

DEPARTMENT OF ECE NEWSLETTER

JAN-FEB 2025

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TABLE OF CONTENTS

1. DEPT. OF ELECTRONICS AND COMMUNICATION

- 1.1. Overview
- 1.2. Vision
- 1.3. Mission
- 1.4. Programme Educational Objectives (PEOs)
- 1.5. Programme Outcomes (POs)
- 1.6. Facilities & Infrastructure
- 1.7. Major Courses

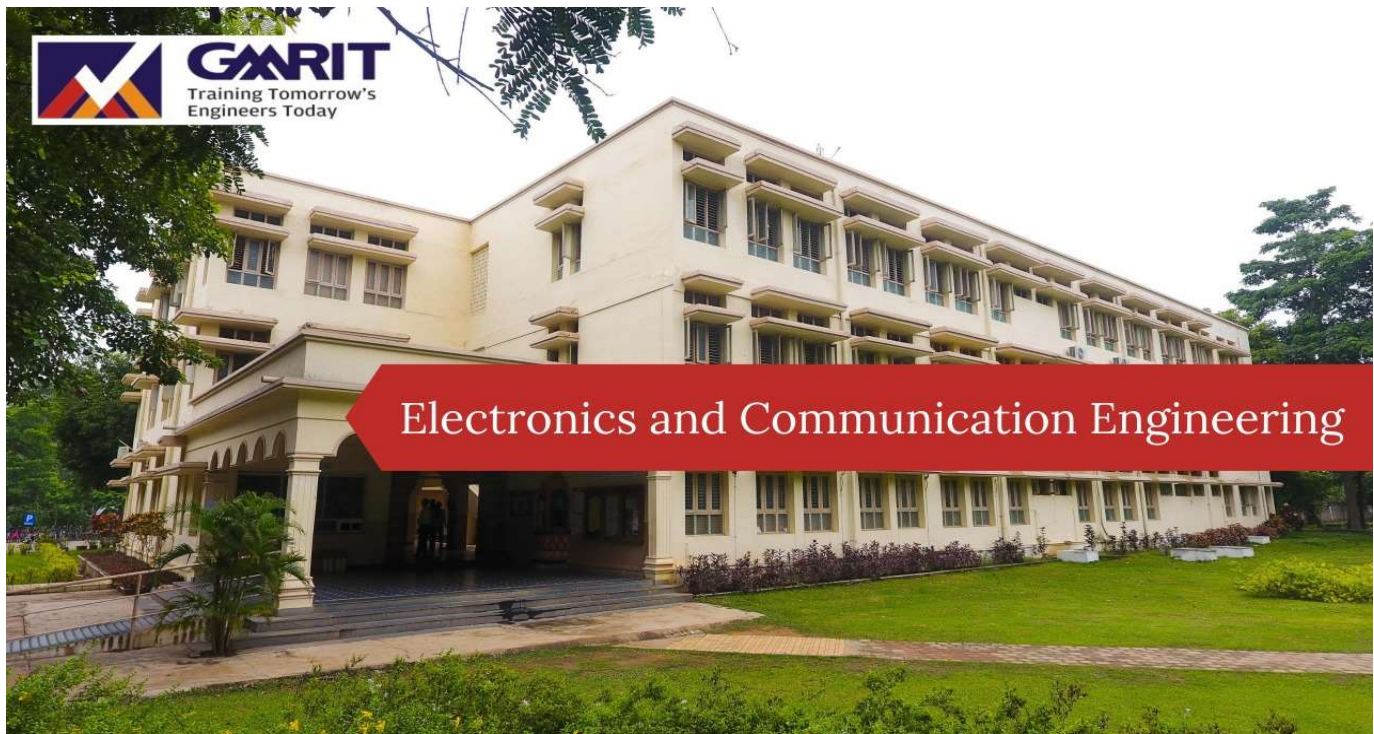
2. STUDENT ACTIVITIES

3. FACULTY PUBLICATIONS & ACHIEVEMENTS

4. SEMINARS AND WORKSHOPS ATTENDED

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 spans 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.
- 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

IETE EVENTS:

- **CIRCUIT FUSION:** conducted on 30/01/2025
- This event was organized by The IETE Student Forum (ISF) at GMRIT. It was an exciting event designed to sharpen the cognitive abilities and technical skills of students. The event consisted of two rounds: Round 1: Guessing the tongue twisters and movie dialogues which were given reversely. Round 2: Building the circuit when components are given. Winners will be decided by points gained in Round 1 and how fast they build the circuit in Round 2.
- **Participants:** The event was attended by **50 participants**.
- This event was conducted successfully.



TINKERCAD WORKSHOP: Conducted on 05/02/2025

- This event was organized as part of Stepcone 2025 at GMRIT.
- The workshop aimed to unleash participants' creativity in electronics and design using Tinkercad. Participants learned the basics of circuit design and simulation, gained hands-on experience with real-time projects, and enhanced their technical skills and creativity.



