1.3.1. Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum.

S. No.	Name of Course	Course Code	Programme
1	Universal Human Values	KVE-301	Bachelor of Technology (Mechanical Engineering)
2	Sociology	RAS-501	Bachelor of Technology (Mechanical Engineering)
3	Universal Human Values	KVE-301	Bachelor of Technology (Civil Engineering)
4	Sociology	RAS-501	Bachelor of Technology (Civil Engineering)
5	Universal Human Values and Professional Ethics	KVE-401	Bachelor of Technology (Computer Science & Engineering)
6	Industrial Sociology	RAS-502	Bachelor of Technology (Computer Science & Engineering)
7	Human Values in Madhyasth Darshan	ROE-087	Bachelor of Technology (Computer Science & Engineering)
8	Values, Relationship & Ethical Human Conduct – For a happy and harmonious society	ROE-088	Bachelor of Technology (Computer Science & Engineering)
9	Understanding the Human being comprehensively Human Aspiration and It's fulfillment	ROE-074	Bachelor of Technology (Electronics & Communication Engineering)
10	Environmental Studies	BBA-008	Bachelor of Business Administration
11	Environment & Ecology	RAS-302/ RAS-402	B.Sc. (Home Science)
12	Introduction to Human Development	P-103	B.Sc. (Home Science)
13	Pharmaceutical Jurisprudence	214207	Diploma in Pharmacy
14	Environmental Studies	214272	Diploma in Pharmacy
15	Environmental Science	BP206	Bachelor of Pharmacy
16	Universal Human Values and Professional Ethics	KVE-401	Bachelor of Pharmacy
17	Pharmaceutical Jurisprudence-Theory	BP505T	Bachelor of Pharmacy
18	Universal Human Values & Ethics	6.AV.01	Refrigeration and Air-Conditioning
19	Environment and Ecology	6.AV.02	Refrigeration and Air-Conditioning
20	Indian Constitution	7.AV.01	Refrigeration and Air-Conditioning
21	Essence of Indian Traditional Knowledge	7.AV.02	Refrigeration and Air-Conditioning
22	Universal Human Values & Ethics	6.AV.01	Production Technology
23	Environment and Ecology	6.AV.02	Production Technology
24	Indian Constitution	7.AV.01	Production Technology
25	Essence of Indian Traditional Knowledge	7.AV.02	Production Technology
26	Universal Human Values & Ethics	6.GE.01	Software Development
27	Environment and Ecology	6.GE.02	Software Development
28	Indian Constitution	7.GE.02	Software Development
29	Essence of Indian Traditional Knowledge	7.GE.02	Software Development
30	Environmental Studies	008	Bachelor of Computer Application
31	Environmental Studies	008	Bachelor of Commerce

Meerut Institute of Technology MIT Meerut

B. Tech 1st Year (All branches except Bio Technology and Agriculture Engg.) Structure in accordance with AICTE Model Curriculum Effective w.e.f. Academic Session 2018-19

SEMESTER - I

Sl. No.	Code	SUBJECT	PERIODS			EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	Total	PS	TE	PE		
3 WEEKS COMPULSORY INDUCTION PROGRAM													
1	KAS101/ KAS102	Physics/Chemistry	3	1	3	30	20	50	25	100	25	200	5.5
2	KAS103	Mathematics-I	3	1	0	30	20	50	-	100	-	150	4
3	KEE 101/ KCS101	Basic Electrical Engineering/Programming for Problem Solving	3	1	2	30	20	50	25	100	25	200	5
4	KCE101/ KWS101	Engineering Graphics & Design/Workshop Practices	1	0	4	-	-	-	25	-	25	50	3
	MOOCs (For B.Tech. Hons. Degree)*												0
		TOTAL										600	17.5

SEMESTER II

Sl. No.	Code	SUBJECT	PERIODS			EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS201/ KAS202	Physics/Chemistry	3	1	3	30	20	50	25	100	25	200	5.5
2	KAS203	Mathematics II	3	1	0	30	20	50	-	100	-	150	4
3	KEE201/ KCS201	Basic Electrical Engineering/Programming for Problem Solving	3	1	2	30	20	50	25	100	25	200	5
4	KCE201/ KWS201	Engineering Graphics & Design/Workshop Practices	1	0	4	-	-	-	25	-	25	50	3
5	KAS204	Professional English	2	0	2	30	20	50	-	100	-	150	3
	MOOCs (For B.Tech. Hons. Degree)*												0
		TOTAL										750	20.5
Mini Project or Internship (3-4 weeks) shall be conducted during summer break after II semester and will be assessed during III semester													

*** List of MOOCs (NPTL) Based Recommended Courses for first year B. Tech Students**

1. Developing Soft Skills and personality-Odd Semester-8 Weeks-3 Credits
2. Enhancing Soft Skills and personality-Even Semester-8 Weeks-3 Credits

*** AICTE Guidelines in Model Curriculum:**

After successful completion of 160 credits, a student shall be eligible to get Under Graduate degree in Engineering. A student will be eligible to get Under Graduate degree with Honours only, if he/she completes additional university recommended courses only (Equivalent to 20 credits; NPTEL Courses of 4 Weeks, 8 Weeks and 12 Weeks shall be of 2, 3 and 4 Credits respectively) through MOOCs. For registration to MOOCs Courses, the students shall follow NPTEL Site http://nptel.ac.in/ as per the NPTEL policy and norms. The students can register for these courses through NPTEL directly as per the course offering in Odd/Even Semesters at NPTEL. These NPTEL courses (recommended by the University) may be cleared during the B. Tech degree program (not necessary one course in each semester). After successful completion of these MooCs courses the students, shall, provide their successful completion NPTEL status/certificates to the University (COE) through their college of study only. The student shall be awarded Hons. Degree (on successful completion of MOOCS based 20 credit) only if he/she secures 7.50 or above CGPA and passed each subject of that Degree Programme in single attempt without any grace marks.

THIRD SEMESTER **CIVIL ENGINEERING** **SESSION 2019-20**

S.No	Subject Codes	Subject	Periods L	T	P	Evaluation Scheme CT	TA	Total	PS	End Semester TE	PE	Total	Credit
1	KOE031-38/KAS303	Engineering Science Course/Maths III	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE301	Technical Communication/ Universal Human Values	2 3	1 0	0 0	30	20	50		100		150	3
3	KCE301	Engg. Mechanics	3	1	0	30	20	50		100		150	4
4	KCE302	Surveying and Geomatics	3	1	0	30	20	50		100		150	4
5	KCE303	Fluid Mechanics	3	0	0	30	20	50		100		150	3
6	KCE351	Building Planning & Drawing Lab	0	0	2				25		25	50	1
7	KCE352	Surveying and Geomatics Lab	0	0	2				25		25	50	1
8	KCE353	Fluid Mechanics Lab	0	0	2				25		25	50	1
9	KCE354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/ Python Programming	2	0	2	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		Total										950	22
*The Mini Project or Internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.													

SEMESTER - IV

S.No	Subject Codes	Subject	Periods L	T	P	Evaluation Scheme CT	TA	Total	PS	End Semester TE	PE	Total	Credit
1	KAS403/ KOE041-48	Maths III/ Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS401	Universal Human Values/Technical Communication	3 2	0 1	0 0	30	20	50		100		150	3
3	KCE401	Materials, Testing & Construction Practices	3	0	0	30	20	50		100		150	3
4	KCE402	Introduction to Solid Mechanics	3	1	0	30	20	50		100		150	4
5	KCE403	Hydraulic Engineering and Machines	3	1	0	30	20	50		100		150	4
6	KCE451	Material Testing Lab	0	0	2				25		25	50	1
7	KCE452	Solid Mechanics Lab	0	0	2				25		25	50	1
8	KCE453	Hydraulics & Hydraulic Machine Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming/Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		Total										900	21

FIFTH SEMESTER

Sl No.	Subject Code	Subject Name	Teaching Deptt.	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA.		
1	RAS501	MANEGIRIAL ECONOMICS	Applied Science	3—0---0	70	20	10	100	3
2	RAS-502/ RUC501	SOCIOLOGY /CYBER SECURITY	Applied Science	3—0---0	70	20	10	100	3
3	RCE501	GEOTECHNICAL ENGINEERING	Core Deptt.	3—0---0	70	20	10	100	3
4	RCE502	DESIGN OF STRUCTURE-I	Core Deptt.	3—1---0	70	20	10	100	4
5	RCE503	QUANTITY ESTIMATION AND MANAGEMENT	Core Deptt.	3—0---0	70	20	10	100	3
6	RCE051 RCE052 RCE053	**ELECTIVE -1** MODERN CONSTRUCTION MATERIALS CONCRETE TECHNOLOGY GEOENVIRONMENTAL	Core Deptt.	3—1--0	70	20	10	100	4

		ENGINEERING							
7	RCE551	GEOTECHNICAL ENGINEERING LAB	Core Deptt.	0—0---2	50		50	100	1
8	RCE552	CAD LAB-1	Core Deptt.	0—0---2	50		50	100	1
9	RCE553	CONSTRUCTION MANAGEMENT LAB	Core Deptt.	0—0---2	50		50	100	1
10	RCE554	CONCRETE LAB	Core Deptt.	0—0---2	50		50	100	1
	TOTAL				620	120	260	**1000**	**24**

SESSION 2018-19

SIXTH SEMESTER

CIVIL ENGINEERING

SESSION 2018-19

Sl No.	Subject Code	Subject Name	Teaching Deptt.	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA.		
1	RAS601	INDUSTRIAL MANAGEMENT	Applied Science	3—0---0	70	20	10	100	3
2	RUC601/ RAS602	CYBER SECURITY/SOCIOLOGY	Applied Science	3—0---0	70	20	10	100	3
3	RCE601	DESIGN OF STRUCTURE-II	Core Deptt.	3—0---0	70	20	10	100	3
4	RCE602	ENVIRONMENTAL ENGINEERING	Core Deptt.	3—1---0	70	20	10	100	4
5	RCE603	TRANSPORTATION ENGINEERING	Core Deptt.	3—0---0	70	20	10	100	3
6	RCE061 REC062 RCE063	**ELECTIVE -2** FOUNDATION DESIGN INTEGRATED WASTE MANAGEMENT FOR A SMART CITY GEOSYNTHESIS AND REINFORCED SOIL STRUCTURES	Core Deptt.	3—1---0	70	20	10	100	4
7	RCE651	CAD LAB-2	Core Deptt.	0—0---2	50		50	100	1
8	RCE652	ENVIRONMENTAL ENGINEERING LAB	Core Deptt.	0—0---2	50		50	100	1
9	RCE653	TRANSPORTATION ENGINEERING LAB	Core Deptt.	0—0---2	50		50	100	1
10	RCE 654	STRUCTURAL DETAILING LAB	Core Deptt.	0—0---2	50		50	100	1
	TOTAL				620	120	260	**1000**	**24**

SEVENTH SEMESTER **CIVIL ENGINEERING** **SESSION 2019-20**

S. No.	Subject Code	Subject Name	Department	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA		
1		Open Elective Course-1	Other Deptt.	3---0---0	70	20	10	100	3
2		**Elective -3**							
	RCE071	Geology and Soil Mechanics							
	RCE072	Rural Development Engineering	Core Deptt.	3---0---0	70	20	10	100	3
	RCE073	Structural Health Monitoring & Rehabilitation							
	RCE074	River Engineering							
3		**Elective -4**							
	RCE075	Computational Fluid Dynamics							
	RCE076	Railways, Airport & Water Ways							
	RCE077	Air & Noise Pollution Control	Core Deptt.	3---1---0	70	20	10	100	4
	RCE078	Ground Improvement Techniques							
4	RCE701	Design of Structure-III	Core Deptt.	3---1---0	70	20	10	100	4
5	RCE702	Water Resources	Core Deptt.	3---0---0	70	20	10	100	3
6	RCE751	Non Destructive Testing Laboratory	Core Deptt.	0---0---2	50		50	100	1
7	RCE752	Mini Project	Core Deptt.	0---0---2	50		50	100	1
8	RCE753	Industrial Training	Core Deptt.	0---0---3			100	100	2
9	RCE754	Project-1	Core Deptt.	0---0---6			200	200	3
	TOTAL				**450**	**100**		**1000**	**24**

Industrial Training: Industrial Training 1 (completed after IVth sem) & 2 (completed after VIth sem) is to be evaluated in VII semester.

