook/s
1 Constitution of India, Professional Ethics and Human Rights Shubham Singles, Charles E. Haries, and et al Cengage Learning India 2018
2 Cyber Security and Cyber Laws Alfred Basta and et al Cengage Learning India 2018 Reference Books
3 Introduction to the Constitution of India Durga Das Basu Prentice –Hall, 2008.
4 Engineering Ethics M. Govindarajan, S. Natarajan, V. S. Senthilkumar Prentice –Hall, 2004

HUMAN RESOURCE SPECIALISATION COURSES

ORGANISATIONAL LEADERSHIP			
Course Code	20MBAHR401	CIE Marks	40
Teaching Hours/Week (L:T:P)	3:0:0	SEE Marks	60
Credits	03	Exam Hours	03

Course Objectives

1. The student will be able to describe and Identify the application of Leadership styles and practices followed in the Organisation
2. The student will be able to describe and explain in her/his own words, the relevance and importance of various Leadership practices and style followed in the Organisation
3. The student will be able to apply and solve the workplace problems through Leadership practices
4. The student will be able to classify and categories different Leadership practices and styles followed in the Organisation
5. The student will be able to create and reconstruct Leadership required to manage the Human Resources in the Organisation
6. The student will be able to appraise and judge the practical applicability of Leadership practices followed in the Organisation

Module-1 Introduction **5 hours**

Concept of Leadership, Ways of Conceptualizing Leadership, Definition and Components, Leadership Described, Trait Versus Process Leadership, Assigned Versus Emergent Leadership. Leadership and Power, Leadership and Coercion, Leadership and Management.

Module -2 Model of Leadership - Part A **7 hours**

Trait Approach
Description, Intelligence, Self-Confidence, Determination, Integrity, Sociability, Five-Factor Personality Model and Leadership, Emotional Intelligence, How Does the Trait Approach Work?
Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Skills Approach
Description, Three-Skill Approach, Technical Skill, Human Skill, Conceptual Skill, Summary of the Three-Skill Approach, Skills Model, Competencies, Individual Attributes, Leadership, Outcomes, Career Experiences, Environmental Influences, Summary of the Skills Model, How Does the Skills Approach Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Behavioral Approach
Description, The Ohio State Studies, The University of Michigan Studies, Blake and Mouton's Managerial (Leadership) Grid, Authority–Compliance (9,1), Country-Club Management (1,9) Impoverished Management (1,1), Middle-of-the-Road Management (5,5), Team Management (9,9), Paternalism/Maternalism, Opportunism, How Does the Behavioral Approach Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Situational Approach
Description, Leadership Styles, Development Levels, How Does the Situational Approach Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Module -3 Model of Leadership - Part B **7 hours**

Path–Goal Theory
Description, Leader Behaviors, Directive Leadership, Supportive Leadership, Participative Leadership, Achievement-Oriented Leadership, Follower Characteristics, Task Characteristics How Does Path–Goal Theory Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Leader–Member Exchange Theory
Description, Early Studies, Later Studies, Leadership Making, How Does LMX Theory Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Transformational Leadership
Description, Transformational Leadership Defined, Transformational Leadership and Charisma, A Model of Transformational Leadership, Transformational Leadership Factors, Transactional Leadership Factors, Non-leadership Factor, Other Transformational Perspectives Bennis and Nanus, Kouzes and Posner, How Does the Transformational Approach Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Authentic Leadership

Description, Authentic Leadership Defined, Approaches to Authentic Leadership, Practical Approach, Theoretical Approach, How Does Authentic Leadership Theory Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Psychodynamic Approach
Description, The Clinical Paradigm, History of the Psychodynamic Approach, Key Concepts and Dynamics Within the Psychodynamic Approach,
1. Focus on the Inner Theatre
2. Focus on the Leader-Follower Relationships
Social Defense Mechanisms, Mirroring and Idealizing, Identification With the Aggressor
3. Focus on the Shadow Side of Leadership Narcissism
How Does the Psychodynamic Approach Work? Strengths, Criticisms, Application, Case Studies, Leadership Instrument

Module -4 Leadership Instrument **7 hours**

Description, Culture Defined, Related Concepts, Ethnocentrism, Prejudice, Dimensions of Culture, Uncertainty Avoidance, Power Distance, Institutional Collectivism, In-Group, Collectivism, Gender Egalitarianism, Assertiveness, Future Orientation, Performance Orientation, Humane Orientation, Clusters of World Cultures, Characteristics of Clusters, Anglo, Confucian Asia, Eastern Europe, Germanic Europe, Latin America, Latin Europe, Middle East, Nordic Europe, Southern Asia, Sub-Saharan Africa, Leadership Behavior and Culture, Clusters, Eastern Europe Leadership Profile, Latin America Leadership Profile, Latin Europe Leadership Profile, Confucian Asia Leadership Profile, Nordic Europe Leadership Profile, Anglo Leadership Profile, Sub-Saharan Africa Leadership Profile, Southern Asia Leadership Profile, Germanic Europe Leadership Profile, Middle East Leadership Profile, Universally Desirable and Undesirable Leadership Attributes, Strengths, Criticisms, Application, Case Studies on Leadership Instrument

Module -5 Ethical Leadership **7 hours**

Description, Ethics Defined ;Level 1. Preconventional Morality ;Level 2. Conventional Morality;
Level 3. Postconventional Morality; Ethical Theories, Centrality of Ethics to Leadership, Heifetz's Perspective on Ethical Leadership; Burns's Perspective on Ethical Leadership, The Dark Side of Leadership, Principles of Ethical Leadership, Ethical Leaders Respect Others, Ethical Leaders Serve Others, Ethical Leaders Are Just, Ethical Leaders Are Honest, Ethical Leaders Build CommModuley, Strengths, Criticisms, Application, Case Studies, Leadership Instrument.

