About GMRIT

www.gmrit.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, Kakinada, and approved by AICTE New Delhi. It has been accredited with NAAC - 'A' grade by UGC. The institution also holds ISO 9001:2008 Quality Systems certification. 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 nine core disciplines and 2-year M. Tech programs in six specializations. The approved annual intake of the institute for the academic year 2022-23 is 1122 students. 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 nationally preferred department of learning for students and teachers alike, with dual commitment to research and serving students in an atmosphere of innovation and critical thinking.

Mission

To provide high-quality education in Electrical & Electronics Engineering to prepare the graduates for a rewarding career in Electrical & Electronics Engineering and related industries, in tune with evolving needs of the industry.

To prepare the students to become thinking professionals and good citizens who would apply their knowledge critically and innovatively to solve professional and social problems

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

Book chapter

- S Muthurajan, Dr. J S V Siva Kumar, Dr. P K Dhal & Dr. Jyoti Prasad Patra, "Basic Electrical Technology", by RK Publications, India, April 2024, ISBN No: 9788197121814
- Dr. Ramana Pilla, Dr. G.T. Chandar Sekhar & G Suresh, "Network Theory", by S Chand, India, 2024, ISBN No: 9789358708059
- Dr. Ramana Pilla, Venkata Lalitha Narla & G Suresh, "Basic Electrical and Electronics Engineering", by S Chand, India, 2024, ISBN No: 9789358702552.

Papers Published in Journals

➢ Karthick K., Krishnan S., Manikandan R, "Water quality prediction: a data-driven approach exploiting advanced machine learning algorithms with data augmentation," Journal of Water and Climate Change, vol. 15, no.2, pp. 431-452, 2024. (Indexed by SCIE/SCOPUS, IF: 2.8, Q2, https://doi:10.2166/wcc.2023.403)

➢ Karthick K., Ravivarman S., Priyanka R., "Optimizing Electric Vehicle Battery Life: A Machine Learning Approach for Sustainable Transportation," World Electric Vehicle Journal, vol. 15, no.2, pp.18, 2024. ISSN: 20326653. (Indexed by ESCI/SCOPUS, IF:2.3, Q2, https://doi:10.3390/wevj15020060)

➢ D. Veerendra D., Niranjan K.R., Malik I., Khandare A., Patil M., Kishore T.S., Balamurugan K.S., Pedada K.R., Singh A,"Modified Root-MUSIC Algorithm for Target Localization Using Nyström Approximation," in IEEE Sensors Journal, (Indexed by SCIE/SCOPUS, IF:4.3, Q1, https://doi: 10.1109/JSEN.2024.3370374)

➢ Vasupalli Manoj, Ramana Pilla, Y. Narendra Kumar, Chetna Sinha, Somarouthu V. G. V. A. Prasad, M. Kalyan Chakravarthi, and Krishna Koushik Bhogi, "Towards Efficient Energy Solutions: MCDA-Driven Selection of Hybrid Renewable Energy Systems," International Journal of Electrical and Electronic Engineering & Telecommunications, Vol. 13, No. 2, pp. 98-111, 2024. doi: 10.18178/ijeetc.13.2.98-111 (Indexed by SCOPUS, IF:3.2, Q3, https://www.ijeetc.com/vol13/IJEETC-V13N2-98.pdf)

➢ Veerendra D, Niranjan K R, Iram Malik, Anand Khandare, Megharani Patil,T S Kishore, K S Balamurugan, Kameswara Rao Pedada, Abha Singh, "Modified Root-MUSIC Algorithm for Target Localization Using Nyström Approximation," IEEE Sensors Journal, vol. 24, no. 8, pp. 13209-13216, 15 April, 2024, (SCI, IF-4.3, Q1, doi: 10.1109/JSEN.2024.3370374).

➢ Karthick Kanagarathinam, Manikandan, R., & T Sathish Kumar. (2024). Machine learning algorithms-based decision support model for diabetes. Review of Computer Engineering Research, 11(1), 16–29. (Scopus Indexed, IF-4.3, Q4, https://doi.org/10.18488/76.v11i1.3598)

➢ Swathi Tangi, D. N. Gaonkar, Ramakrishna S. S. Nuvvula, Polamarasetty P. Kumar, Ilhami Colak, Ahmad F. Tazay, Mohamed I. Mosaad, "Smart distribution network voltage estimation using PMU technology considering zero injection constraints", PLoS ONE, vol. 19, no. 45354, pp. 1- 22, 2024. (Indexed by Scopus/ WoS, IF-3.7, Q1, doi: 10.1371/journal.pone.0293616)

Guest Lecture / Events Organized

➢ One-Week online Faculty Development Programme on "Artificial Intelligence Applications to Electric Vehicles" jointly organized by the Department of Electrical & Electronics Engineering, GMR Institute of Technology, Rajam and Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India.