Project-1:-Students will initiate Project work in VII semester as Project -1 and the same will be completed in VIII semester as Project-2.

Evaluation of Project-1 should be based on the progress reported by the student and certified by the supervisor.

EIGHTH SEMESTER **CIVIL ENGINEERING** **SESSION 2019-20**

S No.	Subject Code	Subject Name	Teaching Deptt.	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA		
1		Open Elective Course -2	Other Deptt.	3---0---0	70	20	10	100	3
2		**Elective -5**	Core Deptt.	3---1---0	70	20	10	100	4
	RCE081	Finite Element Method							
	RCE082	Structural Dynamics							
	RCE083	Advanced Concrete Design							
	RCE084	Solid Waste Management							
3		**Elective -6**	Core Deptt.	3---0---0	70	20	10	100	3
	RCE085	Engineering Hydrology and Ground Water Management							
	RCE086	Urban Transportation System & Planning							
	RCE087	Probability Methods in Civil Engineering							
	RCE088	Earthquake Resistant Design of Structure							
4	RCE851	Seminar	Core Deptt.	0 ---0---3			100	100	2
5	RCE852	Project-2	Core Deptt.	0---0---12	350		250	600	12
	TOTAL				**560**	**60**	**380**	**1000**	**24**

The required identification and distribution of electives through NPTEL has been made as given below.

Sem	Departmental Elective	Name of Elective through NPTEL
VIII	5	RCE082 Structural Dynamics
	6	RCE087 Probability Methods in Civil Engineering

B. Tech 1st Year (All branches except Bio Technology and Agriculture Engg.) Structure in accordance with AICTE Model Curriculum Effective w.e.f. Academic Session 2018-19

SEMESTER - I

Sl. No.	Code	SUBJECT	PERIODS			EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	Total	PS	TE	PE		
3 WEEKS COMPULSORY INDUCTION PROGRAM													
1	KAS101/ KAS102	Physics/Chemistry	3	1	3	30	20	50	25	100	25	200	5.5
2	KAS103	Mathematics-I	3	1	0	30	20	50	-	100	-	150	4
3	KEE 101/ KCS101	Basic Electrical Engineering/Programming for Problem Solving	3	1	2	30	20	50	25	100	25	200	5
4	KCE101/ KWS101	Engineering Graphics & Design/Workshop Practices	1	0	4	-	-	-	25	-	25	50	3
	MOOCs (For B.Tech. Hons. Degree)*												0
		TOTAL										600	17.5

SEMESTER II

Sl. No.	Code	SUBJECT	PERIODS			EVALUATION SCHEME				END SEMESTER		TOTAL	CREDIT
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS201/ KAS202	Physics/Chemistry	3	1	3	30	20	50	25	100	25	200	5.5
2	KAS203	Mathematics II	3	1	0	30	20	50	-	100	-	150	4
3	KEE201/ KCS201	Basic Electrical Engineering/Programming for Problem Solving	3	1	2	30	20	50	25	100	25	200	5
4	KCE201/ KWS201	Engineering Graphics & Design/Workshop Practices	1	0	4	-	-	-	25	-	25	50	3
5	KAS204	Professional English	2	0	2	30	20	50	-	100	-	150	3
	MOOCs (For B.Tech. Hons. Degree)*												0
		TOTAL										750	20.5
Mini Project or Internship (3-4 weeks) shall be conducted during summer break after II semester and will be assessed during III semester													

*** List of MOOCs (NPTL) Based Recommended Courses for first year B. Tech Students**

1. Developing Soft Skills and personality-Odd Semester-8 Weeks-3 Credits
2. Enhancing Soft Skills and personality-Even Semester-8 Weeks-3 Credits

*** AICTE Guidelines in Model Curriculum:**

After successful completion of 160 credits, a student shall be eligible to get Under Graduate degree in Engineering. A student will be eligible to get Under Graduate degree with Honours only, if he/she completes additional university recommended courses only (Equivalent to 20 credits; NPTEL Courses of 4 Weeks, 8 Weeks and 12 Weeks shall be of 2, 3 and 4 Credits respectively) through MOOCs. For registration to MOOCs Courses, the students shall follow NPTEL Site http://nptel.ac.in/ as per the NPTEL policy and norms. The students can register for these courses through NPTEL directly as per the course offering in Odd/Even Semesters at NPTEL. These NPTEL courses (recommended by the University) may be cleared during the B. Tech degree program (not necessary one course in each semester). After successful completion of these MooCs courses the students, shall, provide their successful completion NPTEL status/certificates to the University (COE) through their college of study only. The student shall be awarded Hons. Degree (on successful completion of MOOCS based 20 credit) only if he/she secures 7.50 or above CGPA and passed each subject of that Degree Programme in single attempt without any grace marks.

B.Tech. (Mechanical Engineering)

SEMESTER- III

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE031-38/ KAS302	Engg. Science Course/Maths IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE301	Technical Communication/Universal Human Values	2 3	1 0	0 0	30	20	50		100		150	3
3	KME301	Thermodynamics	3	1	0	30	20	50		100		150	4
4	KME302	Fluid Mechanics & Fluid Machines	3	1	0	30	20	50		100		150	4
5	KME303	Materials Engineering	3	0	0	30	20	50		100		150	3
6	KME351	Fluid Mechanics Lab	0	0	2				25		25	50	1
7	KME352	Material Testing Lab	0	0	2				25		25	50	1
8	KME353	Computer Aided Machine Drawing-I Lab	0	0	2				25		25	50	1
9	KME354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		Total										**950**	**22**

*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

SEMESTER- IV

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KAS402/ KOE041-48	Maths IV/Engg. Science Course	3	1	0	30	20	50		100		150	4
2	KVE401/ KAS401	Universal Human Values/Technical Communication	3 2	0 1	0 0	30	20	50		100		150	3
3	KME401	Applied Thermodynamics	3	0	0	30	20	50		100		150	3
4	KME402	Engineering Mechanics	3	1	0	30	20	50		100		150	4
5	KME403	Manufacturing Processes	3	1	0	30	20	50		100		150	4
6	KME451	Applied Thermodynamics Lab	0	0	2				25		25	50	1
7	KME452	Manufacturing Processes Lab	0	0	2				25		25	50	1
8	KME453	Computer Aided Machine Drawing-II Lab	0	0	2				25		25	50	1
9	KNC402/ KNC401	Python Programming / Computer System Security	2	0	0	15	10	25		50			0
10		MOOCs (Essential for Hons. Degree)											
		Total										**900**	**21**

STUDY AND EVALUATION SCHEME

B-Tech. Mechanical Engineering

YEAR: 3rd / SEMESTER-V

S. No.	Subject Code	Subject Name	Department	L-T-P	Theory / Lab Marks	SESSIONAL		Total	Credit
						Test	Assignment / Attendance		
1	RAS501	Managerial Economics	Applied Science	3--0--0	70	20	10	100	3
2	RAS502/ RUC501	Sociology /Cyber Security	Applied Science	3--0--0	70	20	10	100	3
3	RME501	Machine Design-I	Core Deptt.	3--0--0	70	20	10	100	3
4	RME502	Heat & Mass Transfer	Core Deptt.	3--1--0	70	20	10	100	4
5	RME503	Manufacturing Science& Technology-II	Core Deptt.	3--0--0	70	20	10	100	3
6	RME051-054	Deptt. Elective Course-1	Core Deptt.	3--1--0	70	20	10	100	4
7	RME551	Design and Simulation Lab I	Core Deptt.	0--0--2	50		50	100	1
8	RME552	Heat & Mass Transfer Lab	Core Deptt.	0--0--2	50		50	100	1
9	RME553	Manufacturing Technology-II Lab	Core Deptt.	0--0--2	50		50	100	1
10	RME559	Seminar – I		0--0--2	50		50	100	1
TOTAL								**1000**	**24**

DEPTT ELECTIVE COURSE-1

1. **RME-051 IC Engines and Compressors**
2. **RME-052 Mechatronics and Microprocessor**
3. **RME-053 Finite Element Methods**
4. **RME-054 Engineering Optimization**

STUDY AND EVALUATION SCHEME

B-Tech. Mechanical Engineering

YEAR: 3rd / SEMESTER-VI

S. No.	Subject Code	Subject Name	Department	L-T-P	Theory / Lab Marks	SESSIONAL		Total	Credit
						Test	Assignment / Attendance		
1	RAS601	Industrial Management	Applied Science	3--0--0	70	20	10	100	3
2	RUC601/ RAS602	Cyber Security/ Sociology	Applied Science	3--0--0	70	20	10	100	3
3	RME601	Fluid Machinery	Core Deptt.	3--0--0	70	20	10	100	3
4	RME602	Theory of Machines	Core Deptt.	3--1--0	70	20	10	100	4
5	RME603	Machine Design-II	Core Deptt.	3--0--0	70	20	10	100	3
6	RME061-064	Deptt. Elective Course-2	Core Deptt.	3--1--0	70	20	10	100	4
7	RME651	Fluid Machinery Lab	Core Deptt.	0--0--2	50		50	100	1
8	RME652	Theory of Machines Lab	Core Deptt.	0--0--2	50		50	100	1
9	RME653	Design and Simulation Lab II	Core Deptt.	0--0--2	50		50	100	1
10	RME654	Refrigeration & Air-conditioning	Core Deptt.	0--0--2	50		50	100	1
TOTAL								1000	24

DEPTT ELECTIVE COURSE-2

1. **RME061 Refrigeration & Air-conditioning**
2. **RME062 Production Planning and Control**
3. **RME063 Mechanical Vibration**
4. **RME064 Reliability Engineering**

SEVENTH SEMESTER									
Sl.No.	Subject Code	Subject Name	Department	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA		
1		OPEN ELECTIVE COURSE-1	Other Deptt.	3-0-0	70	20	10	100	3
2		DEPTT ELECTIVE COURSE-3	Core Deptt.	3-0-0	70	20	10	100	3
3		DEPTT ELECTIVE COURSE-4	Core Deptt.	3-1-0	70	20	10	100	4
4	RME701	CAD/CAM	Core Deptt.	3-1-0	70	20	10	100	4
5	RME702	Automobile Engineering	Core Deptt.	3-0-0	70	20	10	100	3
6	RME751	CAD/CAM Lab	Core Deptt.	0-0-2	50		50	100	1
7	RME752	IC Engine & Automobile Lab	Core Deptt.	0-0-2	50		50	100	1
8	RME753	INDUSTRIAL TRAINING	Core Deptt.	0-0-3			100	100	2
9	RME754	PROJECT-1	Core Deptt.	0-0-6			200	200	3
	TOTAL				450	100	450	1000	24

DEPARTMENTAL ELECTIVE-3	
Sub.Code	Subject Name
RME070	Composite Materials
RME071	Power Plant Engineering
RME072	Supply Chain Management
RME073	Additive Manufacturing

DEPARTMENTAL ELECTIVE-4	
S.Code	Subject Name
RME075	Operation Research
RME076	Modelling &Simmulation
RME077	Computational Fluid Dynamics
RME078	Automation & Robotics

EIGHT SEMESTER									
Sl.No.	Subject Code	Subject Name	Department	L-T-P	Th/Lab Marks	Sessional		Total	Credit
					ESE	CT	TA		
1		OPEN ELECTIVE COURSE-2	Other Deptt.	3-0-0	70	20	10	100	3
2		DEPTT ELECTIVE COURSE-5	Core Deptt.	3-1-0	70	20	10	100	4
3		DEPTT ELECTIVE COURSE-6	Core Deptt.	3-0-0	70	20	10	100	3
4	RME851	SEMINAR	Core Deptt.	0-0-3			100	100	2
5	RME852	PROJECT-2	Core Deptt.	0-0-12	350		250	600	12
	TOTAL				560	60	380	1000	24

DEPARTMENTAL ELECTIVE-5	
Sub.Code	Subject Name
RME080	Non-Destructive Testing
RME081	Advance Welding
RME082	Thermal Turbo Machine
RME083	Energy Conservation &Management

S.Code **MOOC Subject Name**
RME084 Industrial Safety Engineering.