Module – 6 Leadership Practices **7 hours**

Select Case of Successful Leadership Practices; TATA Group; Reliance; Infosys; WIPRO; and Organisations which are listed as Fortune Companies. Survey Report analysis of NHRD; NIPM; CII; FICCI; Conference Board; CCL - Centre of Creative Leadership.

Course Outcomes:

1. Understand the fundamental concepts and principles, theories of Organizational Leadership.
2. Analyze the organizational leadership style, approaches and traits, its impact on the followers by using leadership theories and instruments.
3. Developing better insight in understanding the leadership traits that influence them to work effectively in group.
4. Demonstrate their ability to apply of their knowledge in organizational leadership

Environment and Sustainability

Environment and Sustainability

Department of Civil Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

Programme: CIVIL ENGINEERING

V SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	HSMC	18CV51	Construction Management & Entrepreneurship	Civil Engg.	2	2	--	03	40	60	100	3
2	PCC	18CV52	Analysis of Indeterminate Structures	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV53	Design of RC Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
4	PCC	18CV54	Basic Geotechnical Engineering	Civil Engg.	3	--	--	03	40	60	100	3
5	PCC	18CV55	Municipal Wastewater Engineering	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CV56	Highway Engineering	Civil Engg.	3	--	--	03	40	60	100	3
7	PCC	18CVL57	Surveying Practice	Civil Engg.	--	2	2	03	40	60	100	2
8	PCC	18CVL58	Concrete and Highway Materials Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
9	HSMC	18CIV59	Environmental Studies	Civil/Environmental [Paper setting Board: Civil Engineering]	1	--	--	02	40	60	100	1
				TOTAL	**18**	**10**	**04**	**26**	**360**	**540**	**900**	**25**

Note: PCC: Professional Core, HSMC: Humanity and Social Science.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

B.E IN CIVIL ENGINEERING(CV-2018-19)

Outcome Based Education (OBE) and Choice Based Credit System (CBCS)

SEMESTER – V

ENVIRONMENTAL STUDIES

Course Code 18CIV59 CIE Marks 40

Teaching Hours / Week (L:T:P) (1:0:0) SEE Marks 60

Credits 01 Exam Hours 02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.

Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and

Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications): Hydrogen, Solar, OTEC,

Tidal and Wind.

Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud

Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies): Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution. Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies): Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.

Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course outcomes: At the end of the course, students will be able to:

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
- CO2: Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
- CO3: Demonstrate ecology knowledge of a complex relationship between biotic and a biotic components.
- CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Question paper pattern:

- The Question paper will have 100 objective questions.
- Each question will be for 01 marks

- Student will have to answer all the questions in an OMR Sheet.
- The Duration of Exam will be 2 hours.

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
CIVIL ENGINEERING
Scheme of Teaching and Examination 2018 – 19
Outcome Based Education(OBE) and Choice Based Credit System (CBCS)
(Effective from the academic year 2018 – 19)

VI SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lecture	Tutorial	Practical/ Drawing	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	PCC	18CV61	Design of Steel Structural Elements	Civil Engg.	3	2	--	03	40	60	100	4
2	PCC	18CV62	Applied Geotechnical Engineering	Civil Engg.	3	2	--	03	40	60	100	4
3	PCC	18CV63	Hydrology and Irrigation Engineering	Civil Engg.	3	2	--	03	40	60	100	4
4	PEC	18CV64X	Professional Elective -1	Civil Engg.	3	--	--	03	40	60	100	3
5	OEC	18CV65X	Open Elective -A	Civil Engg.	3	--	--	03	40	60	100	3
6	PCC	18CVL66	Software Application Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
7	PCC	18CVL67	Environmental Engineering Laboratory	Civil Engg.	--	2	2	03	40	60	100	2
8	EP	18CVEP68	Extensive Survey project	Civil Engg.	--	2	2	03	40	60	100	2
9	Internship	--	Internship	To be carried out during the vacation/s of VI and VII semesters and /or VII and VIII semesters.								
				TOTAL	**15**	**12**	**06**	**24**	**320**	**480**	**800**	**24**

B. E. CIVIL ENGINEERING

Choice Based Credit System (CBCS) and Outcome Based Education (OBE)

SEMESTER - VI

ENVIRONMENTAL ENGINEERING LABORATORY

Course Code 18CVL67 CIE Marks 40
Teaching Hours/Week(L:T:P) (0:2:2) SEE Marks 60
Credits 02 Exam Hours 03
Course Learning Objectives: This course will enable students,
1. To learn different methods of water & waste water quality
2. To conduct experiments to determine the concentrations of water and waste water
3. To determine the degree and type of treatment
4. To understand the environmental significance and application in environmental engineering practice
1. Preparation chemical solutions required for analysis and sampling methodologies
2. Determination of pH, Conductivity, TDS and Turbidity.
3. Determination of Acidity and Alkalinity
4. Determination of Calcium, Magnesium and Total Hardness.
5. Determination of Dissolved Oxygen
6. Determination of BOD.
7. Determination of Chlorides
8. Determination of percentage of % of available chlorine in bleaching powder sample, Determination of Residual Chlorine and chlorine demand.

9. Determination of Solids in Sewage: i) Total Solids, ii) Suspended Solids, iii) Dissolved Solids, iv) Volatile Solids, Fixed Solids v) Settleable Solids.
10. Determination of optimum coagulant dosage using Jar test apparatus.
11. Determination Nitrates and Iron by spectrophotometer
12. Determination of COD(Demonstration)
13. Air Quality Monitoring (Demonstration)
14. Determination of Sound by Sound level meter at different locations (Demonstration)

Course Outcomes: After studying this course, students will be able to:

1. Acquire capability to conduct experiments and estimate the concentration of different parameters.
2. Compare the result with standards and discuss based on the purpose of analysis.
3. Determine type of treatment, degree of treatment for water and waste water.
4. Identify the parameter to be analyzed for the student project work in environmental stream.

