

COURSE STRUCTURE FOR B.TECH PROGRAMS FOR 2014 BATCH

S.No.	Course Code	Course Title	Offered in (Even/Odd Sem.)	L-T-P	Credits	Prerequisite	Offered for
Humanities courses							
1	13HS101	English	Odd	2-0-2	3	Nil	ALL B.TECH
2	13HS102	Language and Reasoning skills	Even	2-0-2	3	Nil	ALL B.TECH
3	11BS105	Ecology & Environment	Even & Odd	2-0-0	2	Nil	ALL B.TECH
3	13HS104	Human values	Even & Odd	2-0-0	2	Nil	ALL B.TECH
Basic Science courses							
1	13BS101	Linear Algebra & Multivariant Calculus	Even	3-0-2	4	Nil	ALL B.TECH
2	13BS102	Differential Equations	Odd	3-1-0	4	Nil	ALL B.TECH
3	13BS103	Engg Physics	Odd	3-0-2	4	Nil	ALL B.TECH
4	11BS104	Engg Chemistry	Odd	3-0-2	4	Nil	ALL B.TECH
5	13BS104	Basic Mathematics	Odd	3-1-0	4	Nil	BT(Bi.PC)
6	13BS107	Organic Chemistry	Even	2-0-0	2	Nil	BT
7	13BS108	Fundamentals Of Biology	Odd	3-1-0	4	Nil	BT(MPC)
8	13BS109	Cell And Molecular Biology	Even	3-1-0	4	Nil	BT
9	13BS201	Mathematical Methods	Odd	3-0-0	3	Nil	ALL B.TECH EXCEPT BT
10	13BS202	Complex Variables & Discrete Mathematics	Even	3-0-0	3	Nil	ECE, EEE, ME
11	13BS203	Compelx Variables And Finite Difference Methods	Even	3-0-0	3	Nil	CE
12	13BS206	Discrete Mathematics	Even	3-0-0	3	Nil	CSE, ECM
13	13BS204	Probability And Statistics	Even	3-0-0	3	Nil	BT
Engineering Science courses							
1	13ES101	Problem Solving through Programming	Even	3-0-2	4	Nil	ALL B.TECH
2	13ES102	Measurements	Even	3-0-2	4	Nil	ALL B.TECH
3	13ES103	Engineering Materials	Even	3-0-0	3	Nil	ALL B.TECH
4	11ES104	Engineering Graphics with CAD	Even	0-0-4	2	Nil	ALL B.TECH
5	13ES105	Workshop Practice	odd	0-0-4	2	Nil	ALL B.TECH
6	13ES106	Engineering Mechanics	odd	3-0-2	4	Nil	ALL B.TECH
7	13ES201	Thermodynamics	Odd	3-0-0	3	Nil	ALL B.TECH
8	13ES202	Object Oriented Programming	Even	3-0-2	4	13ES101	ALL B.TECH EXCEPT CE
9	13ES203	Network Theory	Even	3-0-2	4	Nil	ALL B.TECH
10	13ES204	Data Structures	odd	3-0-2	4	13ES101	ALL B.TECH EXCEPT CE
11	13ES205	Signal processing	Even	3-0-2	4	Nil	ALL B.TECH EXCEPT CE

12	13ES206	Biochemical thermodynamics	Even	3-1-0	4	13 ES 101	BT
13	13ES207	Biomedical signals and systems	Even	3-2-0	4	NIL	BT

PROFESSIONAL CORE COURSES							
1	13BT201	Biochemistry	Odd	3-0-2	4	Nil	BT
2	13BT202	Microbiology	Odd	3-0-2	4	Nil	BT
3	13BT203	Process Engineering Principles	Odd	3-1-0	4	Nil	BT
4	13BT204	Bioanalytical Techniques	Even	3-0-2	4	Nil	BT
5	13BT301	Fluid Mechanics & Heat Transfer	Odd	3-0-2	4	Nil	BT
6	13BT302	Genetic Engineering	Odd	3-0-2	4	Nil	BT
7	13BT303	Bioinformatics	Odd	3-0-2	4	Nil	BT
8	13BT304	Fermentation Technology	Odd	3-0-2	4	Nil	BT
9	13BT305	Biochemical Reaction Engineering	Even	3-0-2	4	Nil	BT
10	13BT306	Immunology	Even	3-0-2	4	Nil	BT
11	13BT307	Food Technology	Even	3-0-2	4	Nil	BT
12	13BT308	Plant & Animal Biotechnology	Even	3-0-2	4	Nil	BT
13	13BT401	Mass Transfer Operations	Odd	3-0-2	4	Nil	BT
14	13BT402	Downstream processing	Odd	3-0-2	4	Nil	BT
15	13CE201	Mechanics of Materials	Odd	3-0-2	4	13ES106	CE
16	13CE202	Fluid Mechanics	Odd	3-0-2	4	13ES106	CE
17	13CE203	Structural Analysis	Even	3-0-2	4	13CE201	CE
18	13CE204	Hydraulics & Hydraulic Machines	Even	3-0-2	4	13CE202	CE
19	13CE205	Surveying	Even	3-0-2	4	NIL	CE
20	13CE206	Soil Mechanics	Odd	3-0-2	4	NIL	CE
21	13CE207	Environmental Engineering	Odd	3-0-2	4	NIL	CE
22	13CE208	Building Planning and Construction	Odd	3-0-2	4	13CE203	CE
23	13CE301	Construction material and concrete Technology	Even	3-0-2	4	NIL	CE
24	13CE302	Engineering Geology	Odd	3-0-2	4	NIL	CE
25	13CE303	Transportation Engineering	Odd	3-0-2	4	NIL	CE
26	13CE304	Foundation Engineering	Even	3-0-2	4	13CE206	CE
27	13CE305	Design of reinforced concrete Structures	Even	3-0-2	4	13CE203	CE
28	13CE306	Design of Steel Structures	Even & Odd	3-0-2	4	13CE203	CE
29	13CE307	Water Resources Engineering	Even	3-1-0	4	Nil	CE
30	13CE308	Advanced structural analysis	Odd	3-0-2	4	13CE203	CE