DEPARTMENTAL ELECTIVE-6	
S.Code	Subject Name
RME085	Total Quality Management
RME086	Gas Dynamics & Jet Propulsion
RME087	Design & Transmission System
RME088	Theory of Elasticity.

S.Code **MOOC Subject Name**
RME089 Manufacturing of Composites.

B.TECH (COMPUTER SCIENCE AND ENGINEERING)

SEMESTER- III

Sl. No.	Subject Codes	Subject	Periods			Evaluation Scheme				End Semester		Total	Credit
			L	T	P	CT	TA	Total	PS	TE	PE		
1	KOE031-38/ KAS302	Engineering Science Course/Maths IV	3	1	0	30	20	50		100		150	4
2	KAS301/ KVE 301	Technical Communication/Universal Human values	2 3	1 0	0 0	30	20	50		100		150	3
3	KCS301	Data Structure	3	1	0	30	20	50		100		150	4
4	KCS302	Computer Organization and Architecture	3	1	0	30	20	50		100		150	4
5	KCS303	Discrete Structures & Theory of Logic	3	0	0	30	20	50		100		150	3
6	KCS351	Data Structures Using C Lab	0	0	2				25		25	50	1
7	KCS352	Computer Organization Lab	0	0	2				25		25	50	1
8	KCS353	Discrete Structure & Logic Lab	0	0	2				25		25	50	1
9	KCS354	Mini Project or Internship Assessment*	0	0	2			50				50	1
10	KNC301/ KNC302	Computer System Security/Python Programming	2	0	0	15	10	25		50			0
11		MOOCs (Essential for Hons. Degree)											
		Total										**950**	**22**

*The Mini Project or internship (3-4 weeks) conducted during summer break after II semester and will be assessed during III semester.

Mechanical Engineering
Civil Engineering
Computer Science and Engineering

KVE401	Universal Human Values and Professional Ethics	L	T	P	C
		3	0	0	3

Objectives:

1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
2. To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession
3. To help students understand the meaning of happiness and prosperity for a human being.
4. To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
5. To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life

Course Outcome:

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

1. Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society
2. Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.
3. Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society
4. Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.
5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

Catalogue Description

Every human being has two sets of questions to answer for his life: a) what to do? and, b) how to do?. The first set pertains to the value domain, and the other to the skill domain. Both are complimentary, but value domain has a higher priority. Today, education has become more and more skill biased, and hence, the basic aspiration of a human being, that is to live with happiness and prosperity, gets defeated, in spite of abundant technological progress. This course is aimed at giving inputs that will help to ensure the right understanding and right feelings in the students in their life and profession, enabling them to lead an ethical life. In this course, the students learn the process of self-exploration, the difference between the Self and the Body, the naturally acceptable feelings in relationships in a family, the comprehensive human goal in the society, the mutual fulfillment in the nature and the co-existence in existence. As a natural outcome of such inputs, they are able to evaluate an ethical life and profession ahead.

UNIT-1 **Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration–what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

UNIT-2 **Understanding Harmony in the Human Being - Harmony in Myself**

Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

UNIT-3 **Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship**

Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of *Nyaya* and program for its fulfillment to ensure *Ubhay-tripti*; Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship, Understanding the meaning of *Vishwas*; Difference between intention and competence, Understanding the meaning of *Samman*, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family!.

UNIT-4 **Understanding Harmony in the Nature and Existence - Whole existence as Co-existence**

Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence (*Sah-astitva*) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

UNIT-5 **Implications of the above Holistic Understanding of Harmony on Professional Ethics**

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly

production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations.

Text Books:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

References:

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
2. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
3. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
4. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
5. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
6. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
7. A N Tripathy, 2003, Human Values, New Age International Publishers.
8. SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati.
9. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers , Oxford University Press
10. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
11. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
12. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam

B. Tech. (CSE\CSIT)
FIFTH SEMESTER

Sl No.	Subject Code	Subject Name	L-T-P	Theory/ Lab (ESE) Marks	Sessional		Total	Credit
					Test	Assign/Att.		
1	RAS501	MANEGERIAL ECONOMICS	3---0---0	70	20	10	100	3
2	RAS502/ RUC501	INDUSTRIAL SOCIOOLOGY /CYBER SECURITY	3---0---0	70	20	10	100	3
3	RCS-501	Database Management Systems	3---0---0	70	20	10	100	3
4	RCS-502	Design and Analysis of Algorithm	3---1---0	70	20	10	100	4
5	RCS-503	Principles of Programming Languages	3---0---0	70	20	10	100	3
6	CS-Elective-1	DEPTT ELECTIVE COURSE-1	3---1---0	70	20	10	100	4
7	RCS-551	Database Management Systems Lab	0---0---2	50	-	50	100	1
8	RCS-552	Design and Analysis of Algorithm Lab	0---0---2	50	-	50	100	1
9	RCS-553	Principles of Programming Languages Lab	0---0---2	50	-	50	100	1
10	RCS-554	Web Technologies Lab	0---0---2	50	-	50	100	1
	TOTAL						**1000**	**24**

SIXTH SEMESTER

Sl No.	Subject Code	Subject Name	L-T-P	Theory/ Lab (ESE) Marks	Sessional		Total	Credit
					Test	Assign/Att.		
1	RAS601	INDUSTRIAL MANAGEMENT	3---0---0	70	20	10	100	3
2	RAS602 / RUC601	INDUSTRIAL SOCIOLOGY/ CYBER SECURITY	3---0---0	70	20	10	100	3
3	RCS-601	Computer Networks	3---0---0	70	20	10	100	3
4	RCS-602	Compiler Design	3---1---0	70	20	10	100	4
5	RCS-603	Computer Graphics	3---0---0	70	20	10	100	3
6	CS-Elective-2	DEPTT ELECTIVE COURSE-2	3---1---0	70	20	10	100	4
7	RCS-651	Computer Networks Lab	0---0---2	50	-	50	100	1
8	RCS-652	Compiler Design Lab	0---0---2	50	-	50	100	1
9	RCS-653	Computer Graphics Lab	0---0---2	50	-	50	100	1
10	RCS-654	Data Warehousing & Data Mining Lab	0---0---2	50	-	50	100	1
	TOTAL						**1000**	**24**

Mechanical Engineering
Civil Engineering
Computer Science and Engineering

RAS502/ RAS602	SOCIOLOGY	L-T-P: 3-0-0
Unit	**Topic**	**Proposed Lecture**
I	Industrial Sociology: Nature, Scope and Importance of Industrial Sociology. Social Relations in Industry, Social Organisation in Industry- Bureaucracy, Scientific Management and Human Relations.	06
II	Rise and Development of Industry: Early Industrialism – Types of Productive Systems – The Manorial or Feudal system. The Guild system, The domestic or putting-out system, and the Factory system. Characteristics of the factory system. Causes and Consequences of industrialization. Obstacles to and Limitations of Industrialization.	06
III	Industrialization in India. Industrial Policy Resolutions – 1956.Science. Technology and Innovation Policy of India 2013.	06
IV	Contemporary Issues: Grievances and Grievance handling Procedure. Industrial Disputes: causes, Strikes and Lockouts. Preventive Machinery of Industrial Disputes: Schemes of Workers Participation in Management- Works Committee, Collective Bargaining, Bi-partite & Tri-partite Agreement, Code of Discipline, Standing Orders. Labour courts & Industrial Tribunals.	06
V	Visualizing the future: Models of industrialization- Collectivist, anarchist, free market, environmentalist, etc. Cultural issues, consumer society and sociological concerns.	06

References:

1. PREMVIR KAPOOOR, Sociology & Economics for Engineers, Khanna Publishing House (Edition 2018).
2. GISBERT PASCAL, Fundamentals of Industrial sociology, Tata McGraw Hill, New Delhi, 1972.
2. SCHNEIDER ENGNO V., Industrial Sociology 2nd Ed., McGraw Hill Publishing Co., New Delhi, 1979.
3. MAMORIA C.B. And MAMORIA S., Dynamics of Industrial Relations in India.
4. SINHA G.P. and P.R.N. SINHA, Industrial Relations and Labour Legislations, New Delhi, Oxford and IBH Publishing Co., 1977.
5. S.C. SHARMA, Industrial Safety and Health Management, Khanna Book Publishing Co. (P) Ltd., Delhi (ISBN: 978-93-86173-188)
5. NADKARNI, LAKSHMI, Sociology of Industrial Worker, Rawat, Jaipur,1998.
6. BHOWMICK SHARIT, Industry, Labour and Society,Orient, 2012.
7. RICHARD BROWN, JOHN CHILD, AND S R PARKER, The Sociology of Industry 1st Edition, Routledge, 2015.

ROE087	HUMAN VALUES IN MADHYASTH DARSHAN	L	T	P
		3	0	0

Prerequisite: RVE 301/401- Universal Human Values and Professional Ethics

Objectives:

1. To help students understand the basic principles of Madhyasth Darshan
2. To help students understand the existential realities including the human existence through Madhyasth Darshan
3. To help them to see the participation of human beings in the nature/ existential realities (i.e. human values) and therefore the human conduct through each one of them
4. To help students apply this understanding to make their living better at different levels- individual, family, society and nature
5. To facilitate the students in applying this understanding in their profession and lead an ethical life

Catalogue Description

Madhyasth Darshan is a new emerging philosophy that describes the existential realities along with its implication in behaviour and work at the level of individual as well as society. This philosophy has been propounded by Shri A. Nagraj in seventies.

It is to be kept in mind that Darshan means realisation which calls for developing the capacity to see the reality in oneself directly. So, any study of Darshan shall help develop this capacity in the students through proper steps of practices and shall not just provide the information.

UNIT-I **Introduction to Madhyasth Darshan and its Basics**

Need to study Madhyasth Darshan; introduction, basic formulations of the darshan; the complete expanse of study and the natural outcome of living according to the darshan.

UNIT-II **Submergence of Nature in Space**

The ever-present existence in the form of nature submerged in space; nature classified into two categories – material and consciousness, and four orders; the form, property, natural characteristic and self-organisation of the four orders, General direction and process of evolution in the nature/ existence.

UNIT-III **Human Being as an indivisible part of Nature**

Human being as an indivisible part of nature; various types (five classes) of human beings; human being in the combination of self and body; purpose of self as realization, prosperity for the body; need of behavior and work for attaining the goals of realization and prosperity.

UNIT-IV **Fulfillment of human goal of realization and prosperity**

Following natural, social and psychological principles for actualizing the human goal; Form of conducive society and order for such practices, study process- achieving realization through self-study and practice while living in such a society (social order).

