



About GMRIT

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)
- An efficient administrative office that operates as per ISO-9001 standards
- 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 Circuits
- 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

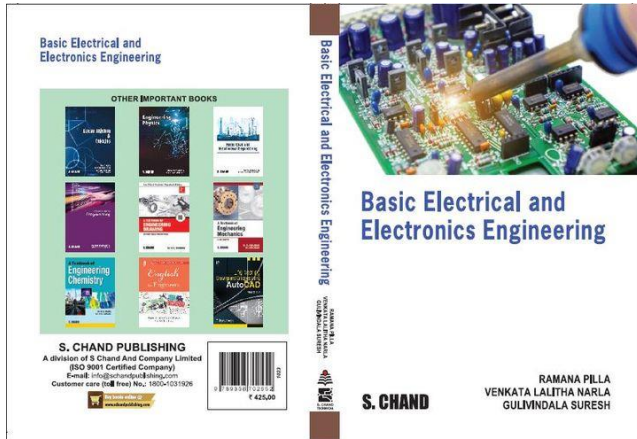
Papers Published in Journals

- K. Karthick, S. A. Agnes, S. S. Kumar, S. Alfarhood and M. Safran, "Identification of High Energy Gamma Particles from the Cherenkov Gamma Telescope Data Using a Deep Learning Approach," in IEEE Access, vol. 12, pp. 16741-16752, 2024, (Indexed by SCIE/SCOPUS, IF: 3.5, Q1, [https://doi: 10.1109/ACCESS.2024.3359533](https://doi.org/10.1109/ACCESS.2024.3359533))

- Chacko, P.J., Krishna, S.M., Nuvvula, R.S.S., Albert Alexander Stonier, Polamarasetty P. Kumar, Jyotsna Ogale & Baseem Khan, "Estimation of state of charge considering impact of vibrations on traction battery pack1", *Electr Eng* (2024).(Indexed by SCIE/SCOPUS, IF:1.8, Q2, <https://doi.org/10.1007/s00202-023-02106-9>)
- Tummala.S.L.V. Ayyarao, Nishanth Polumahanthi, Baseem Khan, "An accurate parameter estimation of PEM fuel cell using war strategy optimization", *Energy*, Vol. 290,2024,130235,ISSN 0360-5442, (Indexed by SCIE/SCOPUS, IF:9, Q1, <https://doi.org/10.1016/j.energy.2024.130235>)
- Mangaraj M., Pilla R., Kumar P.P., Nuvvula R.S.S., Verma A., Ali A., Khan B, "Design and dynamic analysis of superconducting magnetic energy storage-based voltage source active power filter using deep Q-learning". *Electr Eng* (2024). (Indexed by SCIE/SCOPUS, IF:1.8, Q2, <https://doi.org/10.1007/s00202-023-02062-4>)
- Ayyarao T.S.L.V., Nuvvula R.S.S., Kumar P.P., Colak I., Koten H., Ali A., Khan B, "Extended state observer-based primary load frequency controller for power systems with ultra-high wind-energy penetration", *Wind Engineering*, 2024,0(0), (Indexed by SCOPUS, IF:1.5, Q3, doi:10.1177/0309524X231221242)
- Tummala, A.S.L.V., Kishore, G.I., Tarun, V. et al. Multi-input Converters for Electric Vehicles, "A Comprehensive Review of Topologies, Control Strategies, and Future Research Trends", *J. Inst. Eng. India Ser. B* (2023). (Indexed by SCOPUS, IF:0.237, Q3, <https://doi.org/10.1007/s40031-023-00971-3>)
- Kanagarathinam, K. ., Ponkumar, G. ., & Sendil Kumar, S. . (2023), "Performance Analysis of Autoregressive Integrated Moving Average (ARIMA) and 'earlyR' Statistical Models for Predicting Epidemic Outbreaks: A Case Study on COVID-19 Data in India", *Trends in Sciences*, 21(1), 7246. (Indexed by SCOPUS, IF:0.74, Q3, <https://doi.org/10.48048/tis.2024.7246>)
- S. Akila Agnes, A. Arun Solomon, K. Karthick, "Wavelet U-Net++ for accurate lung nodule segmentation in CT scans: Improving early detection and diagnosis of lung cancer", *Biomedical Signal Processing and Control*, Vol. 87, Part A, 2024, 105509, ISSN 1746-8094, (Indexed by SCIE/SCOPUS, IF:5.076, Q1, <https://doi.org/10.1016/j.bspc.2023.105509>).
- A. Rambabu, K. C. James Raju, Polamarasetty P. Kumar, Ramakrishna S. S. Nuvvula , and Baseem Khan, "Effect of Oxygen Mixing Percentage on Mechanical and Microwave Dielectric Properties of SrBi₄Ti₄O₁₅ Thin Films", *Advances in Condensed Matter Physics*, Volume 2023, Article ID 8230336.(Indexed by SCIE/SCOPUS, IF:1.316, Q3, <https://doi.org/10.1155/2023/8230336>)

