

VIGNANA BHARATHI INSTITUTE OF TECHNOLOGY

(AUTONOMOUS)

M.TECH – POWER ELECTRONICS AND ELECTRIC DRIVES COURSE STRUCTURE (R22 Regulations)

(Applicable for the Batch admitted from the Academic Year 2022-23 onwards)

I YEAR I SEMESTER

S.No	Core/Elective	Course Code	Course Name	L	T	P	Credits
1.	Professional Core-I	22PE6111	Advanced Power Electronic Converters-I	3	0	0	3
2.	Professional Core-II	22PE6112	Machine Modelling and Analysis	3	0	0	3
3.	Professional Elective-I	22PS6173 22PE6174 22PS6171 22PS6172	1. HVDC Transmission 2. Microcontroller Applications to Power Electronics 3. Smart Grid Technologies 4. Modern Control Theory	3	0	0	3
4.	Professional Elective-II	22PE6175 22PS6175 22PE6176 22PE6177	1. Power Semiconductor Devices and Modelling 2. Reactive Power Compensation and Management 3. High Frequency Magnetic Components 4. Hybrid Electric Vehicles and Design	3	0	0	3
5.	MC	22MC6111	Research Methodology & IPR	2	0	0	2
6.	Lab-I	22PE6151	Machine Modelling and Analysis Lab	0	0	4	2
7.	Lab-II	22PE6152	Advanced Power Electronic Converters Lab-I	0	0	4	2
8.	Audit-I	22AU6101	Audit Course-I	2	0	0	0
Total Credits				16	0	8	18

I YEAR II SEMESTER

S.No	Core/Elective	Course Code	Course Name	L	T	P	Credits
1.	Professional Core-III	22PE6211	Advanced Power Electronic Converters-II	3	0	0	3
2.	Professional Core-IV	22PE6212	Electrical Drives	3	0	0	3
3.	Professional Elective-III	22PE6272 22PE6273 22PS6278 22PE6274	1. Special Electrical Machines 2. Advanced Digital Signal Processing 3. SCADA Systems and Applications 4. Power Electronics for Renewable Energy Systems	3	0	0	3
4.	Professional Elective-IV	22PE6275 22PE6271 22PS6272 22PE6276	1. DSP based Drive Control 2. Electric Vehicle Charging Techniques 3. Power Quality Improvement Techniques 4. Integration of Energy Sources	3	0	0	3
5.	MPWS	22PE6291	Mini Project with Seminar	0	0	4	2
6.	Lab-III	22PE6251	Advanced Power Electronic Converters Lab-II	0	0	4	2
7.	Lab-IV	22PE6252	Electrical Drives Lab	0	0	4	2
8.	Audit-II	22AU6201	Audit Course-II	2	0	0	0
Total Credits				14	0	12	18

II YEAR I SEMESTER

		III Semester		L	T	P	Credits
S.No	Core/Elective	Course Code	Course Name				
1.	Professional Elective-V	22PE7171 22PS7175 22PE7173 22PE7174	1. Reliability Engineering 2. Flexible AC Transmission System 3. Dynamics of Electrical Machines 4. Energy Storage Technologies	3	0	0	3
2.	Open Elective	22CS7161 22ME7161 22ME7162 22CE7161 22ME7163 22PS7161	1. Business Analytics 2. Industrial Safety 3. Operations Research 4. Cost Management of Engineering Projects 5. Composite Materials 6. Photovoltaic Systems	3	0	0	3
3.	Dissertation	22PE7181	Dissertation Stage-I	0	0	12	6
			Total Credits	6	0	12	12

II YEAR I SEMESTER

		IV Semester		L	T	P	Credits
S.No	Core/Elective	Course Code	Course Name				
1.	Dissertation	22PE7281	Dissertation Stage-II	0	0	12	6
2.	Dissertation	22PE7282	Dissertation Viva-Voce	0	0	28	14
			Total Credits	0	0	40	20

Open Elective

1. Business Analytics (Offered by **CSE** Department)
2. Industrial Safety (Offered by **Chemical Engineering** Department)
3. Operations Research (Offered by **Mechanical Engineering** Department)
4. Cost Management of Engineering Projects (Offered by **Civil Engineering** Department)
5. Composite Materials (Offered by **Metallurgical Engineering** Department)
6. Photovoltaic Systems (Offered by **EEE** Department)

Audit Course I & II

1. English for Research Paper Writing.
2. Disaster Management.
3. Sanskrit for Technical Knowledge.
4. Value Education.
5. Constitution of India.
6. Pedagogy Studies.
7. Stress Management by Yoga.
8. Personality Development through Life Enlightenment Skills.