UNIT-V **Human Conduct based on Madhyasth Darshan**

Description of such a realized self, continuity of happiness, peace, satisfaction and bliss through realization, conduct of a realized human being. Possibility of finding solutions to present day problems (such as inequality of rich and poor, man and woman etc.) in the light of it.

ROE088 VALUES, RELATIONSHIP & ETHICAL HUMAN CONDUCT–FOR A HAPPY & HARMONIOUS SOCIETY L T P 3 0 0

Pre-requisites- for this subject only those faculty will teach these courses who had done the FDP for these courses.

Course Objectives:

1. To help the students to understand the importance and types of relationship with expressions.
2. To develop the competence to think about the conceptual framework of undivided society as well as universal human order.
3. To help the students to develop the exposure for transition from current state to the undivided society and universal human order.

Course Methodology:

1. The methodology of this course is explorational and thus universally adaptable. It involves a systematic and rational study of the human being vis-à-vis the rest of existence.
2. It is free from any dogma or set of do's and don'ts related to values.
3. It is a process of self-investigation and self-exploration, and not of giving sermons. Whatever is found as truth or reality is stated as a proposal and the students are facilitated and encouraged to verify it in their own right, based on their Natural Acceptance and subsequent Experiential Validation.
4. This process of self-exploration takes the form of a dialogue between the teacher and the students to begin with, and then to continue within the student leading to continuous self-evolution.
5. This self-exploration also enables them to critically evaluate their pre-conditionings and present beliefs.

UNIT-I

Introduction to the course: Basic aspiration of a Human Being and program for its fulfillment, Need for family and relationship for a Human Being, Human-human relationship and role of behavior in its fulfillment, Human-rest of Nature relationship and role of work in its fulfillment, Comprehensive Human Goal, Need for Undivided Society, Need for Universal Human Order, an appraisal of the Current State, Appraisal of Efforts in this Direction in Human History.

UNIT-II

Understanding Human-Human Relationship & its fulfillment: Recognition of Human-Human Relationship, Recognition of feelings in relationship, Established Values and Expressed Values in Relationship, interrelatedness of feelings and their fulfillment, Expression of feelings, Types of relationship and their purpose, mutual evaluation in relationship, Meaning of justice in relationship, Justice leading to culture, civilization and Human Conduct.

UNIT-III

Justice from family to world family order: Undivided Society as continuity and expanse of Justice in behavior – family to world family order, continuity of culture and civilization, Universal Order on the basis of Undivided Society, Conceptual Framework for Universal human order, Universal Human Order as continuity and expanse of order in living: from family order to world family order, a conceptual framework for universal human order.

UNIT-IV **Program for Ensuring Undivided Society and Universal Human Order:** Education – Sanskar, Health – Sanyam, Production-work, Exchange – storage, Justice-preservation.

UNIT-V **Human Tradition:** Scope and Steps of Universal Human Order, Human Tradition (Ex. Family order to world family order), Steps for transition from the current state, Possibilities of participation of students in this direction, Present efforts in this direction, Sum up.

Text books:

1. A Foundation Course in Human Values and Profession Ethics (Text Book and Teachers' Manual), R. R. Gaur, R. Asthana, G. P. Bagaria (2010), Excel Books, New Delhi.
2. Avartansheel Arthshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
3. An Appeal by the Dalai Lama to the World: Ethics Are More Important Than Religion , Dalai Lama XIV, 2015.
4. Economy of Permanence – (a quest for social order based on non-violence), J. C. Kumarappa (2010), Sarva-Seva-Sangh-Prakashan, Varansi, India.
5. Energy and Equity, Ivan Illich (1974), The Trinity Press, Worcester & Harper Collins, USA.
6. Human Society, Kingsley Davis, 1949.
7. Hind Swaraj or, Indian home rule Mohandas K. Gandhi, 1909.
8. Integral Humanism, Deendayal Upadhyaya, 1965.
9. Lohiya Ke Vichar, Lok Bharti , Rammanohar Lohiya, 2008.
10. Manav Vyavahar Darshan, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
11. Manaviya Sanvidhan, A. Nagraj, Divya Path Sansthan, Amarkantak, India
12. Samadhanatmak Bhautikvad, A. Nagraj, Divya Path Sansthan, Amarkantak, India
13. Small Is Beautiful: A Study of Economics as if People Mattered, E. F. Schumacher, 1973, Blond & Briggs, UK.
14. Slow is Beautiful, Cecile Andrews (http://www.newsociety.com/Books/S/Slow-is-Beautiful)
15. Sociology Themes and Perspectives, Harper Collins; EIGHT edition (2014), Martin Holborn and Peter Langley, 1980.
16. Samagra kranti: Jaya Prakash Narayan's philosophy of social change, Siddharth Publications Renu Sinha, 1996.
17. Science & Humanism – towards a unified worldview, P. L. Dhar & R. R. Gaur (1990), Commonwealth Publishers, New Delhi
18. Vyavaharvadi Samajshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
19. Vyavahatmak Janvad, A. Nagraj, Divya Path Sansthan, Amarkantak, India.
20. The Communist Manifesto, Karl Marx, 1848.
21. Toward a True Kinship of Faiths: How the World's Religions Can Come Together Dalai Lama XIV, 2011.

Text Books:

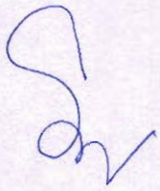
1. Nagraj, A., "Manav Vyavahar Darshan", Jeevan Vidya Prakashan, 3rd edition, 2003.

References:

1. Nagraj, A., "Vyavaharvadi Samajshastra", Jeevan Vidya Prakashan, 2nd edition, 2009.
2. Nagraj, A., "Avartanasheel Arthashastra", Jeevan Vidya Prakashan, 1st edition, 1998.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam



DR. A.P.J. ABDUL KALAM TECHNICALUNIVERSITY
LUCKNOW

EVALUATION SCHEME & SYLLABUS

FOR

B. TECH. FINAL YEAR

ELECTRONICS ENGINEERING/ ELECTRONICS & COMMUNICATION ENGINEERING/ ELECTRONICS & TELECOMMUNICATION ENGINEERING

ON

CHOICE BASED CREDIT SYSTEM (CBCS)

[Effective from the Session: 2019-20]

EVALUATION SCHEME

B.TECH. ELECTRONICS ENGINEERING, ELECTRONICS & COMMUNICATION ENGINEERING, ELECTRONICS & TELECOMMUNICATION ENGINEERING

YEAR 4rd/ SEMESTER VII

Sr. No.	Sub Code	Subject Name	Dept.	L-T-P	Th/Lab Marks	Sessional		Subject Total	Credit
					ESE	CT	TA		
1		Open Elective-I**	Other Dept.	3--0--0	70	20	10	100	3
2		Departmental Elective-III	Core Deptt.	3--0--0	70	20	10	100	3
3		Departmental Elective-IV	Core Deptt.	3--1--0	70	20	10	100	4
4	REC701	Data Communication Networks	Core Deptt.	3--1--0	70	20	10	100	4
5	REC702	VLSI Design	Core Deptt.	3--0--0	70	20	10	100	3
6	REC751	Optical Communication Lab	Core Deptt.	0--0--2	50	-	50	100	1
7	REC752	Electronics Circuit Design Lab	Core Deptt.	0--0—2	50	-	50	100	1
8	REC753	Industrial Training Viva-Voce	Core Deptt.	0--0—3	-	-	100	100	2
9	REC754	Project-I	Core Deptt.	0--0--6	-	-	200	200	3
	TOTAL				450	100	450	1000	24

LIST OF DEPTT. ELECTIVES:

Elective – III REC 07* Departmental Elective III

1. REC070 Optical Network
2. REC071 Information Theory & Coding
3. REC072 Digital Image Processing
4. REC073 Advance Programming in Engineering

Elective – IV REC 07* Departmental Elective IV

1. REC075 Optical Communication
2. REC076 Filter Design
3. REC077 Applied Fuzzy Electronic Systems
4. REC078 Computerized Process Control

EVALUATION SCHEME

B.Tech. Electronics Engineering, Electronics & Communication Engineering, Electronics & Telecommunication Engineering

YEAR 4rd/ SEMESTER VIII

Sr. No	Sub Code	Subject Name	Dept.	L-T-P	Th/LAB Marks	Sessional		Subject Total	Credit
					ESE	CT	TA		
1		Open Elective-II**	Other Dept.	3-0-0	70	20	10	100	3
2		Departmental Elective-V	Core Deptt.	3-1-0	70	20	10	100	4
3		Departmental Elective-VI	Core Deptt.	3-0-0	70	20	10	100	3
4	REC851	GD &Seminar	Core Deptt.	0-0-3			100	100	2
5	REC852	Project	Core Deptt.	0-0-12	350	-	250	600	12
	TOTAL				560	60	380	1000	24

LIST OF DEPTT. ELECTIVES:

Elective – IV REC 08* Departmental Elective V

1. REC080 Electronic Switching
2. REC081 Analytical Instrumentation
3. REC082 Advanced Display Technologies & Systems
4. REC083 Satellite & RADAR systems (NPTEL: https://nptel.ac.in/courses/117105131/)

Elective – VI REC 08* Departmental Elective VI

1. REC085 Wireless & Mobile Communication (NPTEL :https://nptel.ac.in/courses/117102062/)
2. REC086 Voice Over IP
3. REC087 Speech Processing
4. REC088 Micro and Smart Systems(NPTEL: https://nptel.ac.in/courses/112108092/)

Open Electives for B.Tech 4th year (CBCS)		
Open Electives I (VII Semester)		
Sl. No.	Subject Code	Name of Elective(s)
1	ROE071	Modelling and Simulation of Dynamic Systems
2	ROE072	Introduction to Smart Grid
3	ROE073	Cloud computing
4	ROE074	Understanding the human being Comprehensively Human Aspiration audits fulfilment
Open Electives II (VIII Semester)		
Sl. No.	Subject Code	Name of Elective(s)
1	ROE081	Digital and Social Media Marketing
2	ROE082	Entrepreneurship Development
3	ROE083	Machine Learning
4	ROE084	Micro and Smart Systems
5	ROE085	Operations Research
6	ROE086	Renewable Energy Resources
7	ROE087	*Human Values in Madhyasth Darshan
8	ROE088	*Values, Relationship & Ethical Human Conduct-For a Happy & Harmonious Society

Note:

1. **The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.**
2. *** It is mandatory that for these two subjects (ROE087 & ROE088) only trained faculty (who had done the FDP for these courses) will teach the courses.**

Subject Name: Understanding the Human Being Comprehensively – Human Aspirations and its Fulfillment

Pre-requisites- AUC-001 or RVE 301/401 "Universal Human Values and Professional Ethics"

Subject Code: ROE074 [L-T-P: 3-0-0]

Course Objectives:

1. To help the students having the clarity about human aspirations, goal, activities and purpose of life.
2. To facilitate the competence to understand the harmony in nature/existence and participation of human being in the nature/existence.
3. To help the students to develop the understanding of human tradition and its various components.

Course Methodology:

1. The methodology of this course is explorational and thus universally adaptable. It involves a systematic and rational study of the human being vis-à-vis the rest of existence.
2. It is free from any dogma or set of do's and don'ts related to values.
3. It is a process of self-investigation and self-exploration, and not of giving sermons. Whatever is found as truth or reality is stated as a proposal and the students are facilitated and encouraged to verify it in their own right, based on their Natural Acceptance and subsequent Experiential Validation.
4. This process of self-exploration takes the form of a dialogue between the teacher and the students to begin with, and then to continue within the student leading to continuous self-evolution.
5. This self-exploration also enables them to critically evaluate their pre-conditionings and present beliefs.