31	13CE309	Advanced Design of reinforced concrete Structures	Odd	3-0-2	4	13CE305	CE
32	13CE310	Quantity Surveying and Estimation	Even & Odd	3-0-2	4	13CE203	CE
33	13CS201	Digital Logic Design & Computer Organization	Odd	3-0-2	4	Nil	CS
34	13CS202	Human Computer Interaction	Odd	3-0-2	4	13ES101	CS
35	13CS203	Operating Systems	Even	3-0-2	4	NIL	EM,CS
36	13CS204	Database Management Systems	Even	3-0-2	4	13ES204	EM,CS
37	13CS205	Computer Networks	Even & Odd	3-0-2	4	Nil	CS,EC, EM
38	13CS301	Software Engineering	Even	3-0-2	4	13ES202	EM,CS
39	13CS302	Design and Analysis of Algorithms	Odd	3-0-2	4	13ES204	CS
40	13CS303	Information Assurance and Security	Odd	3-0-2	4	13CS205	CS
41	13CS304	Artificial Intelligence	Even	3-0-2	4	13ES204	CS
42	13CS305	Distributed Computing	Even	3-0-2	4	13CS205	CS
43	13CS306	Automata Theory and Formal Languages	Even	3-0-2	4	13BS206	CS
44	13CS401	Compiler Design	Odd	3-0-2	4	13CS306	CS
45	13CS402	Simulation and Modeling	Odd	3-0-2	4	13BS206	CS
46	13EC201	Design of Electronic Systems	Odd	3-0-2	4	13BS103	EC, EE, EM
47	13EC202	Electromagnetic Field Theory	Even	3-0-2	4	13BS103	EC
48	13EC203	Basics of Digital Systems	Odd	3-0-2	4	13BS101	EC, EE, EM
49	13EC205	Analog Electronic Circuits	Even	3-0-2	4	13EC201	EC, EE, EM
50	13EC206	CMOS VLSI Design	Even	3-0-2	4	13EC201	EC, EM
51	13EC207	Analog Communication	Odd	3-0-2	4	13ES205	EC
52	13EC308	Digital Communications	Even	3-0-2	4	13EC207	EC
53	13EC312	Design with PLDs and FPGAs	Even	3-0-2	4	13EC203	EC, EM
54	13EC313	Antenna and Wave Propagation	Odd	3-0-2	4	13EC202	EC
55	13EC314	Microwave Engineering	Even	3-0-2	4	13EC202	EC
56	13EC415	DSP Processors and Architecture	Even & Odd	3-0-2	4	13ES205	EC
57	11EC311	Micro-Processors & Micro Controllers	Odd	3-0-2	4	13EC203 OR 13CS201	EC, EE,EM,CS
58	13EE201	DC Machines & Transformers	Odd	3-0-2	4	Nil*	EEE
59	13EE202	Fields & Networks	Odd	3-0-2	4	13ES203	EEE
60	13EE203	AC Machines	Even	3-0-2	4	13EE201	EEE
61	11EE203	Electrical Power Generation and Distribution	Even	3-0-2	4	13ES203	EEE
62	11EE205	Electrical Power	Odd	3-0-2	4	11EE203	EEE

		Transmission					
63	11EE302	Power System Analysis	Even	3-0-2	4	11EE205	EEE
64	11EE303	Power Electronics	Odd	3-0-2	4	13ES203	EEE
65	11EE304	Control Systems	Odd	3-0-2	4	13ES203	EC, EE,EM
66	11EE305	Power System Protection	Odd & Even	3-0-2	4	11EE302	EEE
67	11EE307	Electrical Drives	Even	3-0-2	4	11EE303	EEE
68	11EE402	Power System Operation & Control	Odd & Even	3-0-2	4	11EE302	EEE
69	13EM201	Computer Organization	Even	3-0-2	4	13EC203	EC, EM
70	13EM202	Communication Systems	Odd	3-0-2	4	13ES205	ECM
71	11EM301	Internet Programming	Odd	3-0-2	4	13ES202	EM,CS
72	11EM401	Embedded Systems	Even	3-0-2	4	NIL	ECM
73	13ME201	Fluid Mechanics & Hydraulic Machines	Odd	3-0-2	4	13ES106	ME
74	13ME202	Applied Thermodynamics	Even	3-0-2	4	13ES201	ME
75	13ME203	Metallurgy	Odd	3-0-2	4	13ES107, 13ES103	ME
76	13ME204	Manufacturing Processes	Even	3-0-2	4	13ES103	ME
77	13ME205	Strength of Materials	Odd	3-0-2	4	13ES106	ME
78	13ME206	Mechanisms and Machine theory	Even	3-0-2	4	13ES106	ME
79	13ME301	I C Engines & Gas Turbines	Odd	3-0-2	4	13ES201	ME
80	13ME302	Machine Tool Engineering	Odd	3-0-2	4	13ES105	ME
81	13ME303	Operations Research	Even	3-0-2	4	NIL	ME
82	13ME304	Metrology and Instrumentation	Odd	3-0-2	4	13ES102	ME
83	13ME305	Finite Element Methods	Odd	3-0-2	4	13ME205	ME
84	13ME306	Mechanical Engineering Design	Even	3-0-2	4	13ME205	ME
85	13ME401	Heat Transfer	Odd	3-0-2	4	13ES201	ME
86	13ME402	Machine Design	Odd	3-0-2	4	13ME205	ME
87	13ME403	Industrial Engineering Techniques	Odd	3-0-2	4	NIL	ME
88	14 PE 201	Material & Energy Flow Computation	ODD	3-0-0	3	NIL	PE
89	14PE 202	Chemical reaction engineering	ODD	3-0-2	4	NIL	PE
90	14 PE 203	Introduction to petroleum engineering	ODD	3-0-0	3	NIL	PE
91	13 CE 205	Surveying	ODD	3-0-2	4	NIL	PE
92	14 PE 204	Momentum Transfer	EVEN	2-2-2	4	NIL	PE
93	14 PE 205	Geology for Petroleum Engineers	EVEN	3-0-2	4	NIL	PE
94	14 PE 206	Drilling and Well Completion techniques	EVEN	2-2-2	4	NIL	PE
95	14 PE 207	Petroleum Refining Process and Testing	EVEN	2-2-2	4	NIL	PE