Question paper pattern:

- Two experiments shall be asked from the above set of experiments.
- One experiment to be conducted and for the other student should write detailed procedure.

Reference Books:

1. IS codes-3025 series
2. Standard method for examination of water and waste water, APHA, 20th edition
3. Clair Sawyer and Perry McCarty and Gene Parkin, “Chemistry for Environmental Engineering and Science”, McGraw-Hill Series in Civil and Environmental Engineering.

Department of Electronics & Communication Engineering

B.E.CommontoallBranches **ChoiceBasedCreditSystem(CBCS)andOutcomeBasedEducation(OBE)SEMESTER–V**			
ENVIRONMENTALSTUDIES			
CourseCode	**18CIV59**	**CIEMarks**	**40**
TeachingHours/Week(L:T:P)	**(1:0:0)**	**SEEMarks**	**60**
Credits	**01**	**ExamHours**	**02**
Module-1			
Ecosystems(StructureandFunction):Forest,Desert,Wetlands,Riverine,OceanicandLake. **Biodiversity:**Types,Value;Hot-spots;ThreatsandConservationofbiodiversity,ForestWealth,andDeforestation.			
Module-2			
AdvancesinEnergySystems(Merits,Demerits,GlobalStatusandApplications)**:**Hydrogen,Solar,OTEC,TidalandWind. **NaturalResourceManagement**(Conceptandcase-studies):DisasterManagement,SustainableMining,CloudSeeding,andCarbonTrading.			
Module-3			

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant EnvironmentalActs, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution.**WasteManagement&PublicHealthAspects:**Bio-medicalWastes;Solidwaste;Hazardouswastes;E-

wastes;IndustrialandMunicipalSludge.

Module-4

Global Environmental Concerns(Concept, policies and case-studies):Ground water depletion/recharging,Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlementandrehabilitationofpeople,EnvironmentalToxicology.

Module-5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. &RemoteSensing,EnvironmentImpactAssessment,EnvironmentalManagementSystems,ISO14001;EnvironmentalStewardship -NGOs.

Fieldwork: VisittoanEnvironmentalEngineeringLaboratoryorGreenBuildingorWaterTreatmentPlantor

WastewatertreatmentPlant;oughttobeFollowedbyunderstandingofprocessanditsbriefdocumentation.

Courseoutcomes: Attheendofthecourse,studentswillbeableto:

- Understand the principles of ecology and environmental Sustainability issues that apply to air, land, and water issuesonaglobalscale,
- Developcriticalthinkingand/orobservationskills,andapplythemtothe analysisofaproblemorquestionrelatedtotheenvironment.
- Demonstrateecologyknowledgeofacomplexrelationshipbetweenbioticandabioticcomponents.
- Applytheirecologicalknowledgetoillustrateandgraphaproblemanddescribetherealitiesthatmanagersfacewhendealingwi th complexissues.

Questionpaperpattern:

- TheQuestionpaperwillhave100objectivequestions.
- Eachquestionwillbefor01marks
- StudentwillhavetoanswerallthequestionsinanOMRSheet.
- TheDurationofExamwillbe2hours.

Sl. No.	TitleoftheBook	Nameofthe Author/s	NameofthePublisher	Editionand Year
		Textbook/s		
1	EnvironmentalStudies	BennyJoseph	TataMcGraw–Hill.	2nd Edition,2012
2	EnvironmentalStudies	SMPrakash	PristinePublishing House,Mangalore	3rd Edition,2018
3	EnvironmentalStudies– FromCrisistoCure	RRajagopalan	OxfordPublisher	2005
		ReferenceBooks		
1	Principalsof Environmental Science and Engineering	RamanSivakumar	Cen.gelearning, Singapur	2nd Edition,200

2	EnvironmentalScience– workingwiththeEarth	G.TylerMillerJr.	Thomson Brooks /Cole,	11thEdition, 2006
3	Text Book of EnvironmentalandEcology	PratibaSing, AnoopSingh& PiyushMalaviya	Acme Learning Pvt. Ltd. New Delhi.	1stEdition

Department of Electrical and Electronics Engineering

B.E.CommontoallBranches

ChoiceBasedCreditSystem(CBCS)andOutcomeBasedEducation(OBE)SEMESTER–V

ENVIRONMENTALSTUDIES

CourseCode	**18CIV59**	**CIEMarks**	**40**
TeachingHours/Week(L:T:P)	**(1:0:0)**	**SEEMarks**	**60**
Credits	**01**	**ExamHours**	**02**

Module-1

Ecosystems(StructureandFunction):Forest,Desert,Wetlands,Riverine,OceanicandLake.

Biodiversity: Types,Value;Hot-spots;ThreatsandConservationofbiodiversity,ForestWealth,andDeforestation.

Module-2

AdvancesinEnergySystems(Merits,Demerits,GlobalStatusandApplications)**:**Hydrogen,Solar,OTEC,TidalandWind.

NaturalResourceManagement(Conceptandcase-studies):DisasterManagement,SustainableMining,CloudSeeding,andCarbonTrading.

Module-3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant EnvironmentalActs, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution.**WasteManagement&PublicHealthAspects:**Bio-medicalWastes;Solidwaste;Hazardouswastes;E-wastes;IndustrialandMunicipalSludge.

Module-4

Global Environmental Concerns(Concept, policies and case-studies):Ground water depletion/recharging,Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlementandrehabilitationofpeople,EnvironmentalToxicology.

Module-5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. &RemoteSensing,EnvironmentImpactAssessment,EnvironmentalManagementSystems,ISO14001;EnvironmentalStewardship -NGOs.