Module 1: Introduction

The basic human aspirations and their fulfillment through Right understanding and Resolution; All-encompassing Resolution for a Human Being, its details and solution of problems in the light of Resolution

Module 2: Understanding Human being and its expansion.

The domain of right understanding starts from understanding the human being (the knower, the experiencer and the doer); and extends up to understanding nature/existence – its interconnectedness and co-existence; and finally understanding the role of human being in existence (human conduct).

Module 3: Activities of the Self.

Understanding the human being comprehensively is the first step and the core theme of this course; human being as co-existence of the self and the body; the activities and potentialities of the self; Reasons for harmony/contradiction in the self

Module 4: Understanding Co-existence with other orders.

The need and the process of inner evolution (through self-exploration, self-awareness and self-evaluation)- particularly awakening to activities of the Self: Realization, Understanding and Contemplation in the Self (Realization of Co-Existence, Understanding of Harmony in Nature and Contemplation of Participation of Human in this harmony/ order leading to comprehensive knowledge about the existence).

Module 5: Expansion of harmony from self to entire existence.

Understanding different aspects of All-encompassing Resolution (understanding, wisdom, science etc.), Holistic way of living for Human Being with All-encompassing Resolution covering all four dimensions of human endeavour viz., realization, thought, behavior and work (participation in the larger order) leading to harmony at all levels from self to Nature and entire Existence

Reference Books:

1. A Foundation Course in Human Values and Profession Ethics (Text Book and Teachers' Manual), R. R. Gaur, R. Sangal, G. P. Bagaria (2010), Excel Books, New Delhi [ISBN 978-8-174-46781-2]
2. Avartansheel Arthshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India
3. Economy of Permanence – (a quest for social order based on non-violence), J. C. Kumarappa (2010), Sarva-Seva-Sangh-Prakashan, Varansi, India
4. Energy and Equity, Ivan Illich (1974), The Trinity Press, Worcester & Harper Collins, USA
5. IshandiNauUpnishad, Shankaracharya, Geeta press, Gorakhpur,
6. Manav Vyavahar Darshan, A. Nagraj, Divya Path Sansthan, Amarkantak, India
7. Manaviya Sanvidhan, A. Nagraj, Divya Path Sansthan, Amarkantak, India
8. MahasatipatthanSutta , S N Goenka, Vipassana Research Institute, First Edition, 1996
9. Small Is Beautiful: A Study of Economics as if People Mattered, E. F. Schumacher, 1973, Blond & Briggs, UK
10. Slow is Beautiful, Cecile Andrews http://www.newsociety.com/Books/S/Slow-is-Beautiful)
11. Science & Humanism – towards a unified worldview, P. L. Dhar & R. R. Gaur (1990), Commonwealth Publishers, New Delhi
12. Sanchian Sri Guru Granth Sahib Ji ,Shiromani GurdwaraParbhandhak Committee, 2001
13. SamanSuttam, JinendraVarni ,1974.
14. Vyavaharvadi Samajshastra, A. Nagraj, Divya Path Sansthan, Amarkantak, India
15. Vyavahatmak Janvad, A. Nagraj, Divya Path Sansthan, Amarkantak, India.

B.Sc - Home Sc.

Syllabus

RAS 302/RAS 402 : ENVIRONMENT & ECOLOGY

Unit	Content	Hours
UNIT-I	Definition, Scope & Importance, Need For Public Awareness- Environment definition, Eco system – Balanced ecosystem, Human activities – Food, Shelter, Economic and social Security. Effects of human activities on environment-Agriculture, Housing, Industry, Mining and Transportation activities, Basics of Environmental Impact Assessment. Sustainable Development.	8
UNIT-II	Natural Resources- Water Resources- Availability and Quality aspects. Water borne diseases, Water Induced diseases, Fluoride problem in drinking water. Mineral Resources, Forest Wealth, Material cycles- Carbon, Nitrogen and Sulphur Cycles. Energy – Different types of energy, Electro-magnetic radiation. Conventional and Non-Conventional sources – Hydro Electric, Fossil Fuel based, Nuclear, Solar, Biomass and Bio-gas. Hydrogen as an alternative future source of Energy.	8
UNIT-III	Environmental Pollution and their effects. Water pollution, Land pollution. Noise pollution, Public Health aspects, Air Pollution, Solid waste management, e-waste management Current Environmental Issues of Importance: Population Growth, Climate Change and Global warming- Effects, Urbanization, Automobile pollution. Acid Rain, Ozone Layer depletion, Animal Husbandry.	8
UNIT-IV	Environmental Protection- Role of Government, Legal aspects, Initiatives by Non-governmental Organizations (NGO), Environmental Education, Women Education.	8

Text Books

1.Environmental Studies – Benny Joseph – Tata McgrawHill-2005
2.Environmental Studies – Dr. D.L. Manjunath, Pearson Education-2006.
3.Environmental studies – R. Rajagopalan – Oxford Publication - 2005.
4.Text book of Environmental Science & Technology – M. Anji Reddy – BS Publication.

Reference Books

1.Principles of Environmental Science and Engineering – P. Venugoplan Rao, Prentice Hall of India.
2.Environmental Science and Engineering – Meenakshi, Prentice Hall India.

Introduction to Human Development(P-103)

Unit I--Human Development –
Definition and importance of Human Development
Human Development and allied fields
Scope of Human Development

Unit II- Growth and Development
Concept and principles of development
Difference between growth and development
Factors affecting growth and human development.

Unit III- Determinates of Development.
Heredity and Environment
Maturity and Learning

Unit IV-Developmental Stages
Menstrual Cycle and Fertilization
Prenatal development stages and sub stages.
Factors affecting prenatal development

Unit V-Care of the newborn
Reflexes of the newborn and neonatal assessment
IUGR(Intra Uterine Growth Retardation) and Pre mature babies
Immunization of the new born.
Methods of child study

Diploma in Pharmacy

O-D. Ph. 4.GENERAL

(A) **Course of Study**: The course of study for Diploma in Pharmacy part-I and Diploma in pharmacy part- II shall include the subjects as given in the Tables I & II below. The number of hours devoted to each subject for its teaching is given against columns 2 and 3 of the Tables below.

TABLE-I Diploma in Pharmacy (Part-I)

Subject	Theory		Practical	
	hours /year	Hrs. / week	hours /year	Hrs. / week
Pharmaceutics-I	75	3	100	4
Pharmaceutical Chemistry-I	75	3	75	3
Pharmacognosy	75	3	75	3
Biochemistry & Clinical Pathology	50	2	75	3
Human Anatomy & Physiology	75	3	50	2
Health Education & community pharmacy	50	2		
	400	16	375	15

TABLE-II Diploma in Pharmacy (Part-II)

Subject	Theory		Practical	
	hours /year	Hrs. /week	hours /year	Hrs/ week
Pharmaceutics-II	75	3	100	4
Pharmaceutical Chemistry-II	100	4	75	3
Pharmacology & Toxicology	75	3	50	2
Pharmaceutical Jurisprudence	50	2	-	
Drug store and Business Management	75	3	-	
Hospital & Clinical Pharmacy	75	3	50	2
	450	18	275	11

(b) Examinations: There shall be an examination for Diploma in Pharmacy (part-I) to examine students of the first year course and an examination for Diploma in Pharmacy (part-II) to examine students of the second year course. Each examination may be held twice every year. The first examination in every year shall be the annual examination and the second examination shall be supplementary examination of the Diploma in Pharmacy (part-I) or Diploma in pharmacy (Part-II)as the case may be. The examinations shall be of written and practical (including oral) nature. Carrying maximum marks for each part of subject, as indicated in Table III and IV:R-29(A) (Plan and scheme of examination for Diploma in Pharmacy).

O-D. Ph.5. PRACTICAL TRAINING

Diploma in Pharmacy (Part-III)

(a)Period and other conditions of practical training:

After having appeared in Part-II examination of Diploma in Pharmacy conducted by Board/University or other approved examination Body or any other course accepted

2.4 PHARMACEUTICAL JURISPRUDENCE

THEORY (50 hours)

Origin and nature of pharmaceutical legislation in India, its scope and objectives. Evolution of the "Concept of pharmacy" as an integral part of the Health care system.

Principles and significance of professional Ethics. Critical study of the code of pharmaceutical Ethics drafted by pharmacy council of India.

Pharmacy Act,1948-The General study of the pharmacy Act with special reference to Education Regulations ,Working of state and central councils, constitution of these councils and functions, Registration procedures under the Act.

The Drugs and Cosmetics Act,1940-General study of the Drugs and cosmetics Act and the Rules there under. Definitions and salient features related to retail and whole sale distribution of drugs. The powers of Inspectors, the sampling procedures and the procedure and formalities in obtaining licenses under the rule. Facilities to be provided for running a pharmacy effectively. General study of the schedules with special reference to schedules C,C1,F,G,J,H,P and X and salient features of labeling and storage conditions of drugs.

The Drugs and Magic Remedies (objectionable Advertisement)Act, 1954-General study of the Act, objectives , special reference to be laid on Advertisements, magic remedies and objections1 and permitted advertisements -diseases which cannot be claimed to be cured.

Narcotic Drugs and psychotropic substances Act,1985-A brief study of the act with special reference to its objectives, offences and punishment.

Brief introduction to the study of the following acts:

Latest Drugs (price control) order in force. Poisons Act 1919(as amended to date)

Medicinal and Toilet preparations (excise Duties) Act, 1955 (as amended to date).

Medical Termination of Pregnancy Act, 1971(as amended to date).

Books recommended:(Latest editions)
Bare Acts of the said laws published by Government.

ENVIRONMENTAL STUDIES

RATIONALE

A diploma holder must have knowledge of different types of pollution caused due to industries and constructional activities so that he may help in balancing the ecosystem and controlling pollution by various c o nt r o l measures. He should also be aware of environmental laws related to the control of pollution. He should know how to manage the waste. Energy conservation is the need of hour. He should know the concept of energy management and its conservation.

LEARNING OUTCOMES

After undergoing the subject, the student will be able to:

- Comprehend the importance of ecosystem and sustainable
- Demonstrate interdisciplinary nature of environmental issues
- Identify different types of environmental pollution and control measures.
- Take corrective measures for the abatement of pollution.
- Explain environmental legislation acts.
- Define energy management, energy conservation and energy efficiency
- Demonstrate positive attitude towards judicious use of energy and environmental protection
- Practice energy efficient techniques in day-to-day life and industrial processes.
- Adopt cleaner productive technologies
- Identify the role of non-conventional energy resources in environmental protection.
- Analyze the impact of human activities on the environment

DETAILED CONTENTS

1. Introduction (04 Periods)

   1.1 Basics of ecology, eco system- concept, and sustainable development, Resources renewable and non renewable.

2. Air Pollution (04 Periods)

   2.1 Source of air pollution. Effect of air pollution on human health, economy, plant, animals. Air pollution control methods.

3. Water Pollution (08 Periods)

   3.1 Impurities in water, Cause of water pollution, Source of water pollution. Effect of water pollution on human health, Concept of dissolved O_2, BOD, COD.

Prevention of water pollution- Water treatment processes, Sewage treatment. Water quality standard.

4. Soil Pollution (06 Periods)
   - 4.1 Sources of soil pollution
   - 4.2 Types of Solid waste- House hold, Hospital, From Agriculture, Biomedical, Animal and human, excreta, sediments and E-waste
   - 4.3 Effect of Solid waste
   - 4.4 Disposal of Solid Waste- Solid Waste Management

5. Noise pollution (06 Periods)
   Source of noise pollution, Unit of noise, Effect of noise pollution, Acceptable noise level, Different method of minimize noise pollution.

