

DEPARTMENT OF ECE

NEWSLETTER JAN-FEB 2022

FACULTY MEMBERS:

Dr. V. Jagan Naveen
Professor & HOD



Dr. B. Anil Kumar
Assistant Professor



Mr. M Bala Krishna
Assistant Professor



STUDENT MEMBERS:

Ms. M. Hari Chandana
3rd ECE B



Ms. V. Harika
3rd ECE C



Mr. N. Pavan Kumar
3rd ECE B



Ms. R. Gnanaprasuna
3rd ECE C



GMR Institute of Technology is situated at Rajam, a small industrial town about 100 KMs from the 'city of destiny', Visakhapatnam in Andhra Pradesh. The campus of the institute is spread over sprawling 117 acres of land. The lush sylvan and idyllic surroundings at the heart of the agricultural belt, offer an ideal setting for higher studies. The institute is affiliated to the Jawaharlal Nehru Technological University, Kakinada and is approved by AICTE New Delhi. The institute has been accredited NAAC – 'A' grade of UGC. The institution is also having ISO 9001:2008 Quality Systems. The department of ECE has been accredited by National Board of accreditation (NBA).



GMRIT offers 4-year B.Tech. Programs in seven core disciplines, 2-year M. Tech programs in six specializations.

The approved annual intake of the institute is 1038 students. The institution received the grant extension of autonomous status for a period of ten years w.e.f 2018-19 to 2027-2028.

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1. DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

1.1 OVERVIEW

Electronics & Communication Engineering Department provides students with a solid scientific/technical background and research capabilities in the design, development and manufacture of electronic devices and systems used in a wide spectrum of applications. The applications span from household appliances to sophisticated satellite communication, from electronic ignition to neural networks and signal processing chips. The Department integrates academic discipline with project-based engineering applications, classroom learning and theory with real world experiences. Annual intake of this Department is 180 students.



1.2 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.

1.3 MISSION

- To provide high-quality education in Electronics & Communication Engineering to prepare the graduates for a rewarding career in Electronics & Communication 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.

1.4 PROGRAMME EDUCATIONAL OBJECTIVES (PEO's)

1. Embrace technical and professional skills with the spirit of learning, critical thinking while acquiring the fundamentals in science and technology. **(PEO1)**
2. Contemplate real life problems, design and develop novel products that are technically viable, economically feasible and socially acceptable. **(PEO2)**
3. Encompass ethical values, exhibit soft skills in management & teamwork acquiring leadership qualities. **(PEO3)**

1.5 PROGRAMME OUTCOMES (PO's)

At the end of the Programme, a graduate will be able to

- PO 1** Apply the knowledge of basic sciences and fundamental engineering concepts in solving engineering problems.
- PO 2** Identify and define engineering problems, conduct experiments and investigate to analyze and interpret data to arrive at substantial conclusions.
- PO 3** Propose an appropriate solution for engineering problems complying with functional constraints such as economic, environmental, societal, ethical, safety and sustainability.
- PO 4** Perform investigations, design and conduct experiments, analyze and interpret the results to provide valid conclusions.
- PO 5** Select/develop and apply appropriate techniques and IT tools for the design & analysis of the systems.
- PO 6** Give reasoning and assess societal, health, legal and cultural issues with competency in professional engineering practice.
- PO 7** Demonstrate professional skills and contextual reasoning to assess environmental/societal issues for sustainable development.
- PO 8** Demonstrate Knowledge of professional and ethical practices.
- PO 9** Function effectively as an individual, and as a member or leader in diverse teams, and in multi-disciplinary situations.
- PO 10** Communicate effectively among engineering community, being able to comprehend and write effectively reports, presentation and give / receive clear instructions.
- PO 11** Demonstrate and apply engineering & management principles in their own /team projects in multidisciplinary environment.
- PO 12** Recognize the need for, and have the ability to engage in independent and lifelong learning.

PROGRAMME SPECIFIC OUTCOMES (PSO's)

- PSO 1 Apply the knowledge of technological evolutions, model / characterize devices and design the integrated circuits to build analog and digital systems. (Program Specific)
- PSO 2 Understand and apply the fundamentals of communication and signal processing to develop systems wrapped with industry standard protocols and standards. (Program Specific)

1.6 FACILITIES & INFRASTRUCTURE

- ❖ Analog & Digital Communication Lab
- ❖ Integrated Circuit & Pulse Digital Circuits Lab
- ❖ Electronic Device Circuits Lab
- ❖ Microwave & Optical Communication Lab
- ❖ Microprocessor & Micro Controller Lab
- ❖ ECAD Lab
- ❖ Basic Electronics Lab
- ❖ Digital Signal Processing Lab