Fieldwork: VisittoanEnvironmentalEngineeringLaboratoryorGreenBuildingorWaterTreatmentPlantor

WastewatertreatmentPlant;oughttobeFollowedbyunderstandingofprocessanditsbriefdocumentation.

Courseoutcomes: Attheendofthecourse,studentswillbeableto:

- Understand the principles of ecology and environmental Sustainability issues that apply to air, land, and water issuesonaglobalscale,
- Developcriticalthinkingand/orobservationskills,andapplythemtothe analysisofaproblemorquestionrelatedtotheenvironment.
- Demonstrateecologyknowledgeofacomplexrelationshipbetweenbioticandabioticcomponents.
- Applytheirecologicalknowledgetoillustrateandgraphaproblemanddescribetherealitiesthatmanagersfacewhendealingwi th complexissues.

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- TheQuestionpaperwillhave100objectivequestions.
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Sl. No.	TitleoftheBook	Nameofthe Author/s	NameofthePublisher	Editionand Year
		Textbook/s		
1	EnvironmentalStudies	BennyJoseph	TataMcGraw–Hill.	2nd Edition,2012
2	EnvironmentalStudies	SMPrakash	PristinePublishing House,Mangalore	3rd Edition,2018
3	EnvironmentalStudies– FromCrisistoCure	RRajagopalan	OxfordPublisher	2005
		ReferenceBooks		
1	Principalsof Environmental Science and Engineering	RamanSivakumar	Cen.gelearning, Singapur	2nd Edition,200
2	EnvironmentalScience– workingwiththeEarth	G.TylerMillerJr.	Thomson Brooks /Cole,	11thEdition, 2006
3	Text Book of EnvironmentalandEcology	PratibaSing, AnoopSingh& PiyushMalaviya	Acme Learning Pvt. Ltd. New Delhi.	1stEdition

Department of Biotechnology

BIOTECHNOLOGYFORSUSTAINABLEENVIRONMENT [As per Choice Based Credit System (CBCS) scheme]SEMESTER –V			
Sub.Code:	15BT563	I.AMarks:	20
Hours/week:	3	ExamHrs. :	4
TotalHours:	40	ExamMarks :	80
CREDITS– 03			

Courseobjectives:

Thiscoursewillenable studentstolearn

- TheunderlyingconceptsofEnvironmentand its pollution.
- Treatmentofwastewaterandsolidwaste.
- TheimportanceofBiofuelsagainstconservativefuels

MODULES	**TEACHING HOURS**	**REVISEDBLOOM'S TAXONOMY (RBT)LEVEL**
MODULE– 1		
WATERPOLLUTIONANDTREATMENTOF WASTEWATER: WaterasResource,Drinkingwater quality, water consumption standards, Types ofWaterPollutantsandsources,Stateandcentralwastewater quality and its various discharge standards.Wastewater Sampling and Characteristics - Physical,Chemical and Biological characteristics of wastewater:Solving numerical on the sampling, characteristics andestimationofwastewaterflowrates.Biotechnological approach forwaterpurification	**08**	L1,L2,L3
MODULE–2		
TERTIARY/ADVANCED WASTEWATER TREATMENT: Secondary/Biologicaltreatmentprocess,aerobic/anaerobicattachedandsuspendedgrowthprocess,Sludgetreatment&Disposal.Ultrafiltration,Filtration,AdsorptiononActivatedCarbon,IonExchange,ReverseOsmosis,Electrodialysis cell. Wastewater treatment in Industries: PaperandPulp,distillery,Leather,Foodprocessingsuchdairyandfruit processingand Textileprocessing.	**08**	L2,L3,L4

MODULE– 3		
AIRPOLLUTIONANDNOISEPOLLUTION Sources,Classification,Propertiesofairpollutants,andEffectsofairpollutiononhealth,vegetationandmaterials.Airpollutionsampling:Ambientsamplingand Stacksampling,Analysis of airpollutants,ControlmethodsandEquipmentforparticulatesandgaseouspollutants,ApplicationstoIndustries:Thermalpowerplants,MetallurgicalandCementindustries.Sources, EffectsofNoise,EquipmentforNoiseMeasurement, andApproachesfor NoiseControl	**08**	L2,L3,L4
MODULE– 4		
BIOFUELS: Renewableandnon-renewableresources. Conventional fuels and their environmentalimpacts.Animaloils.Modernfuelsandtheirenvironmentalimpacts.Biotechnologicalinputsinproducing good quality natural fibres. Plant sourceslike Jetropha, Pongamia etc. Waste as an energy core,energy recovery systems for urban waste, technologyevaluation,conceptofgasificationofwasteswith moltensalttoproducelow-BTUgas;pipelinegasfromsolidwastesbysyngasrecyclingprocess;conversion of feedlot wastes into pipeline gas; fuelsandchemicalsfromcrops,productionofoilfromwoodwaste,fuelsfromwoodwaste,methanol productionfromorganic wastes	**08**	L1,L2,L3,L4
MODULE– 5		
SOLIDWASTEMANAGEMENT:Definitions,Characteristics andperspectives,Typesofsolidwastes,SourcesofSolidwaste,Propertiesofsolidwaste– Numericalproblems,SolidwasteManagement –AnOverview:- Materialflowinsociety,Reductioninrawmaterialusage,Solidwastegeneration,andreusewithmaterials,energyrecovery. SolidwastemanagementthroughBiotechnologicalprocessesinvolvingHazardouswastes,Biomedicalwastes,Dairy wastes, Pulp industry wastes, Textile industrywastes,leatherindustrywastesandpharmaceutical industrywastes,petroleumwastestreatment	**08**	L1,L2,L3
Courseoutcomes: Afterstudyingthis course, students will beableto: • Applyreasoningtoidentifythecomponentsofenvironmentalecosystemsandeffectofpollutant on environment. • Characterizethevariousparametersfortreatmentofwater,wastewaterandsolid wastefromtheirsourcesto providevalid conclusions.		