96	14 PE 301	Petroleum Exploration Methods	ODD	3-0-0	3	14 PE 205	PE
97	14 PE 302	Reservoir Engineering	ODD	2-2-2	4	14 PE 205	PE
98	14 PE 303	Process Heat Transfer	ODD	2-2-2	4	13 ME 201	PE
99	14 PE 304	Natural Gas Engineering & Processing	ODD	3-0-0	3	NIL	PE
100	14 PE 305	Petroleum Formation Evaluation	EVEN	3-0-0	3	14 PE 301	PE
101	14 PE 306	Pipeline Engineering & Transportation of Oil & Gas	EVEN	3-0-0	3	NIL	PE
102	14 PE 307	Environmental Hazardous and Safety Management	EVEN	3-0-0	3	NIL	PE
103	14 PE 401	Petroleum Production Engineering	Odd & Even	3-0-0	3	14 PE 302	PE
104	14 PE 402	Oil and Gas Well Testing	Odd & Even	3-2-0	4	14 PE 302	PE

Professional electives							
Genetic Engineering- Specialization Stream							
1	13BT331	Molecular Genetics and DNA Forensics	Even	3-0-0	3	Nil	BT
2	13BT332	Transgenic technology	Even	3-0-0	3	Nil	BT
3	13BT431	Genomics and Proteomics	Odd	3-0-0	3	Nil	BT
4	13BT432	Molecular Expression Technology	Odd	3-0-0	3	Nil	BT
5	13BT433	Molecular markers and Diagnostics	Odd	3-0-0	3	Nil	BT
Bioinformatics - Specialization Stream							
1	13BT333	Molecular modeling and drug design	Even	3-0-0	3	Nil	BT
2	13BT334	Bioperl and PERL programming	Even	3-0-0	3	Nil	BT
3	13BT434	Biomedical Informatics	Odd	3-0-0	3	Nil	BT
4	13BT435	Structural Biology	Odd	3-0-0	3	Nil	BT
5	13BT436	Data base management systems	Odd	3-0-0	3	Nil	BT
Immunology - Specialization Stream							
1	13BT335	Immunotechnology	Even	3-0-0	3	Nil	BT
2	13BT336	Stem cell technology	Even	3-0-0	3	Nil	BT
3	13BT437	Medical Biotechnology	Odd	3-0-0	3	Nil	BT
4	13BT438	Cancer Biology	Odd	3-0-0	3	Nil	BT
5	13BT439	Neurobiology	Odd	3-0-0	3	Nil	BT
Industrial Biotechnology - SPECIALIZATION STREAM							
1	13BT337	Microbial Technology	Even	3-0-0	3	Nil	BT
2	13BT338	Pharmaceutical Biotechnology	Even	3-0-0	3	Nil	BT
3	13BT440	Bioprocess Economics and Plant Design	Odd	3-0-0	3	Nil	BT
4	13BT441	Algal Biotechnology	Odd	3-0-0	3	Nil	BT
5	13BT442	Metabolic Engineering	Odd	3-0-0	3	Nil	BT

STRUCTURAL ENGINEERING - SPECIALIZATION STREAM							
1	11CE331	Green Buildings	Odd	3-0-0	3	NIL	CE
2	13CE332	Advanced Structural Analysis	Even	3-0-0	3	13CE203	CE
3	11CE333	Earthquake Resistant Design of Structures	Even & Odd	3-0-0	3	NIL	CE
4	11CE334	Prestressed Concrete	Even & Odd	3-0-0	3	13CE305	CE
5	11CE335	Bridge Engineering	Even & Odd	3-0-0	3	13CE305 & 13CE306	CE
GEOTECHNICAL ENGINEERING - SPECIALIZATION STREAM							
1	11CE341	Ground Improvement Techniques	Odd	3-0-0	3	13CE304	CE
2	11CE342	Advanced Foundation Engineering	Even	3-0-0	3	13CE304	CE
3	11CE343	Geotechnical Earthquake Engineering	Even & Odd	3-0-0	3	13CE206	CE
4	11CE344	Design of Earth Retaining Structures	Even & Odd	3-0-0	3	13CE206	CE
5	11CE345	Rock Mechanics	Even & Odd	3-0-0	3	13CE206	CE
ENVIRONMENTAL & WATER RESOURCE ENGINEERING - SPECIALIZATION STREAM							
1	11CE351	Advanced Open Channel Hydraulics	Odd	3-0-0	3	13CE202	CE
2	11CE352	Design Of Hydraulic Structures	Even	3-0-0	3	13CE202	CE
3	11CE353	Environmental Impact Assessment	Even & Odd	3-0-0	3	13CE207	CE
4	11CE354	Solid Waste Management and Landfills	Even & Odd	3-0-0	3	13CE207	CE
5	11CE355	Rural Water Supply & Sanitation	Even & Odd	3-0-0	3	13CE207	CE
TRANSPORTATION ENGINEERING - SPECIALIZATION STREAM							
1	11CE361	Railway, Airport and Dock & Harbour Engineering	Odd	3-0-0	3	13CE303	CE
2	11CE362	Advanced Highway Engineering	Even	3-0-0	3	13CE303	CE
3	11CE363	Traffic Engineering	Even & Odd	3-0-0	3	13CE303	CE
4	11CE364	Advanced Pavement Design Engineering	Even & Odd	3-0-0	3	13CE303	CE
5	11CE4365	Urban Transportation Systems Planning	Even & Odd	3-0-0	3	13CE303	CE
DATA ENGINEERING - SPECIALIZATION STREAM							
1	13CS331	Data warehousing and Mining	Even	3-0-0	3	13CS204	CS, EM
2	13CS332	Advanced Database Management System	Even	3-0-0	3	13CS204	CS, EM
3	13CS333	Database Security	Odd	3-0-0	3	13CS204	CS, EM
4	13CS431	Distributed Databases	Odd	3-0-0	3	13CS204	CS, EM
5	13CS432	Big data Analytics	Odd	3-0-0	3	13CS204	CS, EM
COMPUTER NETWORKS- SPECIALIZATION STREAM							
1	13CS334	TCP/IP Protocol Suite	Even	3-0-0	3	13CS205	CSE, ECM, ECE
2	13CS335	Network Programming	Even	3-0-0	3	13CS205	CSE, ECM, ECE
3	13CS336	Routing Algorithms	Odd	3-0-0	3	13CS205	CSE, ECM, ECE
4	13CS433	High speed Optical Communication Networks	Odd	3-0-0	3	13CS205	CSE, ECM, ECE
5	13CS434	Wireless Communications and	Odd	3-0-0	3	13CS205	CSE, ECM, ECE

