

# Electrical & Electronics Engineering Department-Newsletter

Volume 2025 Issue 1  
(January February 2025)

## About GMRIT

[www.gmr.it.edu.in](http://www.gmr.it.edu.in)

GMR Institute of Technology is situated in Rajam, a small industrial town approximately 100 kilometers away from the 'city of destiny,' Visakhapatnam in Andhra Pradesh. The institute's campus spans over a sprawling 117 acres of land. The lush, sylvan, and idyllic surroundings in the heart of the agricultural belt provide an ideal setting for higher studies. The institute is affiliated with Jawaharlal Nehru Technological University Gurajada, and approved by AICTE New Delhi. It has been accredited with NAAC - 'A' grade by UGC. The Department of EEE has been accredited by the National Board of Accreditation (NBA) in Tier-I for the academic years 2022-23 to 2024-25.

GMRIT offers 4-year B.Tech. programs in eight core disciplines and 2-year M. Tech programs in five specializations. The institution has received a grant extension of autonomous status for a period of ten years, starting from 2018-19 to 2027-2028.

## About EEE Department

### Vision

To be a preferred department of learning for students and teachers alike, with a commitment towards Academics & Research, serving the students in an atmosphere of innovation, critical thinking and making them Industry ready.

### Mission

- M1. To provide adaptable education in a collaborative and innovative environment in skilling the graduates to solve real world problems in the field of Electrical & Electronics Engineering
- M2. To prepare the students as critical thinking professionals with multidisciplinary research orientation and Innovation
- M3. To instill ethical values and nurture the graduates who will be able to contribute to the society

## Overview

The Department of Electrical & Electronics Engineering was established in 1997. The department offers four-year B.Tech and two-year M.Tech programs. It has a rich tradition and well-qualified faculty, along with widely recognized laboratories. The department aims to provide a strong foundation in Electrical and Electronics Engineering fundamentals, emphasizing mathematical and scientific principles. Additionally, the course focuses on developing skills in the application of design processes for innovative engineering solutions. The annual intake of students in this department is 120.

## Facilities & Infrastructure

- Sophisticated Laboratories include:
  - Electrical Machines Lab
  - Electrical Engineering Lab
  - Electrical Measurements Lab
  - Power Systems Lab
  - Power Electronics Lab
  - Electrical Systems Simulation
  - Power Electronics and Drives Lab (PG)
- A well-stocked department library
- To enable the students and provide opportunities, to understand in the industrial eco-systems and work on latest technological developments in the industries, MoUs are signed with various industrial organizations
- Committed and dedicated faculty

## Major Courses Offered

- Electrical Machines
- Electrical Circuit Analysis
- Measurements and Instrumentation
- Semiconductor Devices & Circuits
- Linear and Digital integrated circuits
- Electromagnetic Field Theory
- Control Systems
- Power Generation, Transmission and Distribution
- Power System Protection
- Green Energy Technologies
- Power Electronics
- Electrical Vehicle Technologies
- Signals and Systems Theory
- Electrical Drives
- Power System Analysis and Control
- Engineering Economics and Project management

## Research and Academic Achievements

### Papers Published in Journals

- H. Pattimi, K.N.S. Batta, **P.P. Kumar**, R.S.S. Nuvvula, B. Khan, A. Verma, and R.K. Saket, "Fast Coding Unit Depth Identification Using Texture and Multiple Deep Learning Architectures," IEEE Trans. Circuits Syst. I: Regul. Pap., vol. 72, no. 3, pp. 1372–1382, Mar. 2025. (SCIE & Scopus indexed, Q1, Impact Factor 5.2). DOI: 10.1109/TCSI.2025.3526636

- G. Ravindiran, **K. Karthick**, S. Rajamanickam, D. Datta, B. Das, G. Shyamala, G. Hayder, and A. Maria, "Ensemble Stacking of Machine Learning Models for Air Quality Prediction for Hyderabad City in India," iScience, vol. 28, no. 2, Art. no. 111894, Feb. 2025. (SCIE & Scopus indexed, Q1, Impact Factor 4.6). DOI: 10.1016/j.isci.2025.111894
- K.R. Kumar, **R. Rama Krishna**, D. V. Padma, S.V.A.R. Sastry, and R. Hemalatha, "Data-driven Approaches to Sustainable Phase Change Material Selection in Latent Heat Storage Systems," Int. J. Energy Water Res., Feb. 2025. (WoS & Scopus indexed, Q3, Impact Factor 2.0). DOI: 10.1007/s42108-025-00347-x
- **Ravi Kumar Jalli**, L. Priyadarshini, P.K. Dash, and R. Bisoi, "Identification of Multiple Power Quality Disturbances in Hybrid Microgrid Using Deep Stacked Auto-Encoder Based Bi-Directional LSTM Classifier," e-Prime: Advances in Electrical Engineering, Electronics and Energy, vol. 11, Art. no. 100919, Feb. 2025. (WoS & Scopus indexed, Q1, Impact Factor 4.4). DOI: 10.1016/j.prime.2025.100919

### Professional Development Activities by Faculty Members

- Dr. L. V. Suresh attended an FDP titled "Non-Invasive Fault Diagnosis of Propulsion Motors Used in Electric Vehicles," organized by the

Department of Electrical Engineering, NIT Warangal, from 17 to 21 February 2025.

- Dr. L. V. Suresh attended an FDP titled "Microplastic Pollution Sources, Analysis, and Remediation," organized by Dr. B. R. Ambedkar National Institute of Technology, Jalandhar, from 3 to 7 February 2025.