Guest Lectures / Seminars Delivered by Faculty Members

➢ Guest Lecture on "Career Opportunities in Software Sector" conducted Dated 27th April 2024. The resource person Mr. P.Srinivasa Ramarishna, Technical Lead, Coginzant, Hyderabad.

➢ Guest Lecture on "Awareness on Software Interface and Toolboxes of Typhoon HIL" by Ms. Era Bajpai, Application Engineer, Quarbz Info Systems, Kanpur. It is Organized by EEE Department on 27-04-2024, 03.00 PM to 5.00 PM through Online Mode.
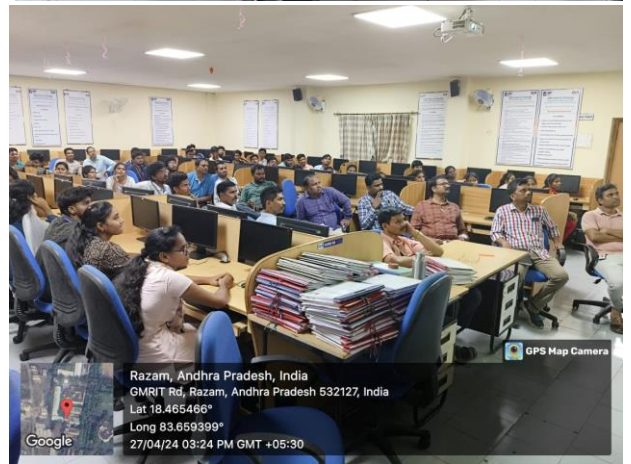
➢ Dr.T.S.Kishore has delivered an expert lecture in the six-day online Faculty Development Programme on "Artificial Intelligence Applications to Electrical Engineering" jointly organized by the Departments of Electrical & Electronics Engineering of GMR Institute of Technology, Rajam and V. R. Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India held between 04th to 9th March, 2024.

➢ 2. Dr.S.P.Mishra delivered a guest lecture on Electrical Vehicle Technology on 08.03.2024 at Gandhi Institute for Education and Technology(GIET), Bhubaneswar, Odisha.

Professional Development Activities by Faculty Members

➢ Dr.Venkata Suresh Kumar Lagudu, Associate Professor / EEE has completed "Advanced Python - Reconnaissance", an online non-credit course authorized by Infosec and offered through Coursera.

➢ Dr.Guntuku Indira Kishore, Sr.Assistant Professor / EEE has successfully completed the online, non-credit Specialization, 'A Practitioner's Approach to Power Distribution & Automation,' authorized by L&T EduTech and offered through Coursera.

➢ Dr. K. Karthick, Associate Professor / EEE has completed 'Robotics: Aerial Robotics,' an online non-credit course authorized by the University of Pennsylvania and offered through Coursera.

➢ Premkumar M., Sowmya R., Kumar J.S.V.S., Jangir P., Abualigah L., Ramakrishnan C., "Optimal Co-Ordination of Directional Overcurrent Relays in Distribution Network Using Whale Optimization Algorithm", Lecture Notes in Electrical Engineering, vol 1107, PP.233-258, March 2024 (Indexed by SCOPUS, IF:0.147, Q2, https://doi. 10.1007/978-981-99-8007-9_17)

➢ All our EEE faculty members participated in a One-Week online Faculty Development Programme on "Artificial Intelligence Applications to Electric Vehicles" jointly organized by the Department of Electrical & Electronics Engineering, GMR Institute of Technology, Rajam and Velagapudi Ramakrishna Siddhartha Engineering College, Vijayawada, Andhra Pradesh, India

EC-CC Activities by Students

➢ K.Sravan Kumar (22345A0201) & V.Mukundha Rao (22345A0211) are presented a paper Titled " Agricare" on 27.02.2024 at JNTU, Vizianagaram.

➢ K.Sravan Kumar (22345A0201) & V.Mukundha Rao (22345A0211) are presented a paper Titled " AgriTech" on 05.03.2024 at Andhra University Womens College, Visakhapatnam.

➢ K.Sravan Kumar (22345A0201) & V.Mukundha Rao (22345A0211) are presented a paper Titled " AgriTech" on 06.03.2024 at Lendi College, Visakhapatnam.