		Networking					
SOFTWARE ENGINEERING - SPECIALIZATION STREAM							
1	13CS337	Object Oriented Analysis and Design	Even	3-0-0	3	13CS301	CS
2	13CS338	Requirement Engineering	Even	3-0-0	3	13CS301	CS
3	13CS339	Software Testing & Quality Assurance	Odd	3-0-0	3	13CS301	CS
4	13CS435	Software Reliability	Odd	3-0-0	3	13CS301	CS
5	13CS436	Software Project Management	Odd	3-0-0	3	13CS301	CS
SECURITY- SPECIALIZATION STREAM							
1	13CS340	Secure Programming	Even	3-0-0	3	13CS205	CS, EM
2	13CS341	Crypt Analysis	Even	3-0-0	3	13CS205	CS, EM
3	13CS342	Elliptic curve Cryptography	Odd	3-0-0	3	13CS205	CS, EM
4	13CS437	Cyber Security	Odd	3-0-0	3	13CS205	CS, EM
5	13CS438	Trust Worthy Computing	Odd	3-0-0	3	13CS205	CS, EM
PARALLEL & DISTRIBUTED COMPUTING - SPECIALIZATION STREAM							
1	13CS343	Advanced Computer Architecture	Even	3-0-0	3	13CS201/ 13EM201	CS, EM
2	13CS344	Parallel Computing	Even	3-0-0	3	13CS201/ 13EM201	CS, EM
3	13CS345	Grid Computing	Odd	3-0-0	3	13CS201/ 13EM201	CS, EM
4	13CS439	Cloud Computing	Odd	3-0-0	3	13CS201/ 13EM201	CS, EM
5	13CS440	High Performance Computing	Odd	3-0-0	3	13CS201/ 13EM201	CS, EM
GRAPHICS & MULTIMEDIA - SPECIALIZATION STREAM							
1	13CS346	2D/3D Graphics	Even	3-0-0	3	13CS202	CS
2	13CS347	Digital Image Processing	Even	3-0-0	3	13CS202	CS
3	13CS348	Animation	Odd	3-0-0	3	13CS202	CS
4	13CS441	Video and Audio Streaming	Odd	3-0-0	3	13CS202	CS
5	13CS442	Multimedia Technologies	Odd	3-0-0	3	13CS202	CS
INTELLIGENT COMPUTING - SPECIALIZATION STREAM							
1	13CS349	Soft Computing	Even	3-0-0	3	13CS304	CS
2	13CS350	Machine Learning	Even	3-0-0	3	13CS304	CS
3	13CS351	Natural Language Processing	Odd	3-0-0	3	13CS304	CS
4	13CS443	Multi Agent Systems	Odd	3-0-0	3	13CS304	CS
5	13CS444	Computer Vision	Odd	3-0-0	3	13CS304	CS
COMMUNICATION SYSTEMS- SPECIALIZATION STREAM							
1	13EC340	Information Theory & Coding	Odd	3-0-0	3	13EC207 OR 13EM202	ECE,ECM
2	13EC341	TV and Video Engineering	Even	3-0-0	3	13EC207 OR 13EM202	ECE,ECM
3	13EC342	Optical Communications	Even	3-0-0	3	13EC207 OR 13EM202	ECE,ECM
4	13EC443	Satellite Communications	Odd	3-0-0	3	13EC207 OR 13EM202	ECE,ECM

5	13EC444	Cellular Communications	Odd	3-0-0	3	13EC308 OR 13EM202	ECE,ECM
6	13EC345	EMI/EMC	Odd	3-0-0	3	13EC202	ECE
7	13EC346	RF System Design	Even	3-0-0	3	13EC414	ECE
8	13EC447	Radar & Navigational Aids	Even	3-0-0	3	13EC313	ECE
9	13EC448	Microwave and Millimetric Wave Circuits	Odd	3-0-0	3	13EC313	ECE
10	13EC349	Radiating Systems	Odd	3-0-0	3	13EC313	ECE
VLSI- SPECIALIZATION STREAM							
1	13EC461	Analog VLSI Design	Odd	3-0-0	3	13EC206/ 13EC312	ECE
2	13EC362	Low Power VLSI Design	Even	3-0-0	3	13EC206/ 13EC312	ECE
3	13EC363	ASIC Design	Even	3-0-0	3	13EC206/ 13EC312	ECE
4	13EC364	Design for Testability	Odd	3-0-0	3	13EC206/ 13EC312	ECE
5	13EC465	Mixed Signal Circuits & Systems	Odd	3-0-0	3	13EC206/ 13EC312	ECE
DIGITAL SIGNAL PROCESSING- SPECIALIZATION STREAM							
1	13EC470	Array Signal Processing	Odd	3-0-0	3	13ES205	ECE,ECM
2	13EC371	Modern Digital Signal Processing	Even	3-0-0	3	13ES205	ECE,ECM
3	13EC372	Digital Image Processing	Even	3-0-0	3	13ES205	ECE,ECM
4	13EC373	Multi-rate Signal Processing	Odd	3-0-0	3	13ES205	ECE,ECM
5	13EC474	Speech Processing	Odd	3-0-0	3	13ES205	ECE,ECM
EMBEDDED SYSTEMS - SPECIALIZATION STREAM							
1	11EM330	Real Time Operating Systems	Odd	3-0-0	3	13CS203	ECM, CS
2	13EM332	PCB Design	Even	3-0-0	3	NIL	ECM, CS
3	11EM334	Micro Controllers Interfacing & System Design	Even	3-0-0	3	11EC311	ECM, CS
4	11EM430	Advanced Embedded Processor Architecture	Odd	3-0-0	3	11EC311	ECM, CS
5	11EM432	Hardware Software Co Design	Odd	3-0-0	3	11EC311	ECM, CS
6	13EM336	Embedded Networking	Odd	3-0-0	3	11EC311	ECM, CS
WEB TECHNOLOGIES - SPECIALIZATION STREAM							
1	13EM331	Web Programming	Odd	3-0-0	3	11EM301	ECM, CS
2	13EM333	Visual Programming	Even	3-0-0	3	11EM301	ECM, CS
3	13EM335	Web Middleware And Web Services	Even	3-0-0	3	11EM301	ECM, CS
4	13EM431	Enterprise Programming	Odd	3-0-0	3	11EM301	ECM, CS
5	13EM433	Semantic Web	Odd	3-0-0	3	11EM301	ECM, CS
POWER SYSTEM - SPECIALIZATION STREAM							
1	13EE330	Smart Grid Technologies	Odd	3-0-0	3	11EE203	EEE
2	11EE334	Operation of Restructured Power Systems	Even	3-0-0	3	11EE205	EEE
3	11EE338	Distribution System Planning & Automation	Even	3-0-0	3	11EE205	EEE
4	11EE431	Power Quality	Odd	3-0-0	3	11EE303	EEE
5	11EE435	HVDC & FACTS	Odd	3-0-0	3	11EE303	EEE