- **Understand the impact of recovery, recycle of the useful resources from the wastes by adopting advanced techniques to demonstrate the need for sustainable development.**
- **Identify and demonstrate the knowledge to use suitable equipment for abatement and control of air & noise pollution**

GraduateAttributes(asperNBA):

- **Design / development of solutions (environmental)**
- **Engineer and society**
- **Professional Ethics.**
- **Lifelong learning.**
- **Problem analysis**

Questionpaperpattern:

- **The question paper will have ten questions.**
- **Each full question consists of 16 marks.**
- **There will be 2 full questions (with a maximum of four sub questions) from each module.**
- **Each full question will have sub questions covering all the topics under a module.**
- **The students will have to answer 5 full questions, selecting one full question from each module.**

TEXTBOOKS

1. **Environmental Engineering by Howard S. Peavey, Donald R. Rowe, George Techobanolous, McGraw-Hill International Editions.**
2. **Wastewater Engineering – Treatment, Disposal and Reuse, METCALF AND EDDY, INC. 3rd Edition Tata McGraw-Hill Publishing Company Limited.**
3. **Environmental Biotechnology by Foster C.F., John ware D.A., Ellis Horwood Limited.**
4. **ENVIRONMENTAL BIOTECHNOLOGY by INDU SHEKHAR THAKUR, IK Publishers.**
5. **Industrial Microbiology by L.E. Casida, Willey Eastern Ltd. Industrial Microbiology by Prescott & Dunn, CBS Publishers.**

REFERENCEBOOKS

1. **Fuels from Waste by Larry Anderson and David A Tillman, Academic Press.**
2. **Bioprocess Technology- fundamentals and applications, S O Enfors & L Hagstrom, RIT, Stockholm.**
3. **Comprehensive Biotechnology by M.Y. Young (Eds.), Pergamon Press.**
4. **Biotechnology, Economic & Social Aspects by E.J. Dasilva, C Ratledge & A Sasson, Cambridge Univ. Press, Cambridge.**
5. **Environmental Biotechnology by Pradipta Kumar Mahopatra.**

B.E.INCIVILENGINEERING(CV-2018-19)
Outcome Based Education (OBE) and Choice Based Credit System (CBCS)SEMESTER– V

ENVIRONMENTALSTUDIES

CourseCode	18CIV59	CIEMarks	40

TeachingHours/ Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02
RevisedBloom'sTaxonomyLevels	L_1-Remembering,L_2–Understanding.		

Module-1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake. 02 Hrs**Biodiversity:**Types,Value;Hot-spots;ThreatsandConservationofbiodiversity,ForestWealth,andDeforestation. 02 Hrs

Module-2

AdvancesinEnergySystems(Merits,Demerits,GlobalStatusandApplications)**:**Hydrogen,Solar,OTEC,Tidal andWind. 02 Hrs
NaturalResourceManagement(Conceptandcase-studies):DisasterManagement,SustainableMining,CloudSeeding,andCarbonTrading.02 Hrs

Module-3

EnvironmentalPollution (Sources,Impacts,CorrectiveandPreventivemeasures,RelevantEnvironmentalActs, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution.02Hrs
Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes;Industrial andMunicipalSludge. 02 Hrs

Module-4

GlobalEnvironmentalConcerns(Concept,policiesandcase-studies):Groundwaterdepletion/recharging,Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement andrehabilitationofpeople, EnvironmentalToxicology.04 Hrs

Module-5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. &RemoteSensing,EnvironmentImpactAssessment,EnvironmentalManagementSystems,ISO14001;Environmental Stewardship-NGOs. 03 Hrs
Field work: Visit to anEnvironmental Engineering Laboratory or Green Building or Water Treatment Plant orWastewatertreatmentPlant;oughttobeFollowedbyunderstandingofprocessanditsbriefdocumentation.01 Hrs

CourseOutcomes: Attheend ofthecourse,studentswillbe ableto:

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and waterissuesona globalscale,
- CO2: Develop criticalthinkingand/or observationskills, andapplythemtothe analysis of a problemor questionrelated to the environment.
- CO3: Demonstrate ecology knowledge of a complex relationship between biotic and a bioticcomponents.
- CO4: Applytheirecological knowledge toillustrateandgraph aproblemand describethe realitiesthat managersfacewhendealingwithcomplexissues.

Questionpaperpattern:

- TheQuestionpaperwill have100objectivequestions.
- Eachquestionwill befor01marks
- Student willhave toanswerallthe questionsinan OMRSheet.

The Duration of Exam will be 2 hours.

Sl.No.	Titleof theBook	Name of theAuthor/s	Nameof thePublisher	Edition and Year

Textbook/s				
1	EnvironmentalStudies	BennyJoseph	TataMc Graw– Hill.	2nd Edition, 2012
2.	EnvironmentalStudies	SM Prakash	PristinePublishingHouse, Mangalore	3rd Edition, 2018
3	EnvironmentalStudies–FromCrisistoCure	RRajagopalan	OxfordPublisher	2005
ReferenceBooks				
1	PrincipalsofEnvironmental ScienceandEngineering	RamanSivakumar	Cengagelearning, Singapur.	2nd Edition, 2005
2	EnvironmentalScience–workingwith the Earth	G.TylerMillerJr.	Thomson Brooks/Cole,	11th Edition ,2006
3	Text Book of EnvironmentalandEcology	Pratiba Sing,AnoopSingh& PiyushMalaviya	Acme Learning Pvt. Ltd.NewDelhi.	1st Edition

Mechanical Engineering

B.E.INCIVILENGINEERING(CV-2018-19) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)SEMESTER– V			
ENVIRONMENTALSTUDIES			
CourseCode	18CIV59	CIEMarks	40
TeachingHours/ Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02
RevisedBloom'sTaxonomyLevels	L_1-Remembering,L_2–Understanding.		

