

Annexure-IV

Bachelor of Technology (Computer Science & Engineering)										
Credit-Based Scheme of Studies/Examination										
Semester V(w.e.f. session 2020-2021)										
S. No.	Course Code	Subject	L:T:P	Hours/ Week	Credits	Examination Schedule (Marks)				Duration of Exam (Hrs)
						Major Test	Minor Test	Practical	Total	
1	ES-301	Microprocessor & Interfacing	3:0:0	3	3	75	25	0	100	3
2	PC-CS-301	Database Management Systems	3:0:0	3	3	75	25	0	100	3
3	PC-CS-303	Formal Language & Automata Theory	3:0:0	3	3	75	25	0	100	3
4	PC-CS-305	Essential of Information Technology	3:0:0	3	3	75	25	0	100	3
5	PC-CS-307	Computer Organization & Architecture	2:0:0	2	2	75	25	0	100	3
6	PEC	Elective-I	3:0:0	3	3	75	25	0	100	3
7	PC-CS-309L	Database Management Systems Lab	0:0:4	4	2	0	40	60	100	3
8	PC-CS-311L	Essential of Information Technology Lab	0:0:4	4	2	0	40	60	100	3
Total				25	21	450	230	120	800	
9	MC-904	Energy Resources & Management	3:0:0	3	0	0	75	25	100	3
10	SIM-301*	Seminar on Summer Internship	2:0:0	2	0	0	50	0	50	

PEC Elective-I

Digital Data Communication: PE-CS-T301

Parallel and Distributed Computing: PE-CS-T303

Information Theory and Coding: PE-CS-T305

Advanced Algorithms: PE-CS-T307

***Note:** SIM-301A* is a mandatory credit-less course in which the students will be evaluated for the Summer Internship undergone after 4th semester and students will be required to get passing marks to qualify.

MC-904	Energy Resources & Management						
Lecture	Tutorial	Practical	Credit	Major Test	Minor Test	Total	Time
3	-	-	0	75	25	100	3
PURPOSE	To make the students conversant with the basics concepts and conversion of various form of Energy						
COURSE OUTCOMES							
CO1	An overview about Energy Resources, Conventional and Non-conventional sources						
CO2	Understand the Layout and working of Conventional Power Plants						
CO3	Understand the Layout and working of Non-Conventional Power Plants						
CO4	To understand the Energy Management, Audit and tariffs, Role of Energy in Economic development and Energy Scenario in India						

UNIT-I

Introduction: Types of energy, Conversion of various forms of energy, Conventional and Non-conventional sources, Need for Non-Conventional Energy based power generation.

UNIT-II

Conventional Energy sources: Types of Conventional Energy sources, Selection of site, working of Thermal, Hydro, Nuclear and Diesel power plants and their schematic diagrams & their comparative advantages/disadvantages.

UNIT-III

Non-Conventional Energy sources: Types of Non-Conventional Energy sources, Basic principle, site selection of Solar energy power plant, photovoltaic technologies, PV Systems and their components, Wind energy power plant, Bio energy plants, Geothermal energy plants and Tidal energy plants.

UNIT-IV

Energy Management: General Principles of Energy Management, Energy Management Strategy, Modern trends and developments towards Computerizations of Power System.

Energy Audit: Need, Types, Methodology and Approach.

Energy Scenario: Lay out of power system, Role of Energy in Economic development, energy demand, availability and consumption, Indian energy scenario, long term energy scenario, energy sector reforms in India, energy strategy for the future.

References:

1. Energy Studies-Wiley Dream TechIndia.
2. Non-conventional energy resources- Shobhnath Singh, Pearson.
3. Electrical Power Systems : Soni, Gupta, Bhatnagar – Dhanpat Rai & Sons
4. NEDCAP: Non Conventional Energy Guide Lines
5. Non conventional energy sources : G.D. Roy
6. Non Conventional energy resources : B H Khan - McGraw Hill
7. Applied Solar Energy: Meinel A B - Addison Wesley Publications
7. Direct Energy Conversion George: Sutton - McGraw