Maulana Azad National Institute of Technology, Bhopal - 462003

SCHEME FOR B.TECH. (Electrical Engineering)
(2025 Admitted Batch Onwards)

First Year Credits (Cumulative) 41

2nd Year -THIRD SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MC MT 2101	Applied Numerical Methods (Mathematics subject - 1)	3	1	-	4
ME 2201	Fundamentals of Design Methods	2	1	-	3
EE 2101	EM Fields and Materials	3	-	-	3
EE 2102	Electrical Machines-I	3	-	-	3
EE 2103	Network Analysis	3	-	-	3
EE 2104	Measurement and Instrumentation	3	-	-	3
EE 2105	Electrical Machines -I Lab	-	-	2	1
EE 2106	Network Lab	-	-	2	1
EE 2107	Measurement and Instrumentation Lab	-	-	2	1
EE 2108	Professional Practices	-	2	-	2
	Minor-1	3*	-	-	3*
Total Hours =27		**17**	**4**	**6**	**24**
Total Credits (Cumulative)					**65**
Additional Subject: - National Cadet Corps (NCC)					
NC 2151	National Cadet Corps III	**1**	**5**	**1**	**7**
Total Credits (Cumulative)					**11**

FOURTH SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HS 2101	Fundamentals of Entrepreneurship	3	-	-	3
EE 2201	Power System	3	-	-	4
EE 2202	Electrical Machines -II	3	1	-	3
EE 2203	Electronic Devices & Systems	3	-	-	3
EE 2204	Generation of Electrical Power	3	-	-	3
EE 2205	Signals and Systems	3	-	-	3
EE 2206	Electrical Machines -II Lab	-	-	2	1
EE 2207	Electronic Devices & Systems Lab	-	-	2	1
EE 2208	Project Based Lab-1	-	-	2	1
	Minor-2	3*	-	-	3*
Total Hours =25		**18**	**1**	**6**	**22**
Total Credits (Cumulative)					**87**
Additional Subject: - National Cadet Corps (NCC)					
NC 2251	National Cadet Corps IV	**2**	**-**	**1**	**3**
Total Credits (Cumulative)					**14**

3rd Year-FIFTH SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
CS 3101	Data Structures and Algorithm	3	1	-	4
EE 3101	Power System Protection	3	1	-	4
EE 3102	Power Electronics	3	-	-	3
EE 3103	Linear Control system	3	-	-	3
EE 3104	Utilization of Electrical Energy	3	-	-	3
EE 3151-3156	Department Elective-1 (A)	3	-	-	3
EE 3105	Power System Protection Lab	-	-	2	1
EE 3106	Power Electronics Lab	-	-	2	1
EE 3107	Linear Control System Lab	-	-	2	1
EE 3108	Internship/Industrial Training	-	-	2	1
EE 3109	Skill based learning	-	-	2*	1*
	Minor-3	3*	-	-	3*
Total Hours =28		**18**	**2**	**8**	**24**
Total Credits (Cumulative)					**111**
Additional Subject: - National Cadet Corps (NCC)					
NC 3151	National Cadet Corps V	**1**	**5**	**1**	**7**
Total Credits (Cumulative)					**21**
*Optional	[NPTEL/SWAYAM Courses only]	**3**	**-**	**-**	**3**

SIXTH SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ME 3201	Engineering Management	3	-	-	3
EE 3201	Electrical Drives	3	1	-	4
EE 3202	Microprocessor and Microcontrollers	3	-	-	3
EE 3203	Modern Control System	3	-	-	3
EE 3251-3256	Department Elective-2 (A)	3	-	-	3
EE 3204	Electrical Drives Lab	-	-	2	1
EE 3205	Microprocessor and Microcontroller Lab	-	-	2	1
EE 3206	Modern Control System Lab	-	-	2	1
EE 3207	Mini Project	-	-	2	1
	Minor-4	3*	-	-	3*
Total Hours =24		**15**	**1**	**8**	**20**
Total Credits (Cumulative)					**131**
Additional Subject: - National Cadet Corps (NCC)					
NC 3251	National Cadet Corps VI	**2**	**-**	**1**	**3**
Total Credits (Cumulative)					**24**

