

COURSE STRUCTURE AND SYLLABUS
FOR
B.TECH DEGREE
IN
ELECTRICAL ENGINEERING
(MAJOR IN E-VEHICLE)
2022 Batch



RAJIV GANDHI INSTITUTE OF PETROLEUM TECHNOLOGY JAIS, AMETHI

Credit Distribution for B.Tech-EV 2022 Batch

Category	Range	Proposed
Humanities and Social Science (HU)	22	22
Science (IS)	70-90	88
Institute Engineering (IE)	40-70	46
Engineering Drawing, Workshop (EP)	18-24	17
Language & Management (LM)	18-24	20
Departmental Core (DC)	145-190	181
Departmental Elective (DE)	30-75	36
Open Elective (OE)	15-20	18
Project/Industrial Visit (DP)	20-50	20
Total Credits	440-490	448

Fourth Year Odd Semester

Course Code	Course/Subject	L	T	P	Cr
EEV443	Power Systems – II (DC)	3	0	0	9
	Department Elective – 3 (DE)	3	0	0	9
	Department Elective – 4 (DE)	3	0	0	9
	Open Elective – 1 (OE)	3	0	0	9
MT5100	Principles of Economics (M)	2	0	0	6
HU313	Sociology of Industry & Work Culture (HU)	2	0	0	6
	Total Credits				48

Departmental Elective – 3 (DE – 3)	
EE522	Plug-In Electric Vehicles in Smart Grid
EE532	IoT in E-Vehicle Applications
EEV451	EV Batteries and Battery Management System
ME532	Automotive Safety
EE531	Modelling and Control of Power Electronics Converters and Drives
EEV412	Electrical Machine Design
EEV442	Power Quality
EEV441	Power System Protection and Switchgear
EEV431	Nonlinear Dynamical Systems

Departmental Elective – 4 (DE – 4)	
EE541	Electrical Architecture of Electric and Hybrid Vehicles
EEV455	Standards, Testing and Certification of Electric & Hybrid Vehicles
EEV456	Vehicle Safety Systems
EEV457	EV Charging Technology
EV502	Hydrogen and Fuel Cell Technology for Electric and Hybrid Vehicles
EEV444	Modelling and Simulation of Power System
EEV445	Smart Grid Technology
EV562	Autonomous and Connected Vehicles
EEV446	Distributed Energy Resources
EEV432	Optimal and Adaptive Control

Fourth Year Even Semester

Course Code	Course/Subject	L	T	P	Cr
EEV420	Summer Internship/Industrial Visit/B.Tech. Project (DP)	0	0	5	5
	Open Elective – 2 (OE)	3	0	0	9
MT5405	Foundations of Management (M)	2	0	0	6
HU331	Organizational Psychology (HU)	2	0	0	6
	Total Credits				26