Module 1

For the complete Syllabus, results, class timetable, and many other features kindly download the iStudy App

It is a lightweight, easy to use, no images, and no pdfs platform to make students's lives easier.

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Module 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications): Hydrogen, Solar, OTEC, Tidal and Wind. Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud Seeding, and Carbon Trading.

Module 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies): Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution. Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.

Module 4

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Module 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs. Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course Outcomes:

At the end of the course, students will be able to:

1. Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
2. Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
3. Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
4. Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Question paper pattern:

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Text Books:

1. Environmental Studies Benny Joseph Tata Mc Graw-Hill. 2ndEdition, 2012
2. Environmental Studies S M Prakash Pristine Publishing House, Mangalore 3rdEditiof 2018
3. Environmental Studies -From Crisis to Cure R Rajagopalan Oxford Publisher 2005

Reference Books:

1. Principals of Environmental Science and Engineering Raman Sivakumar Cengage learning, Singapur. 2ndEdition, 2005
2. Environmental Science -working with the Earth G.Tyler Miller Jr. Thomson Brooks /Cole, 11thEdition, 2006
3. Text Book of Environmental and Ecology Pratiba Sing, Anoop Singh& Piyush Malaviya Acme Learning Pvt. Ltd. New Delhi. 1stEdition

Renewable Energy sourses
18ME651

Module-1 Introduction 0 hours

Introduction:

Energy source, India's production and reserves of commercial energy sources, need for nonconventional energy sources, energy alternatives, solar, thermal, photovoltaic. Water power, wind biomass, ocean temperature difference, tidal and waves, geothermal, tar sands and oil shale, nuclear (Brief descriptions); advantages and disadvantages, comparison (Qualitative and Quantitative).

Solar Radiation:

Extra-Terrestrial radiation, spectral distribution of extra terrestrial radiation, solar constant, solar radiation at the earth's surface, beam, diffuse and global radiation, solar radiation data.

Measurement of Solar Radiation:
Pyrometer, shading ring pyrheliometer, sunshine recorder, schematic diagrams and principle of working.

Module-2 Solar Radiation Geometry 0 hours

Solar Radiation Geometry:
Flux on a plane surface, latitude, declination angle, surface azimuth angle, hour angle, zenith angle, solar altitude angle expression for the angle between the incident beam and the normal to a plane surface (No derivation) local apparent time. Apparent motion of sum, day length, numerical examples.

Radiation Flux on a Tilted Surface:
Beam, diffuse and reflected radiation, expression for flux on a tilted surface (no derivations) numerical examples.

Solar Thermal Conversion:
Collection and storage, thermal collection devices, liquid flat plate collectors, solar air heaters concentrating collectors (cylindrical, parabolic, paraboloid) (Quantitative analysis); sensible heat storage, latent heat storage, application of solar energy water heating. Space heating and cooling, active and passive systems, power generation, refrigeration. Distillation (Qualitative analysis) solar pond, principle of

Module-3 Performance Analysis of Liquid Flat Plate Collectors 0 hours

Performance Analysis of Liquid Flat Plate Collectors:
General description, collector geometry, selective surface (qualitative discussion) basic energy-balance equation, stagnation temperature, transmissivity of the cover system, transmissivity – absorptivity product, numerical examples. The overall loss coefficient, correlation for the top loss coefficient, bottom and side loss coefficient, problems (all correlations to be provided). Temperature distribution between the collector tubes, collector heat removal factor, collector efficiency factor and collector flow factor, mean plate temperature, instantaneous efficiency (all expressions to be provided). Effect of various parameters on the collector performance; collector orientation, selective surface, fluid inlet temperature, number covers, dust.

Photovoltaic Conversion:
Description, principle of working and characteristics, application.

Module-4 Wind Energy 0 hours

Wind Energy:
Properties of wind, availability of wind energy in India, wind velocity and power from wind; major problems associated with wind power, wind machines; Types of wind machines and their characteristics, horizontal and vertical axis wind mills, elementary design principles; coefficient of performance of a wind mill rotor, aerodynamic considerations of wind mill design, numerical examples.

Tidal Power:
Tides and waves as energy suppliers and their mechanics; fundamental characteristics of tidal power, harnessing tidal energy, limitations.

Ocean Thermal Energy Conversion:
Principle of working, Rankine cycle, OTEC power stations in the world, problems associated with OTEC.

Module-5 Geothermal Energy Conversion 0 hours

Geothermal Energy Conversion:
Principle of working, types of geothermal station with schematic diagram, geothermal plants in the world, problems associated with geothermal conversion, scope of geothermal energy.

Energy from Bio Mass:

Photosynthesis, photosynthetic oxygen production, energy plantation, bio gas production from organic wastes by anaerobic fermentation, description of bio-gas plants, transportation of bio-gas, problems involved with bio-gas production, application of bio-gas, application of bio-gas in engines, advantages.

Hydrogen Energy:
Properties of Hydrogen with respected to its utilization as a renewable form of energy, sources of hydrogen, production of hydrogen, electrolysis of water, thermal decomposition of water, thermo chemical production bio-chemical production.

Course Outcomes:
At the end of the course, the student will be able to:
CO1: Describe the environmental aspects of non-conventional energy resources. In Comparison with various conventional energy systems, their prospects and limitations.

MECHATRONICS ENGINEERING

B.E.INCIVILENGINEERING(CV-2018-19) Outcome Based Education (OBE) and Choice Based Credit System (CBCS)SEMESTER– V			
ENVIRONMENTALSTUDIES			
CourseCode	18CIV59	CIEMarks	40
TeachingHours/ Week(L:T:P)	(1:0:0)	SEEMarks	60
Credits	01	ExamHours	02
RevisedBloom'sTaxonomyLevels	L_1-Remembering,L_2–Understanding.		

