



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003  
B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
Session 2025-26 Onwards

I Semester

Section A,B,C,D & E						Section F, G, H, I & J					
Code	Course Name	Periods per week			Credits	Code	Course Name	Periods per week			Credits
		L	T	P				L	T	P	
MC1101	Mathematics 1	3	1	-	4	MC1101	Mathematics 1	3	1	-	4
PY1102	Physics	3	-	-	3	CY1107	Engineering Chemistry	3	-	-	3
CE1103	Engineering Mechanics	2	1	-	3	EE1108	Basic Electrical & Electronics Engineering	2	1	-	3
ME1104	Engineering Graphics	1	-	-	1	ME1109	Manufacturing Science	1	-	-	1
CS1105	Computer Programming & Problem Solving	2	-	-	2	CY1110	Environmental Science	2	-	-	2
HS1106	Communication Skill	1	-	-	1	BS1111	Biology for Engineers	2	-	-	2
CE1121	Engineering Mechanics Laboratory	-	-	2	1	HS1112	Indian knowledge Systems and Cognitive Well being	-	2	-	2
PY1122	Physics Laboratory	-	-	2	1	EE1125	Basic Electrical & Electronics Engineering Laboratory	-	-	2	1
ME1123	Engineering Graphics Laboratory	-	-	2	1	CY1126	Engineering Chemistry Laboratory	-	-	2	1
CS1124	Computer Programming Laboratory	-	-	2	1	ME1127	Manufacturing Science Laboratory	-	-	2	1
HS1128	Language Laboratory	-	-	2	1	SA1143 or SA1144 or SA1145	NSS or Yoga or Universal Human Values and Professional Ethics	-	-	2	1
SA1141 or SA1142	Life Skill Management or Physical Education	-	-	2	1						
		12	2	12	20			13	4	8	21
NC115*	National Cadet Corps I	1	1	-	2	NC115*	National Cadet Corps I	1	1	-	2

\*Not to be counted in SGPA/ CGPA calculations

*[Handwritten signatures and marks]*

\* Minor Degree of Thust areas ..... of the ..... Department open to other branch of BTech.



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL - 462003  
B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
Session 2025-26 Onwards

II Semester

Section A,B,C,D & E						Section F, G, H, I & J					
Code	Course Name	Periods per week			Credits	Code	Course Name	Periods per week			Credits
		L	T	P				L	T	P	
MC1201	Mathematics II	3	1	-	4	MC1201	Mathematics II	3	1	-	4
CY1207	Engineering Chemistry	3	-	-	3	PY1202	Physics	3	-	-	3
EE1208	Basic Electrical & Electronics Engineering	2	1	-	3	CE1203	Engineering Mechanics	2	1	-	3
ME1209	Manufacturing Science	1	-	-	1	ME1204	Engineering Graphics	1	-	-	1
CY1210	Environmental Science	2	-	-	2	CS1205	Computer Programming & Problem Solving	2	-	-	2
BS1211	Biology for Engineers	2	-	-	2	HS1206	Communication Skill	1	-	-	1
HS1212	Indian knowledge Systems and Cognitive Well being	-	2	-	2	CE1221	Engineering Mechanics Laboratory	-	-	2	1
EE1225	Basic Electrical & Electronics Engineering Laboratory	-	-	2	1	PY1222	Physics Laboratory	-	-	2	1
CY1226	Engineering Chemistry Laboratory	-	-	2	1	ME1223	Engineering Graphics Laboratory	-	-	2	1
ME1227	Manufacturing Science Laboratory	-	-	2	1	CS1224	Computer Programming Laboratory	-	-	2	1
SA1243 or SA1244 or SA1245	NSS or Yoga or Universal Human Values and Professional Ethics	-	-	2	1	HS1228	Language Laboratory	-	-	2	1
		13	4	8	21			12	2	12	20
NC125*	National Cadet Corps I	1	1	-	2	NC125*	National Cadet Corps I	1	1	-	2

\*Not to be counted in SGPA/ CGPA calculations

First Year

Total Credits	Lecture	Tutorial	Practical	Hours
41	25	6	20	41

\* Minor Degree of Thust areas ..... of the ..... Department open to other branch of BTech.



