DECEMBER 2024 - MARCH 2025 VOL 10| ISSUE 23

NEWSLETTER 'ELECTIC'

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

INTRODUCTION

A Legacy of Excellence Since 1999
Established in 1999, the Department of Electrical and Electronics Engineering (EEE) began its journey with an undergraduate intake of 60 students. Over the years, the department has witnessed remarkable growth — expanding its intake to 120 in the academic year 2004–2005 and further to 180 in 2011. Recognizing the demand for advanced studies, the department also introduced the M.Tech in Power Electronics and Drives in 2011, with an approved intake of 18 students.

Academic Programmes
- Undergraduate: B.Tech in Electrical and Electronics Engineering
- Postgraduate: M.Tech in Power Electronics and Drives

Both programmes are designed with industry-aligned syllabi, ensuring our graduates are well-prepared for the evolving demands of the engineering sector.

Training, Consultancy, and Industry Collaboration
The department is committed to professional and need-based continuing education, regularly conducting training programmes in frontier areas of Electrical Engineering. Alongside, consultancy and technical services are extended to industries, fostering strong academia–industry relationships.

Research and Innovation
Our faculty members actively contribute to global research, publishing in prestigious journals such as IEEE, Elsevier, and Springer. The department stands as a unique centre for the promotion of excellence in Electrical Engineering, driven by innovation and dedication.

Cutting-edge Learning and Skills
Recognizing the multi-disciplinary nature of EEE, we equip students with knowledge and skills in:
- Artificial Neural Networks (ANN) & Fuzzy Logic
- Finite Element Analysis (FEA)
- Computer-Aided Design (CAD) of Electrical Machines
- Microcontrollers & Digital Signal Processing (DSP)
- Power Generation, Transmission & Distribution
- Power System Operation & Control
- Electrical Machines & Drives

- Infrastructure & Laboratories: The department is equipped with state-of-the-art laboratories such as High Voltage Lab, Electrical Machines Lab, Power Electronics Lab, Control Systems Lab, Renewable Energy Lab, and an advanced Research & Development Lab to facilitate both academic and industrial projects.
- Industry Collaboration: Maintains strong links with leading industries and organizations through MoUs, enabling internships, industrial visits, and collaborative research projects.
- Research & Innovation: Faculty and students actively engage in funded research projects from agencies such as DST, AICTE, and DRDO, resulting in patents, prototypes, and innovative solutions for real-world problems.
- Workshops & Technical Events: Regularly organizes workshops, seminars, hackathons, and international conferences to enhance knowledge sharing and keep students updated with emerging technologies.
- Placements & Career Support: Consistently achieves high placement records with top recruiters in core and IT sectors, providing pre-placement training and career guidance.
- Renewable & Sustainable Energy Focus: Emphasis on research in solar, wind, and hybrid renewable energy systems to promote sustainable engineering practices.
- Student Associations & Clubs: The EEE Students' Association, IEEE Student Chapter, and Renewable Energy Club actively engage students in co-curricular and extra-curricular activities.
- Alumni Network: A strong and active alumni network spread across the globe in reputed organizations and higher education institutions, supporting mentorship and career growth for current students.
- Skill Development: Offers certification courses in MATLAB, PLC & SCADA, IoT applications, Embedded Systems, and Artificial Intelligence in collaboration with industry partners.

VISION OF THE INSTITUTE

To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society.

MISSION OF THE INSTITUTE

M1: Quality Education: To provide comprehensive academic system that amalgamates the cutting-edge technologies with best practices.
M2: Research and Innovation: To foster value-based research and innovation in collaboration with industries and institutions globally for creating intellectuals with new avenues.
M3: Employability and Entrepreneurship: To inculcate the employability and entrepreneurial skills through value and skill-based training.
M4: Ethical Values: To instil deep sense of human values by blending societal righteousness with academic professionalism for the growth of society.

VISION OF THE DEPARTMENT

" To promote proficiency in the field of Electrical and Electronics Engineering by creating a stimulating environment for research, innovation and entrepreneurship"

MISSION OF THE DEPARTMENT

M1: Quality Education: To impart high quality technical education with problem solving capabilities by innovative pedagogy in emerging technologies.
M2: Industrial and Societal Needs: To cater the dynamic needs of the industry and society by strengthening industry-institute interaction.
M3: Research and Innovation: To nurture the spirit of research attitude by carrying out innovative technologies pragmatically.
M4: Placement and Entrepreneurship: To inculcate the professionalism in career by advancing synergetic skills to compete in the corporate world.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOS)

PEO 1 Professional Knowledge: To possess strong educational foundation in Electrical and Electronics Engineering to attain successful career with professional responsibility

PEO 2 Innovative Skills: To enrich the skills to design and develop innovative solutions for engineering problems in a multidisciplinary environment

PEO 3 Ethics: To actively embrace leadership qualities for achieving professional skill with ethical values

PEO 4 Adaptability: To enhance intellectual competency along with technical skills by adapting to the current trends through eternal learning.

PROGRAMME SPECIFIC OUTCOMES (PSOS)

PSO1: Core Proficiency: Utilize the engineering core knowledge to identify, formulate, design, and investigate the complex engineering problems of Power Electronics, Electrical Machines and Power Systems.

PSO2: Cutting Edge Technologies: Explore the new cutting-edge technologies in the field of Electric Vehicle, Automation, Artificial Intelligence, Robotics and Renewable Energy to compete in global market

PSO3: Design and Evolution: Capability to comprehend the technological advancements with the usage of modern design tools for analysing and designing systems to confront the rapid pace of industrial innovations.

