



मौलाना आज़ाद राष्ट्रीय प्रौद्योगिकी संस्थान, भोपाल-462003
MAULANA AZAD NATIONAL INSTITUTE OF TECHNOLOGY BHOPAL – 462003
B.Tech. Scheme of Study (Branch: Energy and Electric Vehicles Engineering)
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			1	4	8	21
		1	2	1	20			3			
NC115*	National Cadet Corps I	1	1	-	2	NC115*	National Cadet Corps I	1	1	-	2

*Not to be counted in SGPA/ CGPA calculations





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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	SA1241 or SA1242	Life Skill Management or Physical Education	-	-	2	1
								12	2	12	20
NC125*	National Cadet Corps I	1	1	-	2	NC125*	National Cadet Corps I	1	1	-	2

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First Year

Total Credits	Lecture	Tutorial	Practical	Hours
41	25	6	20	41

(Signatures)

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B. Tech. III Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MCMT2001	Applied Numerical Methods	3	1	-	4
HS2001	Fundamental of Entrepreneurship	3	-	-	3
ENEV2101	Electrical Machines	3	-	-	3
ENEV2102	Alternate Energy Sources	3	-	-	3
ENEV2103	Engineering Measurements and Safety	3	-	-	3
ME2104	Mechanism of Machines	3	-	-	3
ENEV2106	Measurement and Safety Lab	-	-	2	1
ENEV2107	Electrical Machines Lab	-	-	2	1
ENEV2108	Alternate Energy Lab-I	-	-	2	1
ENEV2109	Professional Practices	-	2	-	2
Total Hours = 27		18	3	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
ENEV2102	Alternate Energy Sources	3	-	-	3

B. Tech. IV Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
CS2001	Data Structure and Algorithm	2	1	-	3
ENEV2201	Automobile Engineering	3	-	-	3
EE 2203	Electronic Devices and Circuits	3	-	-	3
CE 2210	Fluid Mechanics	3	-	-	3
ENEV2204	Battery Design and Management Systems	3	1	-	4
ENEV2205	Engineering Thermodynamics	3	-	-	3
CE2211	Fluid Mechanics Lab	-	-	2	1
ENEV2206	Battery Design & Simulation Lab	-	-	2	1
ENEV2207	Battery Management System Lab	-	-	2	1
Total Hours = 25		17	2	6	22
Total Credits (Cumulative)					87
Additional Subject: National Cadet Corps (NCC)					
NC2251	National Cadet Corps IV	2	-	1	3
Total Credits (Cumulative)					14
ENEV2204	Battery Design and Management Systems	3	1	-	4

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Dr. Arun Kumar

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B. Tech. V Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ENEV3101	Engineering Operation Management	3	-	-	3
EE3102	Power Electronics	3	-	-	3
EE3103	Linear Control Systems	3	-	-	3
EEEEV3104	EV Charger Development and Testing	3	1	-	4
ENEV3105	Heat Transfer	3	-	-	3
ENEV3151-59	Departmental Elective-1(A)	3	-	-	3
EEEEV3106	Power Controller Lab	-	-	2	1
ENEV3107	Heat Transfer Lab	-	-	2	1
EEEEV3108	EV Charger Development & Testing Lab	-	-	2	1
ENEV3109	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
EEEEV3104	EV Charger Development and Testing	3	1	-	4

B. Tech. VI Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MCEV3201	Advanced Numerical Method	3	1	-	4
EEEEV3202	Motor Design and Drive Development	3	1	-	4
ENEV3203	Solar Energy	3	-	-	3
ENEV3204	Energy Audit and Conservation	3	-	-	3
ENEV3251 - 3259	Department Elective-2 (A)	3	-	-	3
EEEEV3205	Motor Design and Simulation Lab	-	-	2	1
EEEEV3206	Electric Vehicle Test Lab-I	-	-	2	1
ENEV3207	Alternate Energy Lab-II	-	-	2	1
ENEV3208	Project Based Lab	-	-	2	1
Total Hours = 25		15	2	8	21
Total Credits (Cumulative)					131
Additional Subject: National Cadet Corps (NCC)					
NC3251	National Cadet Corps VI	2	-	1	3
Total Credits (Cumulative)					24
EEEEV3202	Motor Design and Drive Development	3	1	-	4

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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
ENEV4151-4159	Department Elective-3(A)	3	-	-	3
ENEV4161-4169	Department Elective-4(A)	3	-	-	3
ENEV4181-4199	Open Elective-1(C)	3	-	-	3
ENEV4103	EV Simulation Lab	-	-	2	1
ENEV4104	Electric Vehicle Test Lab-II	-	-	2	1
ENEV4105	Project-1	-	-	2	1
Total Hours = 23		15	1	6	19
Total Credits (Cumulative)					150
ENEV4102	Electric Vehicle Modeling, Simulation and Testing	3	1	-	4

B. Tech. VIII Semester

Course Number	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
ENEV4251-4259	Department Elective-5(A) (NPTEL/SWAYAM Courses)	3	-	-	3
ENEV4261-4269	Department Elective-6(A) (NPTEL/SWAYAM Courses)	3	-	-	3
ENEV4201	Project-2	-	-	16	8
ENEV4202	General Proficiency	-	-	-	1
Total Hours = 22		6	-	16	15
Cumulative Credits					165

It May be earned by startup activity.


 Prof. Dr. T. K. Singh, Prof. Dr. R. K. Singh, Prof. Dr. R. K. Singh, Prof. Dr. R. K. Singh

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	Departmental Elective-1 (A)
ENEV3151	Green Hydrogen Technology, Systems, and Applications
ENEV3152	Refrigeration and Air Conditioning
ENEV3153	Wind Energy Systems
MMEV3154	Energy Efficient Materials

	Department Elective-2 (A)
ENEV3251	Electric Power Systems
ENEV3252	Microprocessors and Embedded Systems
ENEV3253	Energy from Waste
ENEV3254	Energy Storage Technologies

	Department Elective-3 (A)
ENEV4151	Alternative Fuels
ENEV4152	Decentralized Energy Systems
ENEV4153	Utilization of Electrical Energy
ENEV4154	Green Buildings

	Department Elective-4 (A)
ENEV4161	Mini Micro Hydro Systems
ENEV4162	Energy and Environment
ENEV4163	Integrated Energy Systems
ENEV4164	Energy and EV Policy

Handwritten signatures and text in Hindi:
रजिस्ट्रार
अतिरिक्त
प्रमुख कार्यालय

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	Department Elective-5(A) [NPTEL/SWAYAM Courses only]
ENEV4251	Nuclear Science & Engineering
ENEV4252	Biomass Conversion and Biorefinery
ENEV4253	Fundamentals of carbon capture, utilization and storage
ENEV4254	Hydrogen Energy: Production, Storage, Transportation and Safety
ENEV4255	Smart Grid: Basics to Advanced Technologies

	Department Elective-6(A) [NPTEL/SWAYAM Courses only]
ENEV4261	Power plant system Engineering
ENEV4262	Air pollution and control
ENEV4263	Advanced Measurement Techniques in Fluid Mechanics and Heat Transfer
ENEV4264	Artificial Intelligence: knowledge Representation and Reasoning

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कविता, रविशंकर, राजेश, आशिष

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