M.Tech. Electrical Engineering

Course Structure

DEPARTMENT OF ELECTRICAL ENGINEERING

PEC, CHANDIGARH

Course/Credits Distribution of M.Tech. (Electrical Engineering)

SEMESTER-I						
S. No	**Course Code**	**Course Name**	**L**	**T**	**P**	**Credits**
1.	EER1101 EER1121 EER1111	**Program Core-I**: Advance Power Systems Analysis/ Modern Control Systems/ Solid State Control of Drives	2	0	2	3
2.	EER1102 EER1122 EER1112	**Program Core-II:** Advance Power System Protection/ Robust Control/ Analysis and Design of Power Electronic Converters	3	0	0	3
3.	EER1103 EER1123 EER1113	**Program Core-III:** Power System Operation & Control/ Linear Optimal Control/ Dynamical Modelling of Electrical Machines	3	0	0	3
4.		Deptt. Elective Course (DEC-I)	3	0	0	3
5.	EER1001	Design of Experiments & Research Methodology	3	0	0	3
6.	SCR1001 SMR1001	Soft Computing/ Soft Skills and Management	3	0	0	3
Total						**18**

SEMESTER-II						
S. No	**Course Code**	**Course Name**	**L**	**T**	**P**	**Credits**
1.	EER1104 EER1124 EER1114	**Program Core-IV**: Power System Dynamics/ Discrete Time Control Systems/ Control Techniques in Power Electronics	2 2 3	0 0 0	2 2 0	3
2.	EER1105 EER1125 EER1115	Program Core-V: Deregulated Power System/ Advanced Control Techniques in Power Electronics/ Advanced Electric Drives	3 3 2	0 0 0	0 0 2	3
3.	EER1106 EER1126 EER1116	Program Core-VI: EHV Transmission/ Non-Linear Control Systems/ Power Electronics Applications in Power Systems	3	0	0	3
4.		Deptt. Elective Course (DEC-II)	3	0	0	3
5.		Open Elective-I	3/2	0	0/2	3
6.		Engineering Mathematics	3	0	0	3
7.	EER4001	Industrial Tour				
Total						**18**

SEMESTER-III			
S. No	**Course Code**	**Course Name**	**Credits**
1.	EER5001	Seminar and Report Writing	2
2.	RPR6001	Research and Publication Ethics	2
3.	EER7001	Dissertation-I	14
Total			**18**

SEMESTER-IV			
S. No	**Course Code**	**Course Name**	**Credits**
1.	EED8001	Dissertation-II	18
Total			**18**

PROGRAM ELECTIVE-I						
S. No.	**Course Code**	**Course Name**	**L**	**T**	**P**	**Credits**
1.	EER1201	Static Reactive Power Control & FACTS	3	0	0	3
2.	EER1202	Neural Networks & Fuzzy Logic	3	0	0	3
3.	EER1203	Power System Planning & Reliability	3	0	0	3
4.	EER1204	Smart Grid Technologies	3	0	0	3
5.	EER1205	Distribution System Operation and Planning	3	0	0	3
6.	EER1206	Control Techniques for Microgrid	3	0	0	3
7.	EER1207	Adaptive Control	3	0	0	3
8.	EER1208	Digital Signal Processing	3	0	0	3
9.	EER1209	Modern Control Systems	3	0	0	3
10.	EER1210	Power System Operation and Control	3	0	0	3
11.	EER1211	Discrete Time Control Systems	3	0	0	3
12.	EER1212	Feedback Control of Dynamical Systems	3	0	0	3

PROGRAM ELECTIVE-II						
S. No.	**Course Code**	**Course Name**	**L**	**T**	**P**	**Credits**
1.	EER1251	Renewable Energy Systems	3	0	0	3
2.	EER1252	Power System Voltage Stability	3	0	0	3
3.	EER1253	Energy Management & Energy Audit	3	0	0	3
4.	EER1254	Power Quality	3	0	0	3
5.	EER1255	Digital Signal Processing & Applications	3	0	0	3
6.	EER1256	Grid Integration of Electric Vehicle	3	0	0	3
7.	EER1257	Optimization Techniques for Electrical Engineering	3	0	0	3
8.	EER1258	System Dynamics	3	0	0	3
9.	EER1259	Fractional Order Systems: Modeling and Control Applications	3	0	0	3
10.	EER1260	Electric Drives for EV Applications	3	0	0	3
11.	EER1261	Power Electronics for Renewable Energy Systems	3	0	0	3
12.	EER1262	Advanced Power Convertors	3	0	0	3
13.	EER1263	Power Quality	3	0	0	3
14.	EER1264	Special Machine Drives	3	0	0	3

OPEN ELECTIVE						
S. No.	**Course Code**	**Course Name**	**L**	**T**	**P**	**Credits**
1.	EER3001	Energy Management & Audit	3	0	0	3
2.	EER3002	Zero Energy Buildings	3	0	0	3
3.	EER3003	Electric Vehicles	2	0	2	3
4.	EER3004	Hydrogen Energy and Fuel Cells	2	0	2	3
5.	EER3005	Neural Networks & Fuzzy Logic	3	0	0	3
6.	EER3006	Intelligent Control	3	0	0	3
7.	EER3007	Renewable energy systems	3	0	0	3
8.	EER3008	Digital Signal Processing & Applications	3	0	0	3
9.	EER3009	Advance Mechatronics	3	0	0	3
10.	EER3010	PLC and SCADA	3	0	0	3