- **Participants:** 40
- This event was conducted successfully.

IE(I) EVENTS:

- **SMART QUEST:** Conducted on 27/01/2025
 - 📄 **Event Details:** The event focused on reasoning and aptitude, testing problem-solving skills in a competitive environment .
 - Participants:** Event was conducted by 32 participants.
- This event was conducted successfully.



EDC EVENTS:

- **ENTREPRENEUR QUEST:** Conducted on 08/01/25.
- Entrepreneur Quest is an engaging event that celebrated business leaders. The event consisted of two thrilling rounds: Round 1: Teams solved a picture puzzle to reveal a famous entrepreneur. Round 2: Teams decoded clues and arranged letter beads to form the entrepreneur's name. The event sparked curiosity, teamwork, and problem-solving skills among participants, leaving them inspired by the world of entrepreneurship.
- **Participants:** Event was conducted by 30 participants.
- This event was conducted successfully.



ISTE EVENTS:

- **TECHNICAL QUIZ:** Conducted on 09/01/2025.
- The "TECHNICAL QUIZ" is event organized by Indian society for technical education On 9th January , featured two intense rounds of the second round itself consists Of the two stages.The first round consists of basic questions regarding tech , biological etc....it is a basic round of consisting simple and easy mode questions and the second round consists of questions based on the mathematical reasoning and logical questions . The dynamic event blended mystery strategy and knowledge showcasing teams intellectual prowess and strategic acumen
- **Participants:** Event was conducted by 25 participants.
- This event was conducted successfully.



SILVER JUBILEE

- **INDUSTRIAL VISIT:** Conducted on 25/01/2025.
- The students of 2nd year ECE, visited Andhra Pradesh MedTech Zone at Visakhapatnam on 25 January 2025 and we are very much thankful to Dr.C.L.V.R.S.V.Prasad Principal of GMRIT, De V. Jagan Naveen, HOD of ECE and to our beloved faculty for supporting us for making this industrial visit a grand success.
- This event was conducted successfully.



STEPCONE EVENTS

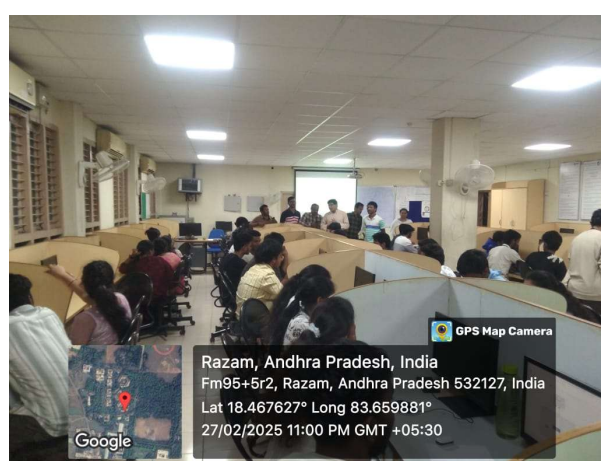
PANCHATANTRA: Conducted on 27/02/2025.

- This event was organized as part of Stepcone events.
- This event aimed to engage participants in an entertainment mood with 5 levels, fostering teamwork, creativity, and critical thinking. Participants were divided into teams of 2 members, completing challenges such as identifying images, movie names, and items to taste and smell, with the final round consisting of fun games.
- **Participants:** 68 students actively participated.
- This event was conducted successfully.



TINKERCAD: Conducted on 28/02/2025

- This event was organized as part of Stepcone 2025 at GMRIT.
- The workshop aimed to unleash participants' creativity in electronics and design using Tinkercad. Participants learned the basics of circuit design and simulation, gained hands-on experience with real-time projects, and enhanced their technical skills and creativity.
- **Participants:** 61
- This event was conducted successfully.



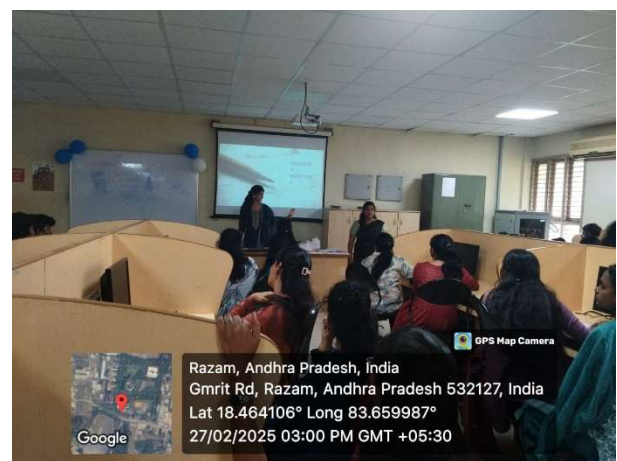
