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

M Tech in Electrical Drives

SCHEME OF STUDY (wef July 2021)

First Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 511	Evolutionary Techniques (Computational Course)	3	-	-	3
ED 512	Power Electronics Convertors	3	-	-	3
ED 513	Advanced Electrical Drives	3	-	-	3
ED 514	Modeling & Analysis of Electrical Machines	3	-	-	3
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
HUM 511	Communication Skills	2	-	-	2
ED 515	Digital Controller Lab.	-	-	2	1
ED 516	Seminar-1	-	-	2	1
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 521	Advanced Power Electronics	3	-	-	3
ED 522	Advanced Control System	3	-	-	3
ED 523	DSP Application to Drives	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
MTH 524	Research Methodology	1	1	-	2
ED 525	Machines & Drives Lab.	-	-	2	1
ED 526	Seminar-2	-	-	2	1
Total Hours: 24 Total Credits: 44		Total Semester Credits			22

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Third Semester:

Course No.	Subjects	Scheme of studies period per week			Total Credits
		L	T	P	
ED 611	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 621	Dissertation Phase - II	-	-	40	20
Total Hours: 40 Total Credits: 80		Total Semester Credits			20

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List of Program Electives A		List of Open Electives C	
ED 551	Traction Drives	ARP - 581	Introduction to Urban Planning
ED 552	FACTS	BSE – 581	Bioprocess Engineering
ED 553	Non-conventional Energy Sources	BSE – 582	Biophysics Tools and Techniques
ED 554	Special Machines	CHE – 581	Analytical Techniques
ED 555	Micro-Grid Technologies	CHE – 582	Green Technology & Processes
ED 556	Adaptive and Robust Control	CE – 581	Solid Waste Management
ED 557	EHV AC & DC Transmission	CE – 582	Basic Concept of GIS
ED 558	Hybrid Electric Vehicle	CE – 583	Road Safety
ED 559	Power Quality Control of Electrical Drives	CSE – 581	Machine Learning
ED 560	Electronics Instrumentation	CSE – 582	Advanced Data Structures and Algorithms
ED 561	Photovoltaic Engineering	PHY – 581	Nanotechnology and Nanoscience
ED 562	Solid State Controllers for Electrical Drives	ECE – 581	Introduction to Fuzzy Logic
ED 563	AC Controllers	ECE – 582	Neural Networks and its Applications
ED 564	Multi pulse and Multi phase convertors	EC - 581	Energy Resource Technologies
ED 565	Multilevel Convertors and its Control	HUM – 581	Intellectual Property Rights for Engineers
ED 566	Machine learning and Deep learning for smart grids	HUM – 582	Applied Psychology: Human Centered Design and Engineering
ED 567	Power Filter Technologies	MTH – 581	Advanced Operations Research
		MTH – 582	Computing Technologies
List of Departmental Electives B		ME – 581	Value Engineering
PS 511	Soft Computing Techniques in Power System	ME – 582	Design Thinking
PS 512	Advanced Power System Analysis	ME - 583	Mechatronics and NDT in Engineering
PS 513	Advanced Power System Protection	MME – 581	Advanced Instrumentation Methods for Material Analysis
PS 514	Reactive Power Compensation	MME – 582	Smart Materials and their Application
		MBA-581	Engineering Startup Management