



**SAHRDAYA** **AUTONOMOUS**  
COLLEGE OF ENGINEERING & TECHNOLOGY

A CENTRE OF EXCELLENCE IN SCIENCE & TECHNOLOGY | MANAGED BY IRINJALAKUDA DIOCESAN EDUCATION TRUST

Approved by AICTE & Affiliated to APJ Abdul Kalam Technological University | Accredited by:



# **B. Tech**

## **Curriculum (2024) – Minors-Semester III to VI**

### **Electrical and Electronics Engineering**

#### **Branch Code: EEE**

*(SHR/AC/Auto/Acad. Council/ B. Tech/2/Curri. /Minor/EEE)*

*Recommended by BoS on 12.06.2025*

*Approved by the Academic Council on 05.07.2025*

## **Preface**

The Minor in Engineering program offers B. Tech students a unique opportunity to broaden their academic horizons by pursuing additional specialized knowledge beyond their major discipline. Designed to complement the core curriculum, the Minor program aims to equip students with interdisciplinary skills and a deeper understanding of emerging fields, thereby enhancing their professional competence and versatility in a dynamic engineering landscape.

Eligibility for the Minor program is open to all B. Tech students, with registration mandated during the third semester. To maintain academic rigor and integrity, the program enforces specific registration restrictions, including general disallowance of minors within a student's parent branch and limitations based on syllabus content overlap. However, exceptional cases are considered where significant differences in course nomenclature and syllabus content exist, allowing flexibility for motivated students.

The Minor curriculum requires students to earn a total of 15 credits distributed thoughtfully over four semesters, ensuring progressive knowledge acquisition and skill development. This includes a blend of theory courses, a Mini Project, and the opportunity to undertake a recommended MOOC, providing a well-rounded and flexible learning experience. The assessment and certification of MOOCs will adhere strictly to the norms set by the respective MOOC providers, with successful completion duly recognized upon submission of valid certification.

A dedicated scrutiny committee comprising Senior Faculty Advisors and Heads of Departments oversees the program's adherence to academic guidelines, with final approval vested in the Principal. Students must maintain consistent performance in their Minor courses, as failure in any course results in discontinuation from the Minor program without supplementary examination chances. Credits earned, however, are reflected in the grade card though excluded from CGPA calculations.

This curriculum framework ensures that students pursuing a Minor are not only equipped with additional technical expertise but also encouraged to explore interdisciplinary approaches, fostering innovation and adaptability. Successful completion of the Minor requirements culminates in the award of a B. Tech degree with a Minor, recognizing the student's commitment to academic excellence and broad-based engineering education.

We trust this curriculum will serve as a robust foundation for students to augment their learning journey and prepare for the multifaceted challenges of the engineering profession.

Basket 1: Electric Vehicle										
Slot: R/M/H				Course Type: VAC						
Branches/Programs Applicable: All Programs										
Semester	Course Code	Course Title (Course Name)	Credit Structure				Total Marks		Credits	Hrs./ Week
			L	T	P	R	CIA	ESE		
3	24EEG311	Introduction to Electric Vehicle	4	0	0	0	40	60	4	4
4	24EEG412	Green Transportation	4	0	0	0	40	60	4	4
5	24EEG513	Electric Vehicle Battery Technologies	3	0	0	0	40	60	3	3
6	24EEG604	Mini Project	0	0	0	4	50	50	4	4
Total									15	15
Basket 2: Sustainable Energy Engineering										
Slot: R/M/H				Course Type: VAC						
Branches/Programs Applicable:										
Semester	Course Code	Course Title (Course Name)	Credit Structure				Total Marks		Credits	Hrs./ Week
			L	T	P	R	CIA	ESE		
3	24EEG321	Renewable Energy Systems	4	0	0	0	40	60	4	4
4	24EEG422	Energy Storage Systems	4	0	0	0	40	60	4	4
5	24EEG523	Sustainable Energy Policy and Economics	3	0	0	0	40	60	3	3
6	24EEG604	Mini Project	0	0	0	4	50	50	4	4
Total									15	15

### MOOC Courses

Basket 1: List of MOOC Courses						
Sl. No	Course Code	Course Title (Course Name)	Duration	Offering Platform	Offering Institute	Credits
1	24EEM001	Introduction to Electric and Hybrid Electric Vehicle	12 weeks	NPTEL	Chhattisgarh Swami Vivekanand Technical University	4
2	24EEM002	Electric Vehicles - Part 1	12 weeks	NPTEL	IIT, Delhi	4
3	24EEM003	Vehicle Dynamics and Electric Motor Drives	12 weeks	NPTEL	IIT Delhi	4
4	24EEM004	Electrochemical Energy Storage	12 weeks	NPTEL	IIT Kharagpur	4

Basket 2: List of MOOC Courses						
Sl. No	Course Code	Course Title (Course Name)	Duration	Offering Platform	Offering Institute	Credits
1	24EEM005	Integrated Waste Management for a Smart City	12 weeks	NPTEL	IIT, Kharagpur	4
2	24EEM006	Energy Economics and Policy	12 weeks	NPTEL	IIT, Mandi	4
3	24EEM007	Sustainable Energy Technology	12 weeks	NPTEL	IIT, Hyderabad	4
4	24EEM008	Energy Resources, Economics, and Sustainability	12 weeks	NPTEL	IIT Roorkee	4