POWER ELECTRONICS SPECIALIZATION STREAM							
1	11EE331	Machine Modeling Analysis	Odd	3-0-0	3	13EE203	EEE
2	11EE335	Advanced Power Electronics	Even	3-0-0	3	11EE303	EEE
3	11EE339	Switched Mode Power Supplies	Even	3-0-0	3	11EE303	EEE
4	11EE431	Power Quality	Odd	3-0-0	3	11EE303	EEE
5	11EE435	HVDC & FACTS	Odd	3-0-0	3	11EE303	EEE
CONTROL SYSTEM SPECIALIZATION STREAM							
1	11EE332	State Estimation & System Identification	Odd	3-0-0	3	11EE304	EEE
2	11EE336	Digital Control Systems	Even	3-0-0	3	11EE304	EEE
3	11EE340	Non Linear Control Systems	Even	3-0-0	3	11EE304	EEE
4	11EE432	Optimal Control Systems	Odd	3-0-0	3	11EE304	EEE
5	11EE436	Adaptive Control Systems	Odd	3-0-0	3	11EE304	EEE
ENERGY SYSTEMS SPECILIZATION STREAM							
1	11EE333	Solar Energy	Odd	3-0-0	3	13AC201	EEE
2	11EE337	Wind Energy	Even	3-0-0	3	13AC201	EEE
3	11EE341	Nuclear Energy	Even	3-0-0	3	13AC201	EEE
4	11EE433	Nano Materials for Energy & Environment	Odd	3-0-0	3	13ES103	EEE
5	11EE437	Energy Conservation & Audit	Odd	3-0-0	3	13AC201	EEE
DIGITAL SYSTEMS SPECILIZATION STREAM							
1	13EE501	Computer Architecture	Odd	3-0-0	3	13EC203	EEE
2	13EE502	PLD's & FPGAs	Even	3-0-0	3	13EC203	EEE
3	13EE503	VLSI DESIGN	Even	3-0-0	3	13EC203	EEE
4	13EE504	Embedded Systems	Odd	3-0-0	3	13EC203	EEE
5	13EE505	DSP Processors	Odd	3-0-0	3	13EC203	EEE
MECHANICAL ENGINEERING GENERAL ELECTIVES -SPECILIZATION STREAM							
1	13ME331	R & AC	Even & Odd	3-0-0	3	13ME202	ME
2	13ME332	Alternative Energies	Even & Odd	3-0-0	3	NIL	ME
3	13ME333	Energy Management	Even & Odd	3-0-0	3	NIL	ME
4	13ME334	Power Plant Engineering	Even & Odd	3-0-0	3	13ME202	ME
5	13ME341	Advanced Strength of Materials	Even & Odd	3-0-0	3	13ME205	ME
6	13ME342	Theory of Elasticity & Plasticity	Even & Odd	3-0-0	3	13ME205	ME
7	13ME343	Principles of Product Design	Even & Odd	3-0-0	3	NIL	ME
8	13ME344	Vibrations Engineering	Even & Odd	3-0-0	3	13ME206	ME
9	13ME351	Robotics: Sensing and Control	Even & Odd	3-0-0	3	13ME206	ME
10	13ME352	Mechatronics Product Design	Even & Odd	3-0-0	3	13ME204	ME
11	13ME353	Industrial Automation	Even & Odd	3-0-0	3	13ME302	ME
12	13ME354	Intelligent Visual Surveillance	Even & Odd	3-0-0	3	NIL	ME

13	13ME361	Reverse Engineering & Rapid Prototyping	Even & Odd	3-0-0	3	13ME204	ME
14	13ME362	Powder Metallurgy	Even & Odd	3-0-0	3	13ME203	ME
15	13ME363	Non-Destructive Testing	Even & Odd	3-0-0	3	13ME204	ME
16	13ME364	Concurrent Engineering	Even & Odd	3-0-0	3	13ME204	ME
17	13ME371	Facility layout & Material Handling	Even & Odd	3-0-0	3	NIL	ME
18	13ME372	Work Study & Ergonomics	Even & Odd	3-0-0	3	NIL	ME
19	13ME373	Total Quality Management	Even & Odd	3-0-0	3	NIL	ME
20	13ME374	Operations Management	Even & Odd	3-0-0	3	NIL	ME
AUTOMOBILE ENGINEERING -SPECILIZATION STREAM							
1	13ME335	Automobile Engineering	Even & Odd	3-0-0	3	NIL	ME
2	13ME345	Computer Aided Design	Even & Odd	3-0-0	3	13ME205	ME
3	13ME346	Vehicle Dynamics	Even & Odd	3-0-0	3	13ME206	ME
4	13ME364	Automobile Chassis and Body Engineering	Even & Odd	3-0-0	3	13ME106	ME
5	13ME336	Energy Systems & Performance	Even & Odd	3-0-0	3	13ES201	ME
AEROSPACE ENGINEERING -SPECILIZATION STREAM							
1	13ME337	Computational Fluid Dynamics	Even & Odd	3-0-0	3	13ME201	ME
2	13ME347	Rotor Dynamics	Even & Odd	3-0-0	3	13ES106	ME
3	13ME348	Aero Structures	Even & Odd	3-0-0	3	13ME205	ME
4	13ME338	Propulsion Engineering	Even & Odd	3-0-0	3	13ME301	ME
5	13ME355	Mechatronics Systems and Control	Even & Odd	3-0-0	3	13ME109	ME
FLEXIBLE MANUFACTURING SYSTEMS -SPECILIZATION STREAM							
1	13ME349	Fatigue, Creep and Fracture	Even & Odd	3-0-0	3	13ME205	ME
2	13ME365	Flexible Manufacturing Systems	Even & Odd	3-0-0	3	13ME204	ME
3	13ME366	Modern Manufacturing Processes	Even & Odd	3-0-0	3	13ME204	ME
4	13ME367	Cellular Manufacturing	Even & Odd	3-0-0	3	13ME204	ME
5	13ME368	Computer Integrated Manufacturing	Even & Odd	3-0-0	3	13ME204	ME
MECHATRONICS-SPECILIZATION STREAM							
1	13ME355	Mechatronic Systems & Control	Even & Odd	3-0-0	3	NIL	ME