1.7 MAJOR COURSES

- ❖ Digital Signal Processing
- ❖ Radar Engineering
- ❖ Computer Organisation
- ❖ Electronic Devices and Circuits
- ❖ Analog and Digital Circuits
- ❖ Microwaves
- ❖ VLSI
- ❖ Satellite Communication
- ❖ Cellular Mobile Communication
- ❖ Optical Communication
- ❖ Management Science

- ❖ Pulse & Digital Circuits and Integrated Circuits
- ❖ Electromagnetic Waves
- ❖ Antennas
- ❖ Microprocessors
- ❖ Digital Image Processing
- ❖ Embedded Systems Design and IoT
- ❖ RTL coding Techniques
- ❖ ASIC verification using system Verilog
- ❖ Electronics for Agriculture

2. STUDENT ACTIVITIES

PROFESSIONAL SOCIETY ACTIVITIES

IE(I) Events:

- **IE Event:** Technical and Non-Technical Paper Presentation on 12-12-2021 in Online mode.

IETE Events:

- **ROBOTIC CLUB** and **IETE** have conducted a workshop “INTRODUCTION TO ARDUINO AND WIRELESS BOT DESIGN” by Dr. K. Krishna Kishore” from 04-12-2021 to 06-12-2021 for Final Year students.

3. FACULTY PUBLICATIONS & ACHIEVEMENTS

Papers Published in Journals

- **Arun Sekar Rajasekaran.**; Maria, A.; Al-Turjman, F.; Altrjman, C.; Mostarda, L “Anonymous Mutual and Batch Authentication with Location Privacy of UAV in FANET”, Drones Journal, vol. 6, no. 14, pp. 1-20, Jan. 2022 (Indexed by SCI, IF : 5.4, <https://www.mdpi.com/2504-446X/6/1/14>)
- **AS Rajasekaran**, M Azees, F Al-Turjman, “A comprehensive survey on security issues in vehicle-to-grid networks”, Journal of Control and Decision.
- **Sivasangari Ayyappan** and Gnanasekaran Sasikumar, “A distinctive Approach for Early detection of Plant Disease for Sustainable Agriculture”, International Journal of Mechanical Engineering, vol. 7, no. 1, pp. 2938-42, Jan. 2022 (Indexed by Scopus, IF : 0.3, Q4, https://kalaharijournals.com/resources/IJME_Vol7.1_352.pdf)
- **AS Rajasekaran** and M Azees “An Anonymous Blockchain-Based Authentication Scheme for Secure Healthcare Applications”, Security and Communication Networks, vol. 1, no. 1, pp. 1-12 (Indexed by SCI, IF: 1.79, Q1, <https://www.hindawi.com/journals/scn/2022/2793116/>)
- **Babji Prasad Chapa**, **Geetamma Tummalapalli**, and Sasibhushana Rao Gottapu “Performance Analysis Of Mu-Mimo Network Under Different Processing Techniques” Webology Journal, vol. 18, no. 5, pp. 480 -490, Jan. 2022 (Indexed by Scopus, IF: 1.57, Q3,<https://www.webology.org/abstract.php?id=1745>)
- **Dr. T. Geetamma & Dr. Deepshika Datta, Dr. Neera Rani Yedla**, submitted a proposal for a Funding Project titled “Design and Development of Remote Sensing Based Wearable Jacket for Fetal and Maternal Health Monitoring system” under DST, India under TECHNOLOGY DEVELOPMENT PROGRAMME amount Rs. 28,75,312 submitted on 06-01-2022 and waiting for Result.

4. SEMINARS/CONFERENCES/WORKSHOPS AND WORKSHOPS ATTENDED/CONDUCTED

Workshops

- **Dr. T. Prabhakar** attended workshop AICTE-ISTE approved Orientation/Refresher Programme on "Recent Trends in Wireless Communication and IoT" 7-days duration from 08-12-2021 to 14-12-2021 at Oriental Institute of Science and Technology, Bhopal, Madhya Pradesh.

Conferences

- **Sivasangari Ayyappan**, "Application of Big Data Processing Technologies in Agriculture", 2022 International Conference on Computer Communication and Informatics (ICCCI), Sree Shakthi College of Engineering and Technology, Coimbatore, India, 25th January 2022.
- **A. Sudhakar, M. V. Nageswara Rao, Telagarapu Prabhakar**, "Design of UWB Rectangular Microstrip Antenna with Defected Ground Structure to Detect Breast Cancer", International Conference on Wireless Communication, D.J.Sanghvi College of Engineering, Mumbai, India, 8th October 2021.

5. OTHERS

- UI path registration: 118
- Reading write app registration: 197