Book chapter

- Dr. P. Ramana, Head of the Department of Electrical and Electronics Engineering (EEE), published a book titled "Basic Electrical and Electronics Engineering" with S. Chand Publishers.

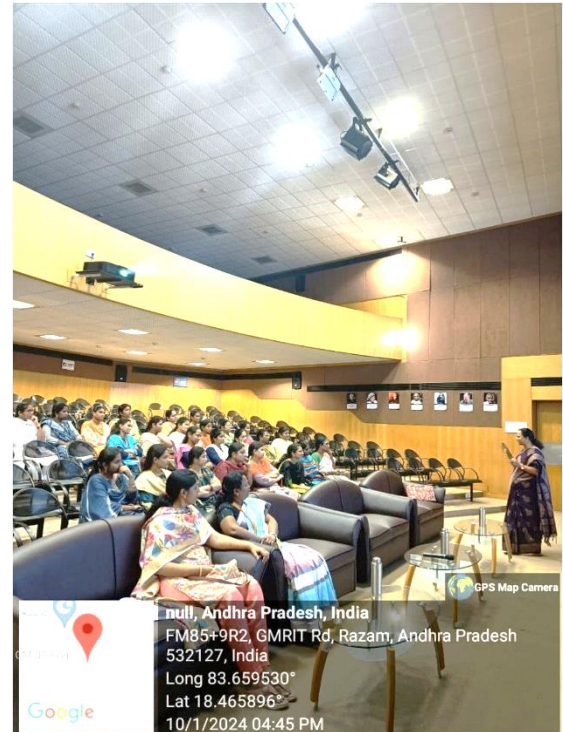


Guest Lecture / Events Organized

- STEPCON-2024 Conducted on 16-17 the Feb 2024. Conducted Events are Drone aero challenge, Byte flow integration, Let enlight the dark (LED), Electrical ladder, Brain vitae and. Workshop



- On January 10, 2024, faculty of GMRIT in Rajam benefited from a series of sessions led by Dr. N. Vijayalakshmi, a consultant psychologist.



Guest Lectures / Seminars Delivered at Other Institutions

- Dr. S.P. Mishra delivered a guest lecture on 'Electrical Vehicle Architecture and Integration - I - II,' for the Lecturer Series on 'Electric Vehicle Technologies,' on 17.02.2024 at the Gandhi Institute for Education and Technology (GIET) in Bhubaneswar, Odisha
- Dr. S. P. Mishra delivered an expert talk for the national-level workshop on 'The IoT in the Power Sector: Opportunities and Challenges' at Gandhi Institute for Education and Technology, Bhubaneswar, on 25th January 2024.
- Dr. K. Karthick delivered an online webinar on 'Machine Learning Techniques for Wind Power

Forecasting in Wind Energy Systems' on 23rd January 2024 for the students of Pavai College of Technology, Namakkal, Tamil Nadu.

Professional Development Activities by Faculty Members

- Dr. N. V. A. Ravikumar completed the online course 'Prompt Engineering for ChatGPT,' a non-credit course authorized by Vanderbilt University and offered through Coursera, on Jan 29, 2024
- Dr. M. Srinivasarao, Dr. M. Satish, Dr. V. Manoj & Dr. T. Samuel of GMRIT Participating in IIC Regional Meet at KL University, Vijayawada on 06-01-2024.



EC-CC Activities by Students

- Ms.P.Sridevi(21341A0277) presented a paper title "Ocean Thermal Energy Conversion" at JNTU, Viziangaram on 27.02.2024

- Mr K Sraavan Kumar (22345A0201) and V Mukundha Rao(22345A0211) presented a paper title "AGRI Care" at JNTU, Viziangaram on 27.02.2024
- Ms S.Ramya (22341A02B2) attended a workshop at JNTU, Viziangaram on 27.02.2024.

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)