2	13ME357	Modeling & Simulation of Mechatronic Systems	Even & Odd	3-0-0	3	NIL	ME
3	13ME358	Signal Processing in Mechatronic Systems	Even & Odd	3-0-0	3	13ES205	ME
4	13ME359	Fuzzy Sets and Artificial Intelligence	Even & Odd	3-0-0	3	NIL	ME
5	13ME360	Engineering Smart Materials for Mechatronics Applications	Even & Odd	3-0-0	3	13ME203	ME
UPSTREAM SPECIALIZATION							
1	14 PE 331	Well intervention & Stimulation Techniques	Odd & Even	3-0-0	3	14 PE 206	
2	14 PE 332	Reservoir Modelling & Simulation	Odd & Even	3-0-0	3	14 PE 302	
3	14 PE 333	Enhanced Oil Recovery	Odd & Even	3-0-0	3	14 PE 302	
4	14 PE 334	Coal Bed Methane (CBM), Gas Hydrates and Shale Gas	Odd & Even	3-0-0	3	NIL	
5	14 PE 335	Directional Drilling & Offshore Structures	Odd & Even	3-0-0	3	14 PE 206	
6	14 PE 336	Petroleum Production System Design	Odd & Even	3-0-0	3	NIL	
DOWNSTREAM SPECIALIZATION							
7	14 PE 337	Mass Transfer	Odd & Even	3-0-0	3	NIL	
8	14 PE 338	Petroleum Refining & Petrochemical Technology	Odd & Even	3-0-0	3	NIL	
9	14 PE 339	Refining Process, Modeling & Simulation	Odd & Even	3-0-0	3	NIL	
10	14 PE 340	Polymer Science & Technology	Odd & Even	3-0-0	3	NIL	
11	14 PE 341	Petrochemical Processes	Odd & Even	3-0-0	3	NIL	
12	14 PE 342	Chemical Process Equipment Design & Drawing	Odd & Even	3-0-0	3	NIL	

Additional Courses for B.Tech with Honor's Degree (Biotechnology)							
1	13BT547	Biocatalysis and enzyme mechanisms	Even & Odd	3-0-2	4	13BT201	BT
2	13BT507	Bioreactor modelling and simulation	Even & Odd	3-0-2	4	13BT305	BT
3	13BT530	Protein Engineering	Even & Odd	3-0-2	4	13BT302	BT
4	13BT535	Transport phenomenon in bioprocess	Even & Odd	3-0-2	4	13BT401	BT
5	13BT536	Biomining	Even & Odd	3-0-2	4	13BT401	BT
Additional Courses for B.Tech with Honor's Degree (CE)							
1	11CE502	Theory of Elasticity	Even & Odd	3-2-0	4	Nil	CE
2	11CE504	Advanced Prestressed Concrete	Even & Odd	3-0-2	4	Nil	CE
3	11CE531	Repair and Rehabilitation of structures	Even & Odd	3-0-2	4	Nil	CE

4	11CE601	Finite Element Analysis	Even & Odd	3-0-2	4	Nil	CE
5	14CT533	Special Concrete	Even & Odd	3-0-2	4	Nil	CE
Additional Courses for B.Tech with Honor's Degree (CSE)							
1	15CS5178	Optimization Techniques	Even & Odd	3-0-2	4	NIL	CSE
2	15CS5180	Computational Complexity	Even & Odd	3-0-2	4	NIL	CSE
3	15CS5182	Device Management	Even & Odd	3-0-2	4	NIL	CSE
4	15CS5280	Machine Intelligence	Even & Odd	3-0-2	4	NIL	CSE
5	15CS5284	Formal Methods	Even & Odd	3-0-2	4	NIL	CSE
Additional Courses for B.Tech with Honor's Degree (ECE)							
1	15EC 5206	ANTENNA MEASUREMENTS	Even & Odd	3-0-2	4	13EC308	ECE
2	15EC 5216	Statistical Signal Processing	Even & Odd	3-0-2	4	13ES205	ECE
3	15EC 5109	WAVELETS, FILTER BANKS & APPLICATIONS	Even & Odd	3-0-2	4	13ES205	ECE
4	15EC 5112	ADAPTIVE SIGNAL PROCESSING	Even & Odd	3-0-2	4	13ES205	ECE
5	15EC 5234	VLSI System Design	Even & Odd	3-2-0	4	13EC206	ECE
Additional Courses for B.Tech with Honor's Degree (ECM)							
1	11EM501	Micro Controllers for Embedded System Design	Even & Odd	3-0-0	3	NIL	ECM
2	12EM502	REAL TIME CONCEPTS FOR EMBEDDED SYSTEMS	Even & Odd	3-0-0	3	NIL	ECM
3	13EM602	Digital Signal Processors and Architectures	Even & Odd	3-0-0	3	NIL	ECM
4	13EM513	Sensors and Sensing Principles	Even & Odd	3-0-0	3	NIL	ECM
5	13EM516	Communication Protocols and Standards	Even & Odd	3-0-0	3	NIL	ECM
Additional Courses for B.Tech with Honor's Degree (EEE)							
1	13EE601	Power Electronic control of Drives	Even & Odd	3-1-0	4	11EE307	EEE
2	13EE602	Optimization Techniques	Even & Odd	3-1-0	4	Nil*	EEE
3	13EE603	Design of power converters	Even & Odd	3-0-2	4	11EE303	EEE
4	13EE604	Power system dynamics & stability	Even & Odd	3-1-0	4	11EE302	EEE
5	13EE605	Real time control of power system	Even & Odd	3-0-2	4	11EE302	EEE
Additional Courses for B.Tech with Honor's Degree (ME)							
1	13TE531	Heat Exchanger Design	Even &	3-0-0	3	13ME401	ME

