Department of Electrical Engineering

Scheme of M. Tech. in Power Electronics & Drives under Part Time Category
(2025 Admitted Batch Onwards)

First Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EE ED 1101	Modeling of Electrical Machines	3	-	-	3
EE ED 1102	Advanced Power Electronics	3	-	-	3
EE ED 1151-1155	Departmental Elective-1/NPTEL Course 1	3	-	-	3
EE ED 1104	Lab-I: Machines & Drives Lab	-		2	1
EE ED 1106	Seminar 1			2	1
Total Hours:13 Cumulative Total Credits:11		Total Semester Credits			11

Second Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EE ED 1201	Advanced Control System	3	-	-	3
EE ED 1202	Power Quality	3		-	3
EE ED 1203	Lab III : Digital Controller Lab			2	1
EE ED 1205	Seminar-II	-		2	1
Total Hours:10 Cumulative Total Credits:19		Total Semester Credits			8

Third Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EE ED 1103	Control of Electrical Drives	3	-	-	3
EE ED 1161-1165	Departmental Elective-2//NPTEL Course 2	3	-	-	3
*HS 1101	Communication Skill	2	---	---	2*
EE ED 1105	Lab II: Soft Computing Techniques	-	-	2	1
EE ED 1107	Minor Project-1 (Self Learning)			4	2
Total Hours:14 Cumulative Total Credits: 28		Total Semester Credits			9
*HS 1101 Communication Skills 02 Credits (Not Counted in SGPA/CGPA calculations)					

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Fourth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EE ED 1251-1255	Departmental Elective-3/NPTEL Course 3	3	-	-	3
EE ED 1261-1265	Departmental Elective-4/NPTEL Course 4	3	-	-	3
	Open Elective	3	-	-	3
EE ED 1204	Lab IV : Advanced Power Electronics Lab			2	1
EE ED 1206	Minor Project-2 (Self Learning)	-	-	4	2
Total Hours:15 Cumulative Total Credits:40		Total Semester Credits			12

Fifth Semester:

Subject Code	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
EE ED 2101	Dissertation Phase-I	-	-	40	20
Total Hours:40 Cumulative Total Credits:60		Total Semester Credits			20

Sixth Semester:

Subject Code	Subject	Periods Per Week			Total Credits
		L	T	P	
EE ED 2201	Dissertation Phase-II	-	-	40	20
Total Hours:40 Cumulative Total Credits:80		Total Semester Credits			20
		Total Credits I,II,III, IV, V, VI Semester			**80**

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Departmental Elective Groups (A)			
1		**2**	
EE ED 1151	Traction Drives	EE ED 1161	FACTS
EE ED 1152	Special Machines	EE ED 1162	Smart Grid Technologies
EE ED 1153	Soft Computing Techniques	EE ED 1163	Machine Learning in Power Electronics Systems
EE ED 1154	Switched Mode Power Converters	EE ED 1164	Digital Control and Instrumentation
EE ED 1155	Multilevel Inverters	EE ED 1165	Photovoltaic Technologies
3		**4**	
EE ED 1251	Power Electronics Converters for Renewable Energy Systems	EE ED 1261	Adaptive & Robust Control
EE ED 1252	Hybrid Electric Vehicles	EE ED 1262	Permanent Magnet and Energy Efficient Motors
EE ED 1253	Non-conventional Energy Sources	EE ED 1263	DSP & its Application in Drives
EE ED 1254	CAD for Power Electronics	EE ED 1264	Principles of Data Converter
EE ED 1255	Research Methodology	EE ED 1265	Embedded Systems

S. No.	List of Open Electives C	
1.	ARPP - 581	Introduction to Urban Planning
2.	BSEP – 581	Bioprocess Engineering
3.	BSEP – 582	Biophysics Tools and Techniques
4.	CHEP – 581	Analytical Techniques
5.	CHEP – 582	Green Technology & Processes
6.	CEP – 581	Solid Waste Management
7.	CEP – 582	Basic Concept of GIS
8.	CEP – 583	Road Safety
9.	CSEP – 581	Machine Learning
10.	CSEP – 582	Advanced Data Structures and Algorithms
11.	PHYP – 581	Nanotechnology and Nanoscience

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12.	ECEP – 581	Introduction to Fuzzy Logic
13.	ECEP – 582	Neural Networks and its Applications
14.	ECP - 581	Energy Resource Technologies
15.	HUMP – 581	Intellectual Property Rights for Engineers
16.	HUMP – 582	Applied Psychology: Human Centered Design and Engineering
17.	MTHP – 581	Advanced Operations Research
18.	MTHP – 582	Computing Technologies
19.	MEP – 581	Value Engineering
20.	MEP – 582	Design Thinking
21.	MEP - 583	Mechatronics and NDT in Engineering
22.	MMEP – 581	Advanced Instrumentation Methods for Material Analysis
23.	MMEP – 582	Smart Materials and their Application
24.	MBAP - 581	Engineering Startup Management