PROGRAMME OUTCOMES (POS)

PO1: Engineering knowledge: Applying knowledge of mathematics, science, engineering fundamentals, and specialization to the solution of engineering problems.

PO2: Problem Analysis: Identifying, formulating, and solving complex engineering problems by applying engineering, scientific, and technology principles.

PO3: Design/Development of Solutions: Designing solutions to complex engineering problems and creating systems, components, or processes.

PO4: Conduct Investigations of Complex Problems: Using research-based methods to conduct investigations of complex problems, including designing experiments, analyzing data, and interpreting results.

PO5: Engineering Tool Usage: Using relevant engineering tools, software, and technologies, including the use of modelling, simulation, and data analytics.

PO6: The Engineer and The World: Understanding the impact of engineering solutions on society and the environment, including the principles of sustainable development.

PO7: Ethics: Understanding the principles of engineering ethics and applying these principles in real-world situations.

PO8: Individual and Collaborative Team work: Collaborating effectively with peers, stakeholders, and experts to accomplish shared goals.

PO9: Communication: Communicating effectively both orally and in writing with experts and the general public.

PO10: Project Management and Finance: Planning, managing, and delivering complex engineering projects within defined timeframes and budgets.

PO11: Life-Long Learning: Recognizing the importance of lifelong learning and engaging in continuous professional development.

IEEE ACTIVITIES

First year students from EEE department participated in circuit debugging event organized by IEEE committee of our college on 03.02.2025

ISTE ACTVITIES

First year students from EEE department has actively engaged on " Connexions" event organized by ISTE committee of our college on 14.09.2024

First year students from EEE department has actively engaged on " Connexions" event organized by ISTE committee of our college on 14.09.2024

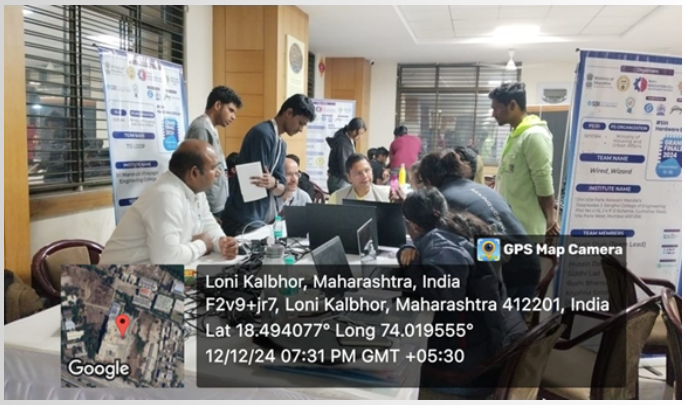
IEI ACTVITIES

Third Year Students from EEE department has Effectively attended on " Hands on training on AutoCAD Electrical " organized by IEI committee of our college on 08.02.2025

CLUB ACTVITIES

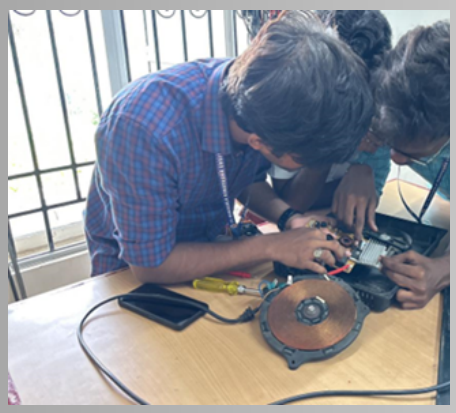
Students from EEE department has Eagerly Participated on " Entrepreneurship and Startups in the Electrical Engineering Industry Report" organized by RES club of our college on 12.09.2024

SMART INDIA HACKATHON 2024 FINALS



A team of students guided by Mr. Parthiban B (EEE) participated in the **Smart India Hackathon 2024 finals** held at MIT University, Pune, for five days. Their project, “AI-Powered Acoustic Wave Monitoring for Rail Defect Detection” (Problem ID: SIH1584, Theme: Transportation & Logistics, Category: Hardware), showcased innovative solutions for rail safety. The team comprised Ruthuresh A, Karthikeyan R, Mukeshkumar R, Sanjaiganesh S, Kamini S, and Aisva Malar A.

Third-year EEE students Arokia Anandu Prasanthu A and Lalith Kumar S, as part of Team “Spark Mind”, participated in the Smart India Hackathon 2024 – Hardware Edition under the theme Smart Automation. Guided by Mr. K. Jambulingam, they developed a low-cost, portable photometric device to detect chlorine, silver ions, and E. coli in water (Problem ID: 1569). Their project, “Personalized Testing Kits for Testing Residual Chlorine at Delivery Points,” was recognized for its innovation and real-world applicability. The team successfully reached the Grand Finale, held from 11th to 15th December 2024 at the assigned Nodal Center.



ENGINEERING CLINIC ACTIVITY

A hands-on training session on induction heating was conducted on 16.09.2023 as part of the Engineering Clinic activity, providing students with practical exposure to induction heating principles and applications.

STUDENTS ACTIVITY

A seminar on “Artificial Intelligence in Electrical Engineering” was conducted on 08.02.2025 for III Year A Section students. The session was delivered by R. Jothikrishnan, a final-year student, who discussed the applications of AI in areas ranging from power system management to electronics manufacturing.

JUBILATION FUNCTION

As part of the Jubilation '25 celebrations, the Department of Electrical and Electronics Engineering (EEE) at Sri Manakula Vinayagar Engineering College proudly honored its students who secured placement offers and launched their professional journey. The ceremony celebrated these future engineers for cracking top job offers through campus recruitment, marking a major milestone in their careers. The event reflected the department’s strong commitment to student success, career readiness, and excellence beyond the classroom.

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