			Odd				
2	13TE602	Computational Fluid dynamics	Even & Odd	3-0-0	3	13ME201	ME
3	13TE642	Renewable Energy Technology	Even & Odd	3-0-0	3	13ME202	ME
4	11ME547	System Dynamics	Even & Odd	3-0-0	3	NIL	ME
5	13ME349	Fatigue, creep and Fracture analysis	Even & Odd	3-0-0	3	13ME205	ME
OPEN ELECTIVES							
1.	11OE408	IPR & Patent Laws	Even & Odd	3-0-0	3	NIL	ALL B.Tech except BT
2.	11OE411	Regulatory affairs and Clinical trails	Even & Odd	3-0-0	3	NIL	ALL B.Tech except BT
3.	13OE432	Biosafety and Bioethics	Even & Odd	3-0-0	3	NIL	ALL B.Tech except BT
4.	13OE433	Environmental Biotechnology	Even & Odd	3-0-0	3	NIL	ALL B.Tech except BT
5.	13OE434	Product validation & Quality Control	Even & Odd	3-0-0	3	NIL	ALL B.Tech except BT
6.	11OE309	Remote Sensing & Gis	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
7.	11OE310	Environmental Pollution Control Methods	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
8.	11OE311	Spatial Data Analysis And Modelling	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
9.	11OE414	Disaster Management	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
10.	11OE415	Image Interpretation Using Remote Sensing	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
11.	11OE416	Solid And Hazardous Waste Management	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CE
12.	11OE422	Optical Engineering	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECE
13.	13OE423	Image Processing	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECE
14.	11OE424	Mobile Communication	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECE
15.	11OE431	Radar Systems	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECE
16.	11OE425	Linear Control Systems	Even & Odd	3-0-0	3	NIL	ALL B.Tech except EEE
17.	11OE426	Renewable Energy Resources	Even & Odd	3-0-0	3	NIL	ALL B.Tech except EEE
18.	11OE427	Power System Engineering	Even & Odd	3-0-0	3	NIL	ALL B.Tech except EEE
19.	11OE428	Illumination & Traction	Even & Odd	3-0-0	3	NIL	ALL B.Tech except EEE
20.	11OE430	Energy Estimation & Audit	Even & Odd	3-0-0	3	NIL	ALL B.Tech except EEE
21.	11OE432	Dataware Housing And Mining	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM,CSE

22.	11OE433	E-Commerce	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM,CSE
23.	13OE421	Linux Programing	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM,CSE
24.	12OE447	Intemet Technologies	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM,CSE
25.	12OE441	Television Engineering	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM, ECE
26.	11OE439	Embedded Technologies	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM, ECE
27.	13OE429	Fundamentals of IT	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CSE,ECM
28.	12OE445	Fundamentals of DBMS	Even & Odd	3-0-0	3	NIL	ALL B.Tech except CSE,ECM
29.	12OE443	Robotics	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
30.	12OE442	Mechatronics	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
31.	13OE427	Operations Research	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
32.	13OE430	Self Development	Even & Odd	3-0-0	3	NIL	ALL B.TECH
33.	13OE431	Indian Culture and History	Even & Odd	3-0-0	3	NIL	ALL B.TECH
34.	13OE 432	Animation For Engineers	Even & Odd	3-0-0	3	NIL	ALL B.Tech
35.	13OE433	Photography	Even & Odd	3-0-0	3	NIL	ALL B.Tech
36.	13OE435	Intelligent Visual Surveillance	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
37.	13OE436	Total Quality Management	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
38.	13OE437	Industrial Engineering & Management	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ME
39.	13OE475	Measurements & Instrumentation	Even & Odd	3-0-0	3	NIL	ALL B.Tech except ECM, ECE
40.	12OE453	Nano Materials and Technology	Even & Odd	3-0-0	3	NIL	ALL B.TECH
41.	13ES202	Object Oriented Programming	Even	3-0-2	4	13ES101	Only for CE
42.	13ES204	Data Structures	odd	3-0-2	4	13ES101	Only for CE
43.	13ES205	Signal processing	Even	3-0-2	4	Nil	Only for CE
Additional Courses for B.Tech with Minor's Degree NANO TECHNOLOGY(MINOR GROUP)							
1	11OE401	Polymer Nano Composites	Even & Odd	3-0-0	3	NIL	ALL B.Tech
2	13OE451	Introduction to Nano Technology	Even & Odd	3-0-0	3	NIL	ALL B.Tech
3	13OE452	Nano Materials for Energy & Management	Even & Odd	3-0-0	3	NIL	ALL B.Tech
4	11OE403	Characterization of Nano Materials	Even & Odd	3-0-0	3	NIL	ALL B.Tech
5	13OE453	Micro & Nano	Even &	3-0-0	3	NIL	ALL B.Tech

