

Maulana Azad National Institute of Technology, Bhopal – 462003
Electrical Engineering Department

M Tech in Electrical Drives

SCHEME OF STUDY (January 2021)

First Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 101	Evolutionary Techniques (Computational Course)	3	-	-	3
ED 102	Power Electronics Convertors	3	-	-	3
ED 103	Advanced Electrical Drives	3	-	-	3
ED 104	Modeling & Analysis of Electrical Machines	3	-	-	3
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
ED 105	Digital Controller Lab.	-	-	2	1
ED 106	Seminar-1	-	-	2	1
ED 107	Communications Skill NPTEL/MOOC/ Humanities Deptt.	2	-	-	2
Total Hours: 24 Total Credits: 22		Total Semester Credits			22

Second Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 201	Advanced Power Electronics	3	-	-	3
ED 202	Advanced Control System	3	-	-	3
ED 203	DSP Application to Drives	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
ED 204	Machines & Drives Lab.	-	-	2	1
ED 205	Research Methodology, Technical Report and Paper Writing	-	2	-	2
ED 206	Seminar-2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

Third Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 301	Dissertation Phase-I	-	-	32	16
Total Hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 401	Dissertation Phase-II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

List of Electives A		List of Electives B	
ED501	Traction Drives	PS101	Soft Computing Techniques in Power System
ED502	FACTS	PS102	Advanced Power System Analysis
ED503	Non-conventional Energy Sources	PS103	Advanced Power System Protection
ED504	Special Machines	PS104	Reactive Power Compensation
ED505	Micro-Grid Technologies	List of Electives C	
ED506	Adaptive and Robust Control	EN202	Solid Waste Management
ED507	EHV AC & DC Transmission	GE203	Reinforced Soil Structures
ED508	Hybrid Electric Vehicle	GI201	Basic Concepts of GIS
ED509	Power Quality Control of Electrical Drives	HY201	Characteristics of Hydraulic Machines
ED510	Electronics Instrumentation	ST203	Theory of Plates & Shells
ED511	Photovoltaic Engineering	TR201	Highway Construction & Maintenance
ED512	Solid State Controllers for Electrical Drives	WR203	Ground Water Engineering
ED513	AC Controllers	ID203	Advanced Product Design
ED514	Multi pulse and Multi phase convertors	IT202	Failure Analysis & Prevention
ED515	Multilevel Convertors and its Control	AM202	Advanced Composite Materials
ED516	Machine learning and Deep learning for smart grids	SV203	Theory of Vibration II
ED517	Power Filter Technologies	TH202	Thermal Environmental Engineering
		VE202	VLSI Technology
		DC203	Digital Image Processing
		AC203	Optimization Techniques
		AI202	Deep Learning
		CN203	Graph Theory & Network Algorithm
		IS201	Applied Cryptography
		MS202	Deformation Behavior of Materials
		CH203	Industrial Safety & Hazard

			Management
		HS1204	Housing Finance
		UP1203	Infrastructure Planning
		NT201	Nano Structures Characterization Techniques
		BI203	Optimization Techniques & Graph
		CSB201	Mathematical Modeling & Simulation of Biological Systems
		RE202	Solar Energy Systems
		ES202	Energy Management in Buildings
		BIO201	Cheminformatics & Drug Designing

Group A: Program Electives.

Group B: Departmental Electives.

Group C: Open Electives.

{It may also be opted as NPTEL Course after approval from Chairman Senate}