6. Environmental Legislation (08 Periods)
   Introduction to Water (Prevention and Control of Pollution) Act 1974, Introduction to Air (Prevention and Control of Pollution) Act 1981 and Environmental Protection Act 1986, Role and Function of State Pollution Control Board and National Green Tribunal (NGT), Environmental Impact Assessment (EIA).

7. Impact of Energy Usage on Environment (06 Periods)
   Global Warming, Green House Effect, Depletion of Ozone Layer, Acid Rain. Eco-friendly Material, Recycling of Material, Concept of Green Buildings.

LIST OF PRACTICALS

1. Determination of pH of drinking water
2. Determination of TDS in drinking water
3. Determination of TSS in drinking water
4. Determination of hardness in drinking water
5. Determination of oil & grease in drinking water
6. Determination of alkalinity in drinking water
7. Determination of acidity in drinking water
8. Determination of organic/inorganic solid in drinking water
9. Determination of pH of soil
10. Determination of N&P (Nitrogen & Phosphorus) of soil
11. To measure the noise level in classroom and industry.
12. To segregate the various types of solid waste in a locality.
13. To study the waste management plan of different solid waste
14. To study the effect of melting of floating ice in water due to global warming

B. Pharm

SECOND SEMESTER

Course Code	Name of the Course	No. of Hours/ wk	Internal Assessment				End Semester Exams		Total Marks	Tuto-rial	Credit Points
			Continuous Mode	Sessional Exams		Total	Marks	Duration			
				Marks	Duration						
BP201T	Human Anatomy and Physiology II – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP202T	Pharmaceutical Organic Chemistry I – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP203T	Biochemistry – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP204T	Pathophysiology – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP205T	Computer Applications in Pharmacy – Theory	3	25	50	2 Hr	75	---	---	75	-	3
BP206T	Environmental Sciences – Theory	3	25	50	2 Hr	75	---	---	75	-	3
BP207P	Human Anatomy and Physiology II – Practical	4	5	10	4 Hrs	15	35	4 Hrs	50	-	2
BP208P	Pharmaceutical Organic Chemistry I – Practical	4	5	10	4 Hrs	15	35	4 Hrs	50	-	2
BP209P	Biochemistry – Practical	4	5	10	4 Hrs	15	35	4 Hrs	50	-	2
BP210P	Computer Applications in Pharmacy – Practical	2	10	15	2 Hrs	25	---	---	25	-	1
	Total	**32**	**115**	**205**	**22Hrs**	**320**	**405**	**24 Hrs**	**725**	**4**	**29**

BP 206 T. ENVIRONMENTAL SCIENCES (Theory)

30 hours

Scope: Environmental Sciences is the scientific study of the environmental system and the status of its inherent or induced changes on organisms. It includes not only the study of physical and biological characters of the environment but also the social and cultural factors and the impact of man on environment.

Objectives: Upon completion of the course the student shall be able to:

1. Create the awareness about environmental problems among learners.
2. Impart basic knowledge about the environment and its allied problems.
3. Develop an attitude of concern for the environment.
4. Motivate learner to participate in environment protection and environment improvement.
5. Acquire skills to help the concerned individuals in identifying and solving environmental problems.
6. Strive to attain harmony with Nature.

Course content:

Unit I **10hours**

The multidisciplinary nature of environmental studies.

Natural Resources

Renewable and non-renewable resources:

Natural resources and associated problems

a) Forest resources; b) Water resources; c) Mineral resources; d) Food resources; e) Energy resources; f) Land resources: Role of an individual in conservation of natural resources.

Unit II **10hours**

Ecosystems

- Concept of an ecosystem.
- Structure and function of an ecosystem.
- Introduction, types, characteristic features, structure and function of the ecosystems: Forest ecosystem; Grassland ecosystem; Desert ecosystem; Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit III **10hours**

Environmental Pollution: Air pollution; Water pollution; Soil pollution

Recommended Books (Latest edition):

1. Singh, Y.K. Environmental Science, New Age International Pvt, Publishers, Bangalore
2. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
3. Bharucha Erach, The Biodiversity of India, Mapin Pu blishing Pvt. Ltd., Ahmedabad – 380 013, India,
4. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p
5. Clark R.S., Marine Pollution, Clanderson Press Oxford
6. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
7. De A.K., Environmental Chemistry, Wiley Eastern Ltd.
8. Down of Earth, Centre for Science and Environment.

Bachelor of Pharmacy (B. Pharm.)

COURSE OF STUDY & SCHEME OF EVALUATION FOR INTERNAL AND END SEMESTER EXAMINATIONS

(W.E.F. Session 2019-20)

THIRD SEMESTER

Course Code	Name of the Course	No. of Hours/ wk	Internal Assessment				End Semester Exams		Total Marks	Tutorial	Credit Points
			Continuous Mode	Sessional Exams		Total	Marks	Duration			
				Marks	Duration						
BP301T	Pharmaceutical Organic Chemistry II – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP302T	Physical Pharmaceutics I – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP303T	Pharmaceutical Microbiology – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP304T	Pharmaceutical Engineering – Theory	3	10	15	1 Hr	25	75	3 Hrs	100	1	4
BP305P	Pharmaceutical Organic Chemistry II – Practical	4	5	10	4 Hr	15	35	4 Hrs	50	-	2
BP306P	Physical Pharmaceutics I – Practical	4	5	10	4 Hr	15	35	4 Hrs	50	-	2
BP307P	Pharmaceutical Microbiology – Practical	4	5	10	4 Hr	15	35	4 Hrs	50	-	2
BP 308P	Pharmaceutical Engineering –Practical	4	5	10	4 Hr	15	35	4 Hrs	50	-	2
KVE301	Universal Human Values and Professional Ethics	3	20	30	1 Hr	50	100	3 Hrs	150	-	3
Total		31	80	130	29	210	540	31 Hrs	750	4	27

*Human values & Professional Ethics will be offered as a compulsory course for which passing marks shall be 30% in End Semester Examination and 40% in aggregate.

CSE

Computer Science and Engineering / Pharmacy

KVE401	Universal Human Values and Professional Ethics	L	T	P	C
		3	0	0	3

Objectives:

1. To help students distinguish between values and skills, and understand the need, basic guidelines, content and process of value education.
2. To help students initiate a process of dialog within themselves to know what they 'really want to be' in their life and profession
3. To help students understand the meaning of happiness and prosperity for a human being.
4. To facilitate the students to understand harmony at all the levels of human living, and live accordingly.
5. To facilitate the students in applying the understanding of harmony in existence in their profession and lead an ethical life

Course Outcome:

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

1. Understand the significance of value inputs in a classroom, distinguish between values and skills, understand the need, basic guidelines, content and process of value education, explore the meaning of happiness and prosperity and do a correct appraisal of the current scenario in the society
2. Distinguish between the Self and the Body, understand the meaning of Harmony in the Self the Co-existence of Self and Body.
3. Understand the value of harmonious relationship based on trust, respect and other naturally acceptable feelings in human-human relationships and explore their role in ensuring a harmonious society
4. Understand the harmony in nature and existence, and work out their mutually fulfilling participation in the nature.
5. Distinguish between ethical and unethical practices, and start working out the strategy to actualize a harmonious environment wherever they work.

Catalogue Description

Every human being has two sets of questions to answer for his life: a) what to do? and, b) how to do?. The first set pertains to the value domain, and the other to the skill domain. Both are complimentary, but value domain has a higher priority. Today, education has become more and more skill biased, and hence, the basic aspiration of a human being, that is to live with happiness and prosperity, gets defeated, in spite of abundant technological progress. This course is aimed at giving inputs that will help to ensure the right understanding and right feelings in the students in their life and profession, enabling them to lead an ethical life. In this course, the students learn the process of self-exploration, the difference between the Self and the Body, the naturally acceptable feelings in relationships in a family, the comprehensive human goal in the society, the mutual fulfillment in the nature and the co-existence in existence. As a natural outcome of such inputs, they are able to evaluate an ethical life and profession ahead.

UNIT-1 **Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

Understanding the need, basic guidelines, content and process for Value Education, Self-Exploration–what is it? - its content and process; 'Natural Acceptance' and Experiential Validation- as the mechanism for self exploration, Continuous Happiness and Prosperity- A look at basic Human Aspirations, Right understanding, Relationship and Physical Facilities- the basic requirements for fulfillment of aspirations of every human being with their correct priority, Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario, Method to fulfill the above human aspirations: understanding and living in harmony at various levels.

UNIT-2 **Understanding Harmony in the Human Being - Harmony in Myself**

Understanding human being as a co-existence of the sentient 'I' and the material 'Body', Understanding the needs of Self ('I') and 'Body' - Sukh and Suvidha, Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer), Understanding the characteristics and activities of 'I' and harmony in 'I', Understanding the harmony of I with the Body: Sanyam and Swasthya; correct appraisal of Physical needs, meaning of Prosperity in detail, Programs to ensure Sanyam and Swasthya.

UNIT-3 **Understanding Harmony in the Family and Society- Harmony in Human-Human Relationship**

Understanding harmony in the Family- the basic unit of human interaction , Understanding values in human-human relationship; meaning of *Nyaya* and program for its fulfillment to ensure *Ubhay-tripti*; Trust (*Vishwas*) and Respect (*Samman*) as the foundational values of relationship, Understanding the meaning of *Vishwas*; Difference between intention and competence, Understanding the meaning of *Samman*, Difference between respect and differentiation; the other salient values in relationship, Understanding the harmony in the society (society being an extension of family): *Samadhan*, *Samridhi*, *Abhay*, *Sah-astitva* as comprehensive Human Goals, Visualizing a universal harmonious order in society- Undivided Society (*AkhandSamaj*), Universal Order (*SarvabhaumVyawastha*)- from family to world family!.

UNIT-4 **Understanding Harmony in the Nature and Existence - Whole existence as Co-existence**

Understanding the harmony in the Nature, Interconnectedness and mutual fulfillment among the four orders of nature- recyclability and self-regulation in nature, Understanding Existence as Co-existence (*Sah-astitva*) of mutually interacting units in all-pervasive space, Holistic perception of harmony at all levels of existence.

UNIT-5 **Implications of the above Holistic Understanding of Harmony on Professional Ethics**

Natural acceptance of human values, Definitiveness of Ethical Human Conduct, Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order, Competence in Professional Ethics: a) Ability to utilize the professional competence for augmenting universal human order, b) Ability to identify the scope and characteristics of people-friendly and eco-friendly

production systems, technologies and management models, Case studies of typical holistic technologies, management models and production systems, Strategy for transition from the present state to Universal Human Order: a) At the level of individual: as socially and ecologically responsible engineers, technologists and managers, b) At the level of society: as mutually enriching institutions and organizations.

Text Books:

1. R R Gaur, R Sangal, G P Bagaria, 2009, A Foundation Course in Human Values and Professional Ethics.

References:

1. Ivan Illich, 1974, Energy & Equity, The Trinity Press, Worcester, and Harper Collins, USA
2. E.F. Schumacher, 1973, Small is Beautiful: a study of economics as if people mattered, Blond & Briggs, Britain.
3. Sussan George, 1976, How the Other Half Dies, Penguin Press. Reprinted 1986, 1991
4. Donella H. Meadows, Dennis L. Meadows, Jorgen Randers, William W. Behrens III, 1972, Limits to Growth – Club of Rome's report, Universe Books.
5. A Nagraj, 1998, Jeevan Vidya Ek Parichay, Divya Path Sansthan, Amarkantak.
6. P L Dhar, RR Gaur, 1990, Science and Humanism, Commonwealth Publishers.
7. A N Tripathy, 2003, Human Values, New Age International Publishers.
8. SubhasPalekar, 2000, How to practice Natural Farming, Pracheen (Vaidik) KrishiTantraShodh, Amravati.
9. E G Seebauer & Robert L. Berry, 2000, Fundamentals of Ethics for Scientists & Engineers , Oxford University Press
10. M Govindrajran, S Natrajan & V.S. Senthil Kumar, Engineering Ethics (including Human Values), Eastern Economy Edition, Prentice Hall of India Ltd.
11. B P Banerjee, 2005, Foundations of Ethics and Management, Excel Books.
12. B L Bajpai, 2004, Indian Ethos and Modern Management, New Royal Book Co., Lucknow. Reprinted 2008.