		Fabrications	Odd				
6	11OE405	Nano Fluids / Science & Technology	Even & Odd	3-0-0	3	NIL	ALL B.Tech
INDUSTRIAL ENGINEERING (MINOR GROUP)							
7	12OE440	Industrial Engineering Techniques	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EC,EM,EE,PE
8	11OE434	Operations Research	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EC,EM,EE,PE
9	13OE454	Engineering Management	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EC,EM,EE,PE
10	11OE404	Work study & Ergonomics	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EC,EM,EE,PE
11	11OE406	Operations Management	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EC,EM,EE,PE
COMPUTING(MINOR GROUP)							
12	13OE455	Principles of Operating System	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
13	13OE456	Algorithm design and analysis	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
14	13OE457	Theory of Computation	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
15	13OE458	Parallel Processing	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
16	13OE459	Data Analytics	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
Additional Courses for B.Tech with Minor's Degree in WEB PROGRAMMING							
1	13OE461	Foundations for web development	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
2	13OE462	Client side web Development	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
3	13OE463	Web Application development on server side	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
4	13OE464	Web Application development through .NET Framework	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
5	13OE465	Component based Web Development through EJB	Even & Odd	3-0-0	3	NIL	BT,CE,EC,EE,ME,PE
BIO INFORMATICS(MINOR GROUP)							
24	13OE466	Basic Biology	Even & Odd	3-0-0	3	NIL	CE,CS,EC,EE,ME,PE,EM
25	13OE467	BIOINFORMATICS	Even & Odd	3-0-0	3	NIL	CE,CS,EC,EE,ME,PE,EM
26	13OE468	Molecular Modelling & Drug Design	Even & Odd	3-0-0	3	NIL	CE,CS,EC,EE,ME,PE,EM
27	13OE469	Bio Perl & Perl Programming	Even & Odd	3-0-0	3	NIL	CE,CS,EC,EE,ME,PE,EM
28	13OE470	Bio Mining Genomics & Proteomics	Even & Odd	3-0-0	3	NIL	CE,CS,EC,EE,ME,PE,EM
ELECTRONICS(MINOR GROUP)							
29	13OE471	Electronic Devices	Even &	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE

			Odd				
30	13OE472	Digital Electronics	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE
31	13OE473	Analog Electronics	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE
32	13OE420	Pulse & Digital Circuits	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE
33	13OE474	Linear Integrated Circuits	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE
34	13OE475	Measurements & Instrumentation	Even & Odd	3-0-0	3	NIL	BT,CE,CS,EE,ME,PE
ELECTRICAL POWER ENGINEERING(MINOR GROUP)							
35	13OE476	Electrical Circuits	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
36	13OE477	Electrical Machines	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
37	13OE478	Electrical Power Generation	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
38	13OE479	Transmission & Distribution	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
39	13OE480	Power System Analysis & Protection	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
40	11OE429	Utilization of Electrical Power	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
ELECTRICAL MACHINES(MINOR GROUP)							
41	13OE476	Electrical Circuits	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
42	13OE477	Electrical Machines	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
43	13OE483	Advanced Control Systems	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
44	13OE484	Power Electronics Devices & Circuits	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
45	13OE485	Power Semi-Conductor & Drives	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
46	13OE486	Special Machines	Even & Odd	3-0-0	3	NIL	ECE, ECM, ME
DIGITAL DESIGN(MINOR GROUP)							
47	13OE487	System on Chip Architecture	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
48	13OE488	Digital Signal Processing	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
49	13OE489	VLSI Design	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
50	13OE490	Switching Theory & Logic Design	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
51	13OE491	Computer Organization	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
52	13OE492	Microprocessors & Interfacing	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT ECE
GEO INFORMATICS(MINOR GROUP)							
53	13OE493	Fundamentals of	Even &	3-0-0	3	NIL	ALL B.TECH EXCEPT

		Geospatial Technology	Odd				CE
54	13OE494	Geographical Information system	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT CE
55	13OE495	Environmental Geoinformatics	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT CE
56	13OE496	GIS data Analysis & Modelling	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT CE
57	13OE497	Geospatial technology for Natural Resources & Disaster Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT CE
58	13OE498	Geospatial Applications	Even & Odd	3-0-0	3	NIL	ALL B.TECH EXCEPT CE
Management(HS) Electives							
1	11HS201	Emotional Intelligence	Even & Odd	3-0-0	3	NIL	ALL B.TECH
2	11HS202	Paradigms in Management Thought	Even & Odd	3-0-0	3	NIL	ALL B.TECH
3	11HS203	Indian Economy	Even & Odd	3-0-0	3	NIL	ALL B.TECH
4	11HS205	Professional Ethics & Values	Even & Odd	3-0-0	3	NIL	ALL B.TECH
5	11HS206	Behavioral Sciences	Even & Odd	3-0-0	3	NIL	ALL B.TECH
6	11HS208	Managing Personal Finances	Even & Odd	3-0-0	3	NIL	ALL B.TECH
7	11HS209	Basics of Marketing for Engineers	Even & Odd	3-0-0	3	NIL	ALL B.TECH
8	11HS210	Self Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
9	11HS211	Organization Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
10	13HS212	Construction Project Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
11	11OE414	Disaster Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
12	11HS212	Resource Safety & Quality Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
13	13OE422	Water	Even & Odd	3-0-0	3	NIL	ALL B.TECH
14	13HS214	Event Management	Even & Odd	3-0-0	3	NIL	ALL B.TECH
15	13HS215	Public Administration	Even & Odd	3-0-0	3	NIL	ALL B.TECH
AUDITED COURSES							
1	13AC201	Energy & Society	Even & Odd	2-0-0	NIL	NIL	ALL B.TECH
2	13AC202	Employability Skills	Even & Odd	1-0-2	NIL	NIL	ALL B.TECH
3	13AC301	Advanced Employability Skills	Even & Odd	1-0-2	NIL	13AC202	ALL B.TECH
4	13AC203	Sports / Games / Yoga	Even & Odd	0-0-2	NIL	NIL	ALL B.TECH
5	13AC204	NCC /NSS /NSO/ CEA	Even & Odd		NIL	NIL	ALL B.TECH
6	13AC302	Quantitative Aptitude and Reasoning	Even & Odd	0-0-2	NIL	NIL	ALL B.TECH
NON-CREDIT COURSES:							
1	13NC201	Certificate Courses-1		--	NIL	NIL	ALL B.TECH
2	13NC202	Certificate Courses-2		--	NIL	NIL	ALL B.TECH
Term Paper							
1	13TP401	Term Paper		0-0-4	2	NIL	ALL B.TECH
1	13PW401	Final year Project	Even	0-0-24	12	NIL	ALL B.TECH
2	13PS401	Practice School	Even			NIL	ALL B.TECH
3	13IS201	Industrial Training		4 Weeks	NC	NIL	ALL B.TECH