### Guest Lectures / Technical Contributions to the External World by Faculty Members

- Dr. S. P. Mishra delivered a guest lecture on "AI Applications in Renewable Energy" at the Gandhi Institute for Education & Technology, Baniatangi, Bhubaneswar, on 21 and 22 February 2025.

### Student-Centric Events and Engagement

- "Spark Your Mind" is an event organized by student coordinators A. Gayathri, A. Ganesh Kumar, T. M. Srinivas Rao, and V. Harika on 27.01.2025.

It features two rounds of multiple-choice questions based on electrical and electronics fundamentals, with 33 participants competing in teams of two.

**Round 1** (elimination round): Easier level; top performers advance to Round 2.

**Round 2:** More challenging level.

The two-hour event concludes with winners and runners-up selected based on performance and presentation. Out of 17 teams, the following were awarded:



**Winners:**

S. Sirisha (23341A02B3)

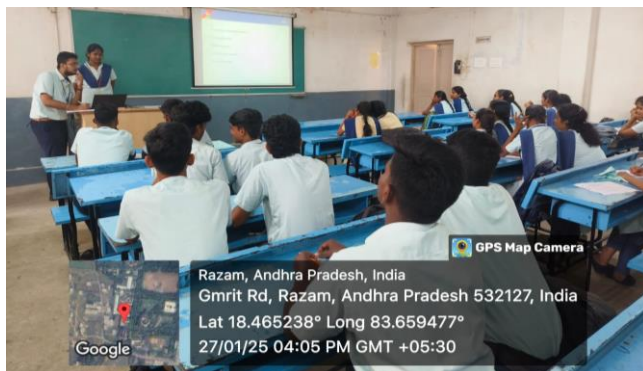
T. Poojitha (23341A02B7)

**Runners-up:**

B. Naram Naidu (24345A0209)

P. Syam (24345A0208)

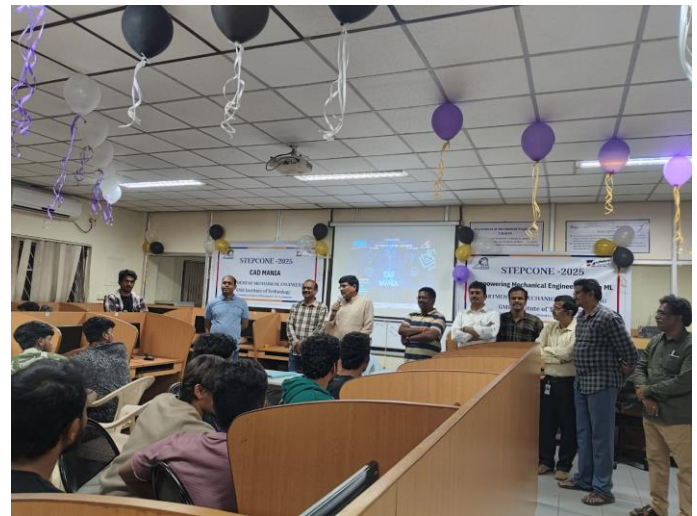
- STPECONE 2025 Inaugural Ceremony was held on February 27th & 28th, 2025. GMRIT is proud to announce the 17th edition of STEPONE, a premier technical and cultural fest that celebrates innovation and collaboration among engineering students. Themed 'Unleash the Unreal Beyond AI,' the event promises motivational talks, cutting-edge workshops, competitive events, and thrilling flagship activities. STEPONE 2025 aims to inspire young minds to transform ideas into impactful solutions, driving societal progress and shaping the nation's future.







### ➤ STEPcone 2025 Overnight Events



- In the Stepcone 2025 – Drone Navigation Challenge event, held by the EEE Department at GMRIT – ECE Ground on February 27, 2025. Team Gravity won the competition. The team members were G. Harsha Vardhan, A. Kartheek, Ch. Bhavani, E. Lalitha, and G. Meghana. The runner-up was Team Aero Smashers, consisting of S. Mohini, T. Vasu, V. Mokshayini, V. Jyoshna, and S. Ramya. The first round of the competition involved navigating drones through predefined shapes such as circles, squares, and rhombuses, with penalties for grounding the drone or crossing boundaries.





The second round required navigation through more complex shapes like cylinders, cubes, and cuboids, including managing payloads, with similar penalties for errors.

The third and final round involved advanced navigation tasks with different orientations and multiple goals, with a maximum possible score of 75 points, with penalties for grounding the drone or crossing boundaries.



## Editorial Borad Members

### Chief Editors

Dr.Ramana Pilla

Dr.K.Karthick

### Section Editors (Faculty)

#### Research and Academic Achievements

Dr G Indira Kishore

#### Guest Lecture / Expert talk / Events Organized

Dr. Rajesh Kumar Patnaik

Dr L V Suresh Kumar

#### Guest Lectures / Technical Contributions to the External World by Faculty Members

Dr. Hemanth Kumar Chappa

### Section Editors (Students)

#### Student-Centric Events and Engagement

Budumuru Gireesha (22341A0225)

Turubilli Kiran (23345A0206)

Gandreti Sai Varun (22341A0244)

Guddala Harshitha (22341A0252)

Kondaka Harika (22341A0266)

Vangapandu Hari (22341A02C3)

Koneti Vinay Kumar (22341A0267)

Lenka Sai Nirupama (22341A0273)