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003  
**B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)**  
Session 2025-26 Onwards

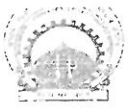
**B. Tech. III Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MCMT2001	Applied Numerical Methods	3	1	-	4
CS2001	Data Structure and Algorithm	2	1	-	3
EE2101	EM Fields and Materials	3	-	-	3
EE2102	Electrical Machines-I	3	-	-	3
EE2103	Network Analysis	3	-	-	3
<b>ENEV2105</b>	<b>Engineering Measurements and safety</b>	3	-	-	3
EE2105	Electrical Machines -I Lab	-	-	2	1
EE2106	Network Lab	-	-	2	1
<b>ENEV2106</b>	<b>Engineering Measurements and safety Lab</b>	-	-	2	1
EE2108	Professional Practice	-	2	-	2
<b>Total Hours = 27</b>		<b>17</b>	<b>4</b>	<b>6</b>	<b>24</b>
<b>Total Credits (Cumulative)</b>					<b>65</b>
<b>Additional Subject: National Cadet Corps (NCC)</b>					
NC 2151	National Cadet Corps III	1	5	1	7
<b>Total Credits (Cumulative)</b>					<b>11</b>
<b>Minor 1*</b>		3	-	-	3

**B. Tech. IV Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HS2001	Fundamental of Entrepreneurship	3	-	-	3
EE2201	Power System	3	-	-	3
EE2202	Electrical Machines -II	3	-	-	3
EE2203	Electronic Devices & Circuits	3	-	-	3
<b>ENEV2203</b>	<b>Battery Design and Management Systems</b>	3	1	-	4
EE2205	Signals and Systems	3	-	-	3
EE2206	Electrical Machines -II Lab	-	-	2	1
<b>ENEV2208</b>	<b>Battery Design and Simulation Lab</b>	-	-	2	1
<b>ENEV2209</b>	<b>Battery Management System Lab</b>	-	-	2	1
<b>Total Hours = 25</b>		<b>18</b>	<b>1</b>	<b>6</b>	<b>22</b>
<b>Total Credits (Cumulative)</b>					<b>87</b>
<b>Additional Subject: National Cadet Corps (NCC)</b>					
NC2251	National Cadet Corps IV	2	-	1	3
<b>Total Credits (Cumulative)</b>					<b>14</b>
<b>Minor 2*</b>		3	-	-	3

*Sanjay*



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003  
B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
Session 2025-26 Onwards

**B. Tech. V Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
EE3101	Power System Protection	3	-	-	3
EE3102	Power Electronics	3	-	-	3
EE3103	Linear Control system	3	-	-	3
EEEEV3104	EV Charger Development and Testing	3	1	-	4
EE3109	Digital Electronics	3	-	-	3
EE3151-3156	Departmental Elective-1 (A)	3	-	-	3
EEEEV3106	Power Controller Lab.			2	1
EE3107	Linear Control System Lab	-	-	2	1
EEEEV3108	EV Charger Development and Testing Lab	-	-	2	1
EE3108	Internship/ Industrial Training	-	-	2	1
Total Hours = 27		18	1	8	23
Total Credits (Cumulative)					110
Additional Subject: National Cadet Corps (NCC)					
NC3151	National Cadet Corps V	1	5	1	7
Total Credits (Cumulative)					21
*Optional	[NPTEL/SWAYAM Courses only]	3	-	-	3
	Minor 3*	3	-	-	3

**B. Tech. VI Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
EE 3201	Electric Drives	3	-	-	3
EEEEV3202	Motor Design and Drive Development	3	1	-	4
EE3202	Microprocessor and Microcontrollers	3	-	-	3
EE3203	Modern Control System	3	-	-	3
EE3251-3257	Department Elective-2 (A)	3	-	-	3
EEEEV3205	Motor Design and Simulation Lab	-	-	2	1
EE3205	Microprocessor and Microcontroller Lab	-	-	2	1
EEEEV3206	Electric Vehicle Test Lab-I	-	-	2	1
EE3207	Mini Project	-	-	2	1
Total Hours = 25		15	1	8	20
Total Credits (Cumulative)					130
Additional Subject: National Cadet Corps (NCC)					
NC3251	National Cadet Corps VI	2	-	1	3
Total Credits (Cumulative)					24
	Minor 4*	3	-	-	3

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

\* Minor Degree of Thust areas ..... of the ..... Department open to other branch of B.Tech.