Mode of Evaluation:

Assignment/ Seminar/Continuous Assessment Test/Semester End Exam

Open Electives for B.Tech 4th year (CBCS)		
Open Electives I (VII Semester)		
Sl. No.	Subject Code	Name of Elective(s)
1	ROE071	Modelling and Simulation of Dynamic Systems
2	ROE072	Introduction to Smart Grid
3	ROE073	Cloud computing
4	ROE074	Understanding the human being Comprehensively Human Aspiration audits fulfilment
Open Electives II (VIII Semester)		
Sl. No.	Subject Code	Name of Elective(s)
1	ROE081	Digital and Social Media Marketing
2	ROE082	Entrepreneurship Development
3	ROE083	Machine Learning
4	ROE084	Micro and Smart Systems
5	ROE085	Operations Research
6	ROE086	Renewable Energy Resources
7	ROE087	*Human Values in Madhyasth Darshan
8	ROE088	*Values, Relationship & Ethical Human Conduct-For a Happy & Harmonious Society

Note:

1. **The Student shall choose an open Elective from the list in such a manner that he/she has not studied the same course in any form during the degree programme.**
2. *** It is mandatory that for these two subjects (ROE087 & ROE088) only trained faculty (who had done the FDP for these courses) will teach the courses.**

Scheme of Evaluation
Bachelor of Pharmacy (B. Pharm.)

Semester V **Effective from the Session 2019-20**

Course code	Name of the course	Internal Assessment				End Semester Exams		Total Marks
		Continuous Mode	Sessional Exams		Total	Marks	Duratio n	
			Marks	Duratio				
BP501T	Medicinal Chemistry II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP502T	Industrial Pharmacy I– Theory	10	15	1 Hr	25	75	3 Hrs	100
BP503T	Pharmacology II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP504T	Pharmacognosy II – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP505T	Pharmaceutical Jurisprudence – Theory	10	15	1 Hr	25	75	3 Hrs	100
BP506P	Industrial Pharmacy I– Practical	5	10	4 Hr	15	35	4 Hrs	50
BP507P	Pharmacology II – Practical	5	10	4 Hr	15	35	4 Hrs	50
BP508P	Pharmacognosy II – Practical	5	10	4 Hr	15	35	4 Hrs	50
	Total	**65**	**105**	**17 Hr**	**170**	**480**	**27 Hrs**	**650**

BP505T: PHARMACEUTICAL JURISPRUDENCE (Theory)

45 Hours

Scope: This course is designed to impart basic knowledge on important legislations related to the profession of pharmacy in India.

Objectives: Upon completion of the course, the student shall be able to understand:

1. The Pharmaceutical legislations and their implications in the development and marketing of pharmaceuticals.
2. Various Indian pharmaceutical Acts and Laws
3. The regulatory authorities and agencies governing the manufacture and sale of pharmaceuticals
4. The code of ethics during the pharmaceutical practice

Course Content:

UNIT-I **10 Hours**

Drugs and Cosmetics Act, 1940 and its rules 1945:

Objectives, Definitions, Legal definitions of schedules to the Act and Rules

Import of drugs – Classes of drugs and cosmetics prohibited from import, Import under license or permit. Offences and penalties.

Manufacture of drugs – Prohibition of manufacture and sale of certain drugs,

Conditions for grant of license and conditions of license for manufacture of drugs, Manufacture of drugs for test, examination and analysis, manufacture of new drug, loan license and repacking license.

UNIT-II **10 Hours**

Drugs and Cosmetics Act, 1940 and its rules 1945.

Detailed study of Schedule G, H, M, N, P,T,U, V, X, Y, Part XII B, Sch F & DMR (OA).

Sale of Drugs – Wholesale, Retail sale and Restricted license. Offences and penalties.

Labeling & Packing of drugs- General labeling requirements and specimen labels for drugs and cosmetics, List of permitted colors. Offences and penalties.

Administration of the Act and Rules – Drugs Technical Advisory Board, Central drugs Laboratory, Drugs Consultative Committee, Government drug analysts, Licensing authorities, controlling authorities, Drugs Inspectors.

UNIT-III **10 Hours**

- **Pharmacy Act –1948**: Objectives, Definitions, Pharmacy Council of India; its constitution and functions, Education Regulations, State and Joint state pharmacy councils; constitution and functions, Registration of Pharmacists, Offences and

Peal
ties

- **Medicinal and Toilet Preparation Act –1955**: Objectives, Definitions, Licensing, Manufacture In bond and Outside bond, Export of alcoholic preparations, Manufacture of Ayurvedic, Homeopathic, Patent & Proprietary Preparations. Offences and Penalties.
- **Narcotic Drugs and Psychotropic substances Act-1985 and Rules**: Objectives, Definitions, Authorities and Officers, Constitution and Functions of narcotic & Psychotropic Consultative Committee, National Fund for Controlling the Drug Abuse, Prohibition, Control and Regulation, opium poppy cultivation and production of poppy straw, manufacture, sale and export of opium, Offences and Penalties.

UNIT-IV **08 Hours**

- **Study of Salient Features of Drugs and Magic Remedies Act and its rules:** Objectives, Definitions, Prohibition of certain advertisements, Classes of Exempted advertisements, Offences and Penalties
- **Prevention of Cruelty to animals Act-1960:** Objectives, Definitions, Institutional Animal Ethics Committee, CPCSEA guidelines for Breeding and Stocking of Animals, Performance of Experiments, Transfer and acquisition of animals for experiment, Records, Power to suspend or revoke registration, Offences and Penalties
- **National Pharmaceutical Pricing Authority:** Drugs Price Control Order (DPCO)-
  2013. Objectives, Definitions, Sale prices of bulk drugs, Retail price of formulations, Retail price and ceiling price of scheduled formulations, National List of Essential Medicines (NLEM)

UNIT-V **07 Hours**

- **Pharmaceutical Legislations** – A brief review, Introduction, Study of drugs enquiry committee, Health survey and development committee, Hathi committee and Mudaliar committee
- **Code of Pharmaceutical ethics** Definition, Pharmacist in relation to his job, trade, medical profession and his profession, Pharmacist's oath
- **Medical Termination of Pregnancy Act**
- **Right to Information Act**
- **Introduction to Intellectual Property Rights (IPR)**

B.Voc

Refregeration and Air Conditioning

NSFQ Level 6 SEMESTER- III											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.01	RAC Piping Systems - I	30	10	5	5	20	30		50	2
2	6.GV.02	Refrigeration & Air-conditioning Material -I	30	10	5	5	20	30		50	2
3	6.GV.03	Refrigerants	30	10	5	5	20	30		50	2
4	6.GV.04	RAC Standards	30	10	5	5	20	30		50	2
5	6.AV.01	Uni. Human Values & ethics/Env. &Eco.	30	10	5	5	20	30		50	2
6	6.VP.01	RAC Material Lab	30				20		30	50	1
7	6.VP.02	RAC Systems Installation and its Maintenance Lab. - I	30				20		30	50	1
8	OJT 6.01	Safety Tester – RACWO (ELE/Q3605)	Any one Training 400 hrs/ 8 weeks							150	12
	OJT 6.02	Field Engineer – RACW (ELE/Q3105)									
	OJT 6.03	Cold Storage Technician (FIC/Q7004)									
Total			610							500	24

NSFQ Level 6 SEMESTER- IV											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.05	RAC Piping Systems - II	30	10	5	5	20	30		50	2
2	6.GV.06	Refrigeration & Air-conditioning Material-II	30	10	5	5	20	30		50	2
3	6.GV.07	RAC Maintenance - I	30	10	5	5	20	30		50	2
4	6.GV.08	RAC Installation Techniques - I	30	10	5	5	20	30		50	2
5	6.AV.02	Env. &Eco./Uni. Human Values & ethics	30	10	5	5	20	30		50	2
6	6.VP.03	RAC Systems Installation and its Maintenance Lab. - II	30				20		30	50	1
7	6.VP.04	RAC Piping Systems Lab	30				20		30	50	1
8	OJT 6.01	Safety Tester – RACWO (ELE/Q3605)	Any one Training (other than 3rd sem) 400 hrs/ 8 weeks							150	12
	OJT 6.02	Field Engineer – RACW (ELE/Q3105)									
	OJT 6.03	Cold Storage Technician (FIC/Q7004)									
Total			610							500	24

B.Voc

Refrigeration and Air Conditioning

GV: General Vocational; VP: Vocational Practical; OJT: On Job Training; SSC: Sector Skill Council

NSFQ Level 7 SEMESTER- V											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.01	RAC Maintenance - II	30	10	5	5	20	30		50	2
2	7.GV.02	RAC Installation Techniques - II	30	10	5	5	20	30		50	2
3	7.GV.03	Automobile Air conditioning	30	10	5	5	20	30		50	2
4	7.GV.04	Non-conventional Refrigerating System	30	10	5	5	20	30		50	2
5	7.AV.01	Indian Constitution / Essence of Indian Traditional knowledge	30	10	5	5	20	30		50	2
6	7.VP.01	Automobile AC Lab.	30				20		30	50	1
7	7.VP.02	AC Components and Assembly Laboratory	30				20		30	50	1
8	OJT 7.01	AC Specialist – Automobile (ASC/Q 1416)					Any one Training 400 hrs/ 8 weeks			150	12
	OJT 7.02	Assembly Operator (ELE/ Q 3501)									
Total			610							500	24

NSFQ Level 7 SEMESTER- VI											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.05	RAC Safety	45	10	5	5	20	30		50	2
2	7.GV.06	Process Planning and Cost Estimation	45	10	5	5	20	30		50	2
3	7.AV.02	Essence of Indian Traditional Knowledge / Indian Constitution	30	10	5	5	20	30		50	2
4	7.VP.03	Major Project	180						150	150	6
5	OJT 7.01	AC Specialist – Automobile (ASC/Q 1416)				Any one Training (other than 5th sem) 400 hrs/ 8 weeks				200	12
	OJT 7.02	Assembly Operator (ELE/ Q 3501)									
Total			610							500	24

GV: General Vocational; VP: Vocational Practical; OJT: On Job Training; SSC: Sector Skill Council

B.Voc

Production Technology

NSFQ Level 6 SEMESTER- III											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.01	Metal Casting Technology	30	10	5	5	20	30		50	2
2	6.GV.02	Production Automation & Computer Integrated Mfg.	30	10	5	5	20	30		50	2
3	6.GV.03	Fundamental of Mechatronics	30	10	5	5	20	30		50	2
4	6.GV.04	Machining and Machine Tools	30	10	5	5	20	30		50	2
5	6.AV.01	Uni. Human Values & ethics/Env. & Eco.	30	10	5	5	20	30		50	2
6	6.VP.01	Metal Casting Technology Workshop	30				20		30	50	1
7	6.VP.02	Mechatronics Lab	30				20		30	50	1
8	OJT 6.01	Service Engineer – Installation (CSC/Q0501)	Any one Training 400 hrs/ 8 weeks							150	12
	OJT 6.02	Quality Inspector – Forged, Casted or Machined Component (CSC/Q0601)									
	OJT 6.03	CNC Programmer (CSC/Q0401)									
	OJT 6.04	Maintenance Fitter – Mechanical (CSC/Q901)									
Total			610							500	24

