COURSE OF STUDY AND SCHEME OF EXAMINATION
Department of Electrical Engineering
M. Tech. in *Power Electronics & Drives (PED)*
(2025 Admitted Batch Onwards)

First Semester

Course No.	Subject	Scheme of studies 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 1103	Control of Electrical Drives	3		-	3
EE ED 1151 - 1155	Departmental Elective - 1	3		-	3
EE ED 1161 - 1165	Departmental Elective - 2	3		-	3
EE ED 1104	Lab I :Machines & Drives Lab.	-		2	1
EE ED 1105	Lab II: Soft Computing Techniques	-	-	2	1
EE ED 1106	Seminar I			2	1
EE ED 1107	Minor Project-1 (Self Learning)			4	2
*HS 1101	Communication Skill (Audit Course)	2	---	---	2*
Total Hours: 27 **Cumulative Total Credits: 20**		Total Semester Credits			20
*HS 1101 Communication Skills 02 Credits (Not Counted in SGPA/CGPA calculations)					

Second Semester

Course No.	Subject	Scheme of studies 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 1251-1255	Departmental Elective 3	3		-	3
EE ED 1261-1265	Departmental Elective 4	3		-	3
	Open Elective	3		-	3
EE ED 1203	Lab III : Digital Controller Lab	-		2	1
EE ED 1204	Lab IV : Advanced Power Electronics Lab			2	1
EE ED 1205	Seminar II			2	1
EE ED 1206	Minor Project-2 (Self Learning)			4	2
Total Hours: 25 **Cumulative Total Credits: 40**		Total Semester Credits			20

Third Semester

Course No.	Subject	Schemes 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

Fourth Semester

Course No.	Subject	Schemes of studies 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

Departmental Elective Groups			
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.	ARPF - 581	Introduction to Urban Planning
2.	BSEF – 581	Bioprocess Engineering
3.	BSEF – 582	Biophysics Tools and Techniques
4.	CHEF – 581	Analytical Techniques
5.	CHEF – 582	Green Technology & Processes
6.	CEF – 581	Solid Waste Management
7.	CEF – 582	Basic Concept of GIS
8.	CEF – 583	Road Safety
9.	CSEF – 581	Machine Learning
10.	CSEF – 582	Advanced Data Structures and Algorithms
11.	PHYF – 581	Nanotechnology and Nanoscience
12.	ECEF – 581	Introduction to Fuzzy Logic
13.	ECEF – 582	Neural Networks and its Applications
14.	ECF - 581	Energy Resource Technologies
15.	HUMF – 581	Intellectual Property Rights for Engineers
16.	HUMF – 582	Applied Psychology: Human Centered Design and Engineering
17.	MTHF – 581	Advanced Operations Research
18.	MTHF – 582	Computing Technologies
19.	MEF – 581	Value Engineering
20.	MEF – 582	Design Thinking
21.	MEF - 583	Mechatronics and NDT in Engineering
22.	MMEF – 581	Advanced Instrumentation Methods for Material Analysis
23.	MMEF – 582	Smart Materials and their Application
24.	MBAF - 581	Engineering Startup Management