**B. Tech. VII Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
HS4101	Engineering Economics & IPR	3	-	-	3
ENEV4102	Electric Vehicle Modeling, Simulation and Testing	3	1	-	4
EE4151-4157	Department Elective-3 (A)	3	-	-	3
EE4161-4166	Department Elective-4 (A)	3	-	-	3
	Open Elective-1(C)	3	-	-	3
ENEV4103	EV Simulation Lab	-	-	2	1
ENEV4104	Electric Vehicle Test Lab-II	-	-	2	1
EEEV4105	Project-I	-	-	4	2
Total Hours = 23		15	1	8	20
Total Credits (Cumulative)					150
	Minor 5*	3	-	-	3

**B. Tech. VIII Semester**

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
EE4251-4256	Department Elective-5(A) [NPTEL/SWAYAM Courses only]	3	-	-	3
EE4261-4266	Department Elective-6(A) [NPTEL/SWAYAM Courses only]	3	-	-	3
EEEV4201	Project-II #	-	-	16	8
EE4202	General Proficiency	-	-	-	1
Total Hours = 22		6	-	16	15
Cumulative Credits					165

# It May be earned by startup activity.

\* Minor Degree of These areas ..... of the ..... Department open to other branch of BTech.



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003  
B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
Session 2025-26 Onwards

EE3151 - 3156	Departmental Elective-1 (A)
EE3151	Energy Management
EE3152	EV Fundamentals and Components
EE3153	Soft Computing Techniques
EE3154	AI/ML Techniques
EE3155	Modeling and Simulation of Electrical Systems
EE3156	Energy Storage Technologies

EE3251 - 3257	Department Elective-2 (A)
EE3251	Solar PV Technology and Applications
EE3252	IoT in Energy and Industry
EE3253	Smart Grid Technologies
EE3254	Cyber-physical Electrical Systems
EE3255	Special Electrical Machines
EE3256	Fundamental of FACTS
EE3257	Generation of Electrical Power

EE4151 - 4157	Department Elective-3 (A)
EE4151	DSP and Its Applications
EE4152	Electrical Machines-III
EE4153	Electrical Power Quality
EE4154	Distributed Energy Resources (DER) Integration
EE4155	Vehicle Dynamics and Control
EE4156	High Voltage Power Electronics Systems
EE4157	Utilization of Electrical Power

EE4161 - 4166	Department Elective-4 (A)
EE 4161	Reactive Power Control
EE 4162	EV Charging Infrastructure and Grid Integration
EE 4163	Electronic System Design
EE 4164	Variable Renewable Energy (VRE) Integration in HV Grid
EE 4165	Design and Operation of Modern Electricity Markets
EE4166	Advanced Power Electronics

\* Minor Degree of Trust areas ..... of the ..... Department open to other branch of B.Tech.


MANIT/Acad/2025-26/V2



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL - 462003  
B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
Session 2025-26 Onwards

EE4251 - 4256	Department Elective-5(A) [NPTEL/SWAYAM Courses only]
EE4251	Integrated Energy Systems
EE4252	EV and HEV Technologies
EE4253	Digital Image Processing
EE4254	Industrial Power System Design
EE4255	Power System Restructuring
EE4256	Digital Control of Power Electronics Converters

EE4261 - 4266	Department Elective-6(A) [NPTEL/SWAYAM Courses only]
EE4261	Multilevel Converters
EE4262	Digital System Design
EE4263	Distribution Systems and Micro-grids
EE4264	Bidirectional Converters and Control Techniques
EE4265	Advanced Electrical Drives
EE4266	Optimization Techniques for Electrical Systems

  
\* Minor Degree of Thust areas ..... of the ..... Department open to other branch of B.Tech.



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003  
 MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003  
 B.Tech. Scheme of Study (Branch: Electrical Engineering with E-Mobility)  
 Session 2025-26 Onwards

**Table 1: Different category of course in B. Tech. Scheme of study Branch: Electrical Engineering with E-Mobility**

S. No.	Category	I& II Sem	III Sem	IV Sem	V Sem	VI Sem	VII Sem	VIII Sem	Credit Breakup	Credit (%)
1	Humanities and Social Sciences including Management courses	03	03	00	00	00	03	00	09	5.45
2	Basic Science courses	14	04	00	00	00	00	00	18	10.91
3	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	14	00	03	00	00	00	00	17	10.30
4	Professional core courses	0	12	16	16	13	04	00	61	36.97
5	Departmental Electives Courses relevant to chosen specialization / branch	00	00	00	03	03	06	06	18	10.91
6	Open subjects – Electives from other technical and /or emerging subjects	00	00	00	00	00	03	00	03	1.82
7	Project work, seminar and internship in industry or elsewhere	00	02	00	01	01	02	09	17	10.30
8	Laboratory Courses	10	03	03	03	03	02	00	22	13.34
		41	24	22	23	20	20	15	165	100
NCC		0	7	3	7	3	0	0		

o **Definition-** ST: EE, CSE, ECE, EN, MDS  
 HT: ME, CE, MME, CL

\* CL Should be replaced by respective Branch code

\* Minor Degree of Thust areas ..... of the ..... Department open to other branch of BTech.