Module 1

.
Module 2
Advances in Energy Systems (Merits, Demerits, Global Status and Applications): Hydrogen, Solar, OTEC, Tidal and Wind. Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud Seeding, and Carbon Trading.
Module 3
Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies): Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution. Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.
Module 4
For the complete Syllabus, results, class timetable, and many other features kindly download the iStudy App
It is a lightweight, easy to use, no images, and no pdfs platform to make students's lives easier.
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Module 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs. Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course Outcomes:

At the end of the course, students will be able to:

5. Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
6. Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
7. Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
8. Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Question paper pattern:

Text Books:

4. Environmental Studies Benny Joseph Tata Mc Graw-Hill. 2ndEdition, 2012
5. Environmental Studies S M Prakash Pristine Publishing House, Mangalore 3rdEditiof 2018
6. Environmental Studies -From Crisis to Cure R Rajagopalan Oxford Publisher 2005

Reference Books:

4. Principals of Environmental Science and Engineering Raman Sivakumar Cengage learning, Singapur. 2ndEdition, 2005
5. Environmental Science -working with the Earth G.Tyler Miller Jr. Thomson Brooks /Cole, 11thEdition, 2006
6. Text Book of Environmental and Ecology Pratiba Sing, Anoop Singh& Piyush Malaviya Acme Learning Pvt. Ltd. New Delhi. 1stEdition

Department of Information Science & Engineering

ENVIRONMENTAL STUDIES

Course Code 18CIV59 CIE Marks 40
Teaching Hours / Week (L:T:P) (1:0:0) SEE Marks 60
Credits 01 Exam Hours 02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.
Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications): Hydrogen, Solar, OTEC, Tidal and Wind.
Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies): Surface and Ground Water Pollution; Noise pollution; Soil Pollution and Air Pollution. Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes; Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies): Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.

Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course outcomes: At the end of the course, students will be able to:

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global scale,
- CO2: Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment.
- CO3: Demonstrate ecology knowledge of a complex relationship between biotic and a biotic components.
- CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Question paper pattern:

- The Question paper will have 100 objective questions.
- Each question will be for 01 marks
- Student will have to answer all the questions in an OMR Sheet.
- The Duration of Exam will be 2 hours

Computer Science & Engineering

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI
Scheme of Teaching and Examination 2018 – 19
Choice Based Credit System (CBCS) AND Outcome Based Education
(OBE) (Effective from the academic year 2018 – 19)

V SEMESTER

Sl. No	Course and Course code		Course Title	Teaching Department	Teaching Hours /Week			Examination				Credits
					Theory Lectur	Tutorial	Practical /	Duration in hours	CIE Marks	SEE Marks	Total Marks	
					L	T	P					
1	HSMC	18CS51	Management, Entrepreneurship for IT idustry	HSMC	2	2	--	03	40	60	100	3
2	PCC	18CS52	Computer Networks and Security	CS / IS	3	2	--	03	40	60	100	4
3	PCC	18CS53	Database Management System	CS / IS	3	2	--	03	40	60	100	4
4	PCC	18CS54	Automata theory and Computability	CS / IS	3	--	--	03	40	60	100	3
5	PCC	18CS55	Application Development using Python	CS / IS	3	--	--	03	40	60	100	3
6	PCC	18CS56	Unix Programming	CS / IS	3	--	--	03	40	60	100	3
7	PCC	18CSL57	Computer Network Laboratory	CS / IS	--	2	2	03	40	60	100	2
8	PCC	18CSL58	DBMS Laboratory with mini project	CS / IS	--	2	2	03	40	60	100	2

9	HSMC	18CIV59	Environmental Studies	Civil/ Environmental [Paper setting: Civil Engineering Board]	1	--	--	02	40	60	100	1
				TOTAL	**18**	**10**	**04**	**26**	**360**	**540**	**900**	**25**

Note: PCC: Professional Core, HSMC: Humanity and Social Science.

AICTE activity Points: In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of degree only after the release of the Eighth semester Grade Card.

B. E. COMMON TO ALL PROGRAMMES
Choice Based Credit System (CBCS) and Outcome Based Education
(OBE) SEMESTER – V

ENVIRONMENTAL STUDIES

Course Code	**18CIV59**	CIE Marks	40
Teaching Hours / Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.
Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications)**:** Hydrogen, Solar, OTEC, Tidal and Wind.
Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud
Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and AirPollution.
Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes;
Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies):Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.
Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course Outcomes: At the end of the course, students will be able to:

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a globalscale,
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- CO3: Demonstrate ecology knowledge of a complex relationship between biotic and abioticcomponents.
- CO4: Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complexissues.

Question paper pattern:

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- Student will have to answer all the questions in an OMRSheet.
- The Duration of Exam will be 2hours.

1	Environmental Studies	Benny Joseph	Tata Mc Graw – Hill.	2nd Edition, 2012
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Reference Books				
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3	Text Book of Environmental and Ecology	Pratiba Sing, Anoop Singh& Piyush Malaviya	Acme Learning Pvt. Ltd. New Delhi.	1st Edition

Department of Automobile Engineering

B. E. COMMON TO ALL PROGRAMMES
Choice Based Credit System (CBCS) and Outcome Based Education (OBE) SEMESTER – V

ENVIRONMENTAL STUDIES

Course Code	**18CIV59**	CIE Marks	40
Teaching Hours / Week (L:T:P)	(1:0:0)	SEE Marks	60
Credits	01	Exam Hours	02

Module - 1

Ecosystems (Structure and Function): Forest, Desert, Wetlands, Riverine, Oceanic and Lake.
Biodiversity: Types, Value; Hot-spots; Threats and Conservation of biodiversity, Forest Wealth, and Deforestation.