4th Year-SEVENTH SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HS 4101	Engineering Economics and IPR	3	-	-	3
EE 4101	Power System Stability and Control	3	-	-	3
EE 4151-4155	Department Elective-3 (A)	3	-	-	3
EE 4151-4155	Department Elective-4 (A)	3	-	-	3
	Open Elective (C)	3	-	-	3
EE 4102	Power System Stability and Control Lab	-	-	2	1
EE 4103	Project-1	-	-	4	2
EE 4104	Industrial/ Field Training	-	-	2	1
	Minor-5	3*	-	-	3*
Total Hours =23		**15**	**-**	**8**	**19**
Total Credits (Cumulative)					**150**

EIGHTH SEMESTER:

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
EE 4251-4255	Department Elective-5 (NPTEL/SWAYAM Courses only)	3	-	-	3
EE 4251-4255	Department Elective-6 (NPTEL/SWAYAM Courses only)	3	-	-	3
EE 4201	Internship/ Project 2	-	-	16	8
EE 4202	General Proficiency	-	-	-	1
Total Hours =22		**6**	**-**	**16**	**15**
Total Credits (Cumulative)					**165**

List of Electives

Departmental Electives

Third Year:

Departmental Elective-1 (A)

S. No.	Subject Code	Subject Name
1.	EE 3151	EHV AC & DC
2.	EE 3152	Machine Design
3.	EE 3153	Digital Electronics
4.	EE 3154	AI Techniques
5.	EE 3155	Power Quality
6.	EE 3156	New and Renewable Energy Technologies

Departmental Elective-2 (A)

S. No.	Subject Code	Subject Name
1.	EE 3251	Reactive Power Control
2.	EE 3252	Power System Reliability
3.	EE 3253	IoT in Energy and Industry
4.	EE 3254	System Engineering
5.	EE 3255	Electronic Instrumentation
6.	EE 3256	Smart Grids

Fourth Year:

Department Elective-3 (A)/4(A)

S. No.	Subject Code	Subject Name
1.	EE 4151	DSP and Its Applications
2.	EE 4152	Power System Deregulation
3.	EE 4153	Electrical Machines-III
4.	EE 4154	Energy Management
5.	EE 4155	Power System Restructuring, Economics and Power Markets

Department Elective-5 (A)/6A

S. No.	Subject Code	Subject Name
1.	EE 4251	Solar PV Technology and Applications
2.	EE 4252	Electrical Vehicle Technology
3.	EE 4253	Application of Power Electronics to Power System

4.	EE 4254	Industrial Power System Design and Analysis
5.	EE 4255	Industrial Electronics

Group-C Open Electives (from other departments)

S. No.	Subject Code	Name of Subject
1.	CHE 401	Petroleum Refinery & Petrochemicals
2.	CHE 402	Physico-chemical Separation Processes
3.	CE 453	Remote Sensing and GIS
4.	CE 475	Sustainable Development and Global Environmental Issues
5.	CS 456	Web Search and IR
6.	CS 466	Optimization Techniques
7.	ECE 469	Neural Networks
8.	ECE 468	Fuzzy Logic
9.	EE 401	Fundamentals of Electric Drives
10.	EE 402	Power System Protection
11.	ME 581	Value engineering
12.	ME 583	Mechatronics and NDT in engineering
13.	ARC 401	Built and Unbuilt Heritage
14.	ARC 402	Building Indoor and Outdoor Environment
15.	PHY 401	Modern Engineering Physics
16.	PHY 402	Nuclear Power Engineering
17.	PHY 403	Fundamentals of Nanotechnology and Nanoscience
18.	HUM 401	Applied Social Psychology
19.	HUM 402	Basic Econometrics
20.	RE 401	Renewable Energy