# DEPARTMENT OF ECE

# NEWSLETTER
## SEP-OCT 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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## 1.1 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.



**Electronics & Communication Engineering**
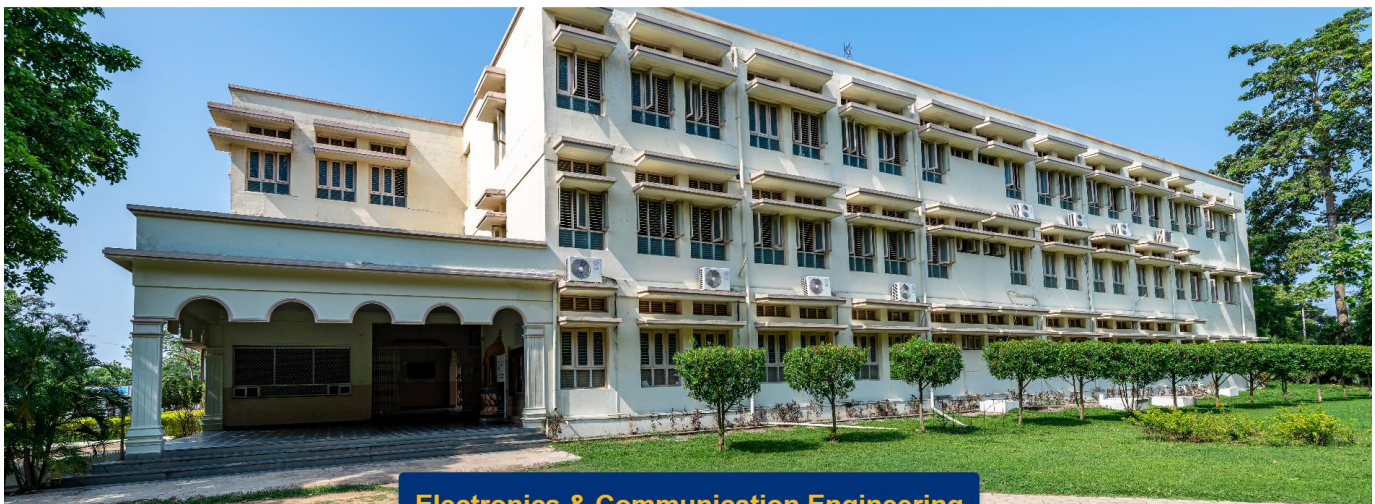
## 1.2 VISION

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 clears 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

- **Dr. Guntu Nooka Raju**, Dr M Sreedhar & Dr PMK Prasad "NOMA based Multiuser Detection in Multiple Access Systems Over Rayleigh Fading Channel," JOURNAL OF OPTOELECTRONICS LASER, vol. 41 no. 8. pp. 137-144 (Indexed by **Scopus**, ISSN:1005-0086) Date of Publication 6/8/2022.

- **Badisa Anil Babu**, Boddapati Taraka Phani Madhav, Sudipta Das, Niamat Hussain, "A Triple-Band Reflective Polarization Conversion Metasurface with High Polarization Conversion Ratio for Ism and X-Band Applications", SENSORS, vol. 22, no. 1, pp. 8213-8220. (Indexed by **SCIE & Scopus**)

- **A. Sivasangari**, "A Predictive Framework for Detection of Corona Virus based on Transfer Learning Approach", Journal of Pharmaceutical Negative Results, vol. 13, no. 3, pp. 645-650. (Indexed by **ESCI & WoS**)

- **B. Anil kumar**, K Srividya, A Mary Sowjanya, "Covid-19 classification using sigmoid based hyper-parameter modified DNN for CT scans and chest X-rays", Multimedia Tools and Applications, Springer, vol. 22, no. 23, pp. 1-17. (Indexed by **SCIE & Scopus**)

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

## Workshops/FDPs

- **Dr. A. Siva Sangari** attended Workshop/STTP/FDP Titled "Amazon Web Services" 22.08.2022 to 27.08.2022(6days) held at "Department of CSE, GMR INSTITUTE OF TECHNOLOGY, RAJAM in collaboration with BRAINOVISION SOLUTIONS INDIA PVT.LTD, CSI & ALL INDIA COUNCIL FOR TECHNICAL EDUCATION - AICTE

- **Dr. A. Siva Sangari** attended Workshop/STTP/FDP Titled "ICT Tools for Teaching Learning Pedagogy" 23.08.2022 to 27.08.2022 (5days) held at Joint Collaborative of GMR Institute of Technology and Srisairam Institute of Technology, Chennai.

- **Dr. G. Nooka Raju** attended Workshop/STTP/FDP "Amazon Web Services" on 22.08.2022 to 27.08.2022 (5days) held at GMR INSTITUTE OF TECHNOLOGY.
- **Dr. G.Nooka Raju** attended Workshop/STTP/FDP "IoT based smart automation system" 22.08.2022 to 27.08.2022 (5days) held at MVGR College of Engineering, Vizianagaram.
- **Dr. T. Prabhakar** attended Workshop/STTP/FDP Title FDP on "ICT Tools for Teaching Learning Pedagogy" 23.08.2022 to 27.08.2022 (5 days) jointly organized by Department of ECE of GMR Institute of Technology and Sri Sairam Institute of Technology.
- **Dr. A. Sudhakar** attended Workshop/STTP/FDP Title" ICT tools for Teaching and Learning Pedagog" 22.08.2022 to 27.08.2022 (5 days) held at GMR Institute of Technology.
- **Dr. A. Sudhakar** attended Workshop/STTP/FDP Title "21st CENTURY SKILLS FOR TEACHING & LEARNING (CSTL-2022)" 22.08.2022 to 27.08.2022 (6 days) held at GMR Institute of Technology.
- **Dr J. Venkata Suman** attended FDP Title "ICT Tools for Teaching Learning Pedagogy" 23.08.2022 to 27.08.2022 (5 days) held at GMR Institute of Technology and Sri Sairam Institute of Technology.

## Conferences

- **Dr J. Venkata Suman**, G.Indira Devi, Diksha Srivastava, Prima Dewi Kusumawati, Nisha Rana, Benjamin Isaac Thomson" Impact of Bioinformatics Microarray Gene Structural Rate Analysis (MGSRA) in Gene Therapy using Sequential Gene Pattern Matching (SGPM) for Preventive Medicine" held at R V S College of Engineering and Technology, Coimbatore, India. on 9/22/2022.
- Padam Vamsi VijayaKrishna, Nistala Sravya, Pattela Tagore Sai Gopi, Jaddu Prema Sai, **P. Kalyanchakravarthi** "AI based Reliable and secure data transfer in Wireless Networks" TERNA Engineering College & IFERP, Mumbai on 9/23/2022.

## Online Courses

- **Dr. T. Geetamma** attended an online course "Wireless communications for every one" Coursera Portal, Yonsei University, Completion on 9/30/2022 (4 Weeks).

- Dr. A. Siva Sangari attended an online course "Architecting Smart IoT Devices" Coursera Portal, University of Antwerp, Completion on 10/15/2022 (8 weeks).

# 4. OTHERS

## Project Proposals Submitted by Faculty for Funding

- Dr. A. Siva Sangari & Dr.V. Vasudha Rani attended a Funded Project Reports (as PI) in this month "Development of Autonomous Sensor Interface with IoT based Bio-aggressors monitoring and Controlling System" Agency SERB – POWER, Amount 2848400, Date of Submission 9/27/2022, Status of the project Submitted and waiting for Result.