

# DEPARTMENT OF ECE

## NEWSLETTER MAY-JUNE 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 Organization
- ❖ 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. FACULTY PUBLICATIONS & ACHIEVEMENTS

### Papers Published in Journals

- **Jami Venkata Suman**, Mamidipaka Hema, Bandi Jagadeesh, “Linear frequency modulated reverberation suppression using time series models”, Indonesian Journal of Electrical Engineering and Computer Science, vol. 26, no. 3, pp. 1395-1401.
- **Dr. Guntu Nooka Raju**, Dr M Sreedhar, Dr PMK Prasad “Multi user detection for FD-MC-CDMA in presence of CFO using adaptive aided genetic algorithm”, International Journal of Mechanical Engineering, vol. 7, no. 5, pp. 35-42.



### 3. SEMINARS/CONFERENCES/WORKSHOPS AND WORKSHOPS ATTENDED/CONDUCTED

#### Workshops/FDPs

- **Dr.A.Sivasangari** and Dr.G.Sasikumar, “A distinctive approach for early detection of Plant diseases for Sustainable Agriculture”, 10th International Conference on Contemporary Engineering and Technology 2022, Shri Venkateswara Padmavathy Engineering College, Chennai, India, March, 26th -27th 2022.
- **V.Kannan**, V.Ganesan, V.Vijayakumar, “Adsorption studies of N,NO<sub>2</sub>, H<sub>2</sub>O, CO, CO<sub>2</sub> on germanene nanosheet- A DFT Technique”, Computational and Theoretical chemistry, vol. 22, no. 22, pp. 22 .
- **Dr J. Venkata Suman** attend five Day FDP on “Soft Computing Techniques and Hands on with MATLAB” from 9/5/2022 to 13/5/2022, Department of ECE, Aditya Institute of Technology and Management, Tekkali.

#### Conferences

- **P Kalyan Chakravarthi**, D.Yuvaraj, V Venkataramanan, “IoT-based smart energy meter for smart grids”, 6th IEEE International Conference on Devices, Circuits and Systems (ICDCS'22), Karunya Institute of Technology and Sciences, Coimbatore, Tamilnadu, India, 22nd April,2022.

#### Online Courses

- **Dr. Ravi Shankar Saxena**, “Learning How to Learn!” Coursera, Deep teaching solutions, GMRIT- Rajam 3/1/2022,
- Arduino - Programming and Interfacing, GMRIT- Rajam 5/7/2022.
- **Dr. V.Jagan Naveen** Coursera MOOCs course on “ Machine learning foundations : A case study approach” from University of Washington completed 30/4/2022
- **Dr. V. Jagan Naveen**, Coursera MOOCs course on “Disaster crisis and emergency preparedness communication” from the state university of New York completed 30/4/2022.

- **Smt. S. Sri Durga Kameswari** “Introduction to programming in C” Swayam, IIT KANPUR 8-Weeks, Date of Completion 5/27/2022.
- **Dr. L. Govinda Rao** “Introduction To Programming In C” ([https://internalapp.nptel.ac.in/B2C/exam\\_form/index.php](https://internalapp.nptel.ac.in/B2C/exam_form/index.php)), IIT Kanpur 6 Weeks, Date of completion 5/27/2022.

## 4. OTHERS

### Project Proposals Submitted by Faculty for Funding

- **Dr. RAVI SHANKAR SAXENA, SAMUEL TALARI** “To develop UV Photodetector based on Ni doped ZnO nanostructures” SERB Rs. 2501600 on 28/4/2022.
- **Dr G Nooka Raju, Dr D Srinivasa Rao** “Development of Physical Layer Techniques for Device to Device (D2D) Communication at Terahertz (THz) frequencies” CRG-SERB Rs. 31.8 on 16/4/2022.
- ECE Dept organized “**Circuit Probe contest**” under Techovate 2022 dated 30/4/2022 around 200 students participated in the event
- ECE Dept organized “**Robo Race contest**” on 09/05/2022 around 35 teams participated in the event.