NSFQ Level 6 SEMESTER- IV											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.05	Mass Production Devices	30	10	5	5	20	30		50	2
2	6.GV.06	Agile and Lean Manufacturing	30	10	5	5	20	30		50	2
3	6.GV.07	Metal Forming Processes	30	10	5	5	20	30		50	2
4	6.GV.08	Non-Conventional Machining	30	10	5	5	20	30		50	2
5	6.AV.02	Env. & Eco./Uni. Human Values & ethics	30	10	5	5	20	30		50	2
6	6.VP.03	Tool and Die Making Lab	30				20		30	50	1
7	6.VP.04	IT Tool Lab	30				20		30	50	1
8	OJT 6.01	Service Engineer – Installation (CSC/Q0501)	Any one Training (other than 3rd sem)400 hrs/ 8 weeks							150	12
	OJT 6.02	CNC Programmer (CSC/Q0401)									
	OJT 6.03	Quality Inspector – Forged, Casted or Machined Component (CSC/Q0601)									
	OJT 6.04	CNC Setter Cum Operator – VMC (CSC/Q0123)									
Total			610							500	24

GV: General Vocational; VP: Vocational Practical; OJT: On Job Training; SSC: Sector Skill Council

B.Voc
Production Technology

NSFQ Level 7 SEMESTER- V											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.01	Reliability ,Maintenance & Safety Engineering	30	10	5	5	20	30		50	2
2	7.GV.02	Plant Layout and Product Handling	30	10	5	5	20	30		50	2
3	7.GV.03	Product Design and Manufacturing	30	10	5	5	20	30		50	2
4	7.GV.04	CAD & CAM	30	10	5	5	20	30		50	2
5	7.AV.01	Indian Constitution / Essence of Indian Traditional Knowledge	30	10	5	5	20	30		50	2
6	7.VP.01	CAD Lab	30				20		30	50	1
7	7.VP.02	CAM Lab	30				20		30	50	1
8	OJT 7.01	Tool & Die Maker (CSC/Q0306)					Any one Training 400 hrs/ 8 weeks			150	12
	OJT 7.02	Designer – Mechanical (CSC/Q0405)									
	OJT 7.03	Service Engineer – Breakdown Service (CSC/Q0503)									
Total			610							500	24

NSFQ Level 7 SEMESTER- VI											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.05	Rapid Prototyping and Reverse Engineering	30	10	5	5	20	30		50	2
2	7.GV.06	Production Planning and Control	30	10	5	5	20	30		50	2
3	7.AV.02	Essence of Indian Traditional Knowledge / Indian Constitution	30	10	5	5	20	30		50	2
4	7.VP.03	Major Project	180						150	150	6
5	OJT 7.05	Tool & Die Maker (CSC/Q0306)					Any one Training (other than 5th sem) 400 hrs/ 8 weeks			200	12
	OJT 7.06	Designer – Mechanical (CSC/Q0405)									
	OJT 7.07	Service Engineer – Breakdown Service (CSC/Q0503)									
Total			670							500	24

GV: General Vocational; VP: Vocational Practical; OJT: On Job Training; SSC: Sector Skill Council

B.Voc

Software Development

NSFQ Level 6 SEMESTER- III											
S. No.	Subject Code	Subject	Total Teaching / Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.01	Linux Operating System – Operations and Management	30	10	5	5	20	30		50	2
2	6.GV.02	Software Engineering	30	10	5	5	20	30		50	2
3	6.GV.03	Web Development using PHP	30	10	5	5	20	30		50	2
4	6.GV.04	Windows Development Fundamental	30	10	5	5	20	30		50	2
5	6.GE.01	Uni. Human Values & ethics/Env. &Eco.	30	10	5	5	20	30		50	2
6	6.VP.01	Web Development using PHP Lab	30				20		30	50	1
7	6.VP.02	Window Development Fundamentals Lab	30				20		30	50	1
8	OJT 6.01	Junior Data Associate (SSC/Q0401)						Any one Training 400 hrs/ 6 weeks		150	12
	OJT 6.02	IP Executive (SSC/Q6201)									
	OJT 6.03	Security Analyst (SSC/Q0901)									
Total			610							500	24

NSFQ Level 6 SEMESTER- IV											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	6.GV.05	Software Testing and Project Management	30	10	5	5	20	30		50	2
2	6.GV.06	Android Application Development	30	10	5	5	20	30		50	2
3	6.GV.07	Window Configuration and Server Administration	30	10	5	5	20	30		50	2
4	6.GV.08	Management Information Systems	30	10	5	5	20	30		50	2
5	6.GE.02	Env. &Eco./Uni. Human Values & ethics	30	10	5	5	20	30		50	2
6	6.VP.03	Android Application Development Lab	30				20		30	50	1
7	6.VP.04	MIS Lab	30				20		30	50	1
8	OJT 6.04	QA Engineer (SSC/Q1302)						Any one Training 400 hrs/ 8 weeks		150	12
	OJT 6.05	Software Engineer (SSC/Q4601)									
Total			610							500	24

B.Voc

Software Development

NSFQ Level 7 SEMESTER- V											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.01	Technology Trends in IT	30	10	5	5	20	30		50	2
2	7.GV.02	Window Mobile Application Development	30	10	5	5	20	30		50	2
3	7.GV.03	Introduction to Python Programming	30	10	5	5	20	30		50	2
4	7.GV.04	Introduction to Microprocessors	30	10	5	5	20	30		50	2
6	7.VP.01	Window Mobile Application Development Lab	30				20		30	50	1
7	7.VP.02	Python Programming Lab	30				20		30	50	1
9	OJT 7.01	Management Trainee (SSC/Q6301)						Any one Training 400 hrs/ 6 weeks		150	12
	OJT 7.02	Associate - Transactional F&A (SSC/Q2301)									
	OJT 7.03	Consultant Network Security (SSC/Q0917)									
Total			480							500	24

NSFQ Level 7 SEMESTER- VI											
S. No.	Subject Code	Subject	Total Teaching/ Training Hours	Evaluation Scheme				End Semester		Total	Credit
				CT	TA	AT	Total	TE	PE		
1	7.GV.05	Introduction to AI/ Computer Network Security	30	10	5	5	20	30		50	2
2	7.GV.06	e-Commerce / Introduction to Biometrics	30	10	5	5	20	30		50	2
3	7.GE.02	Essence of Indian Traditional Knowledge / Indian Constitution	30	10	5	5	20	30		50	2
4	7.VP.03	Major Project based on AI or Computer Network Security	180						150	150	6
5	OJT 7.05	Master Trainer for Software Developer (SSC/Q0509)						Any one Training 400 hrs/ 6 weeks		200	12
	OJT 7.06	Hardware Engineer (SSC/Q4701)									
Total			670							500	24

Chaudhary Charan Singh University, Meerut

THREE YEARS BACHELOR OF BUSINESS ADMINISTRATION (B.B.A.) PROGRAMME

COURSE CONTENTS

SEMESTER – I	Theory	INT.	Total
BBA-101:Fundamentals of Management	75	25	100
BBA-102:OrganizationalBehavior	75	25	100
BBA-103:Managerial Economics	75	25	100
BBA-104: Accounting for Managers	75	25	100
BBA-105:Business Law	75	25	100
BBA-106:BusinessOrganization and Ethics	75	25	100
BBA-008: Environmental Studies (Qualifying paper)			100
SEMESTER – II			
BBA-201:Quantitative Techniques for Business	75	25	100
BBA-202:Business Communication	75	25	100
BBA-203:Human Resource Management	75	25	100
BBA-204: Marketing Management	75	25	100
BBA-205 :Business Environment	75	25	100
BBA-206: Fundamentals of Computer	75	25	100
BBA-207:Assessments on Soft Skill Based on Presentations/ G.D/ Personality traits			100
SEMESTER – III			
BBA-301:Advertising Management	75	25	100
BBA-302:Team Building & Leadership	75	25	100
BBA-303 Indian Economy	75	25	100
BBA-304:Customer Relationship Management	75	25	100
BBA-305:Management Information System	75	25	100
BBA-306:Income Tax Law & practice	75	25	100
SEMESTER – IV			
BBA-401:ConsumerBehavior	75	25	100
BBA-402:Financial Management	75	25	100
BBA-403:Production& Operation Management	75	25	100
BBA-404:Sales& Distribution Management	75	25	100
BBA-405:Research Methodology	75	25	100
BBA-406:Entrepreneurship& Small Business Mangement	75	25	100
BBA-407:Computer Oriented Practical &Viva-Voce			100

SEMESTER – V

BBA-501:Arithmetic Aptitude	75	25	100
BBA-502:Aptitude Reasoning	75	25	100
BBA-503:General Business Awareness	75	25	100
BBA-504:General English	75	25	100
BBA-505:Elective Paper M-1/ F-1	75	25	100
BBA-506:Elective Paper M-2 / F-2	75	25	100
BBA-507:Summer Training Project Report based Viva- Voce			100

Note: Paper code BBA-501, BBA-502, BBA-503 and BBA-504 will be of multiple-choice objective type questions.

SEMESTER – VI

BBA-601:Strategic Management & Business Policy	75	25	100
BBA-602:Operation Research	75	25	100
BBA-603:Fundamentals of E Commerce	75	25	100
BBA-604:Economic and Industrial Law	75	25	100
BBA-605:Elective Paper M-3/ F-3	75	25	100
BBA-606:Elective Paper M-4/ F-4	75	25	100
BBA-607: ComprehensiveViva-Voce			100

The Elective papers in the functional specialization will be as follows:

Marketing:

M-1 Rural Marketing
M-2 Service Marketing
M-3 Retail Management
M-4 Digital Marketing

Finance:

F-1 Corporate Direct Tax and Indirect Tax
F-2 Financial Institutions & Investment Management
F-3Accounting for Managerial Decision & Analysis
F-4Goods and Service Tax

Syllabus

BCA/BBA/B.Com/B.Sc-Ag

QUALIFYING PAPER

ENVIRONMENTAL STUDIES (CODE-008)

UNIT-1: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, Scope and Importance, Need for Public Awareness.

UNIT-2: NATURAL RESOURCES

- Renewable and Non-renewable Resources:

Natural resources and associated problems: -

a) FOREST RESOURCES: use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.

b) WATER RESOURCES: use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) MINERAL RESOURCES: use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) FOOD RESOURCES: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) ENERGY RESOURCES: Growing energy needs, renewable and nonrenewable energy sources, use of alternate energy sources, case studies

f) LAND RESOURCES: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles

UNIT-3: ECOSYSTEMS

- Concept of an ecosystem
- Structure and function of an ecosystem
- Producers, consumers and decomposers
- Energy flow in the ecosystem
- Ecological succession

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- Environmental Ethics: Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Wasteland reclamation.
- Consumerism and waste products
- Environment Protection Act.
- Air (Prevention and Control of Pollution) Act
- Water (Prevention and Control of Pollution) Act
- Wildlife Protection Act
- Forest Conservation Act
- Issues involved in enforcement of environmental legislation
- Public awareness

UNIT-7: HUMAN POPULATION AND THE ENVIRONMENT

- Population growth, variation among nations.
- Population explosion: Family Welfare Programme.
- Environment and human health
- Human Rights
- Value Education
- Women and Child Welfare
- Role of Information Technology in Environment and human health
- Case Studies

UNIT-8: FIELD WORK

- Visit to a local area to document environmental assets-river / forest / grassland / hill / mountain.
- Visit to a local polluted site – Urban / Rural / Industrial / Agricultural
- Study of common plants, insects, birds.
- Study of simple ecosystems-pond, river, hill slopes, etc. (Field work Equal to 5 lecture hours).

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