Module - 2

Advances in Energy Systems (Merits, Demerits, Global Status and Applications)**:** Hydrogen, Solar, OTEC, Tidal and Wind.
Natural Resource Management (Concept and case-studies): Disaster Management, Sustainable Mining, Cloud
Seeding, and Carbon Trading.

Module - 3

Environmental Pollution (Sources, Impacts, Corrective and Preventive measures, Relevant Environmental Acts, Case-studies)**:** Surface and Ground Water Pollution; Noise pollution; Soil Pollution and AirPollution.
Waste Management & Public Health Aspects: Bio-medical Wastes; Solid waste; Hazardous wastes; E-wastes;
Industrial and Municipal Sludge.

Module - 4

Global Environmental Concerns (Concept, policies and case-studies):Ground water depletion/recharging, Climate Change; Acid Rain; Ozone Depletion; Radon and Fluoride problem in drinking water; Resettlement and rehabilitation of people, Environmental Toxicology.

Module - 5

Latest Developments in Environmental Pollution Mitigation Tools (Concept and Applications): G.I.S. & Remote Sensing, Environment Impact Assessment, Environmental Management Systems, ISO14001; Environmental Stewardship- NGOs.

Field work: Visit to an Environmental Engineering Laboratory or Green Building or Water Treatment Plant or Waste water treatment Plant; ought to be Followed by understanding of process and its brief documentation.

Course Outcomes: At the end of the course, students will be able to:

- CO1: Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a globalscale,
- CO2: Develop critical thinking and/or observation skills, and apply themtothe analysis of a problem or question related to theenvironment.
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Sl.No.	Title of the Book	Name of the Author/s	Name of the Publisher	Edition and Year
Textbook/s				

1	Environmental Studies	Benny Joseph	Tata Mc Graw – Hill.	2nd Edition, 2012
2.	Environmental Studies	S M Prakash	Pristine Publishing House, Mangalore	3rd Edition, 2018
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Reference Books				
1	Principals of Environmental Science andEngineering	Raman Sivakumar	Cengage learning, Singapur.	2nd Edition, 2005
2	Environmental Science – working with the Earth	G.Tyler Miller Jr.	Thomson Brooks /Cole,	11th Edition, 2006

Master of Business Administration

ENTREPRENEURSHIP AND LEGAL ASPECTS
Course Code 20MBA26 CIE Marks 40
Teaching Hours/Week (L:T:P) 3:0:2 SEE Marks 60
Credits 04 Exam Hours 03

Course Objectives:

1. To develop and strengthen entrepreneurial quality and motivation in students.
2. To impart basic entrepreneurial skills and understandings to run a business efficiently and effectively.
3. To provide insights to students on entrepreneurship opportunities, sources of funding and institutions supporting entrepreneurs.
4. To make students understand the ways of starting a company of their own.

Module -1 Introduction to Entrepreneur & Entrepreneurship 7 hours
Meaning of entrepreneur - Evolution of the concept - Functions of an Entrepreneur - Types of Entrepreneur - Intrapreneur- an emerging class - Concept of Entrepreneurship -Entrepreneurial Culture - Stages in entrepreneurial process.
Creativity and Innovation: The role of creativity – The innovation Process – Sources of New Ideas – Methods of Generating Ideas – Creative Problem Solving – Entrepreneurial Process.

Module -2 Developing Business Model 9 hours
Importance of Business Model – Starting a small scale industry -Components of an Effective Business Model,Osterwalder Business Model Canvas.
Business Planning Process: Meaning of business plan - Business plan process - Advantages of business planning -Final Project Report with Feasibility Study - preparing a model project report for starting a new venture.Lab Component and assignment: Designing a Business Model Canvas

Module -3 Marketing function and forms of organisation 9 hours
Industry Analysis – Competitor Analysis – Marketing Research for the New Venture – Defining the Purpose orObjectives – Gathering Data from Secondary Sources – Gathering Information from Primary Sources –

Analyzing and
Interpreting the Results – The Marketing Process Forms of business organization: Sole Proprietorship – Partnership – Limited liability partnership - Joint Stock
Companies and Cooperatives.

Module -4 Entrepreneurial finance 7 hours
Entrepreneurial finance- Estimating the financial needs of a new venture, internal sources of finance, external sources of finance, components of financial plan
Institutions supporting Entrepreneurs: Small industry financing developing countries - A brief overview of financial institutions in India - Central level and state level institutions - SIDBI - NABARD - IDBI - SIDCO - Indian Institute of
Entrepreneurship - DIC - Single Window - Latest Industrial Policy of Government of India.
Module -5 Rules And Legislation 9 hours
Applicability of Legislation; Industries Development (Regulations) Act, 1951; Factories Act, 1948; Industrial Employment (Standing Orders) Act, 1946, Suspension, Stoppage of work, Termination of employment; Karnataka Shops
and Establishment Act, 1961; Environment (Protection) Act, 1986; The sale of Goods Act, 1930; Industrial Dispute Act 1947.

Module-6 Company Incorporation 9 hours
Process of Company Incorporation; process of registration; Importance of Marketing; Funding, Four stages of Start Up.
Intellectual property protection and Ethics: Patents – Copyright - Trademark- Geographical indications – Ethical and
social responsibility and challenges.

Course outcomes:
At the end of the course the student will be able to:
1. Display keen interest and orientation towards entrepreneurship, entrepreneurial opportunity Modules' in order to
setup a business and to think creatively.
2. To know about the various business models and B-Plans across Business sectors.
3. Able to understand the importance of marketing and different forms of businesses.
4. Become aware about various sources of funding and institutions supporting entrepreneurs.
5. Awareness about legal aspects and ways to protect the ideas.
6. To understand the ways of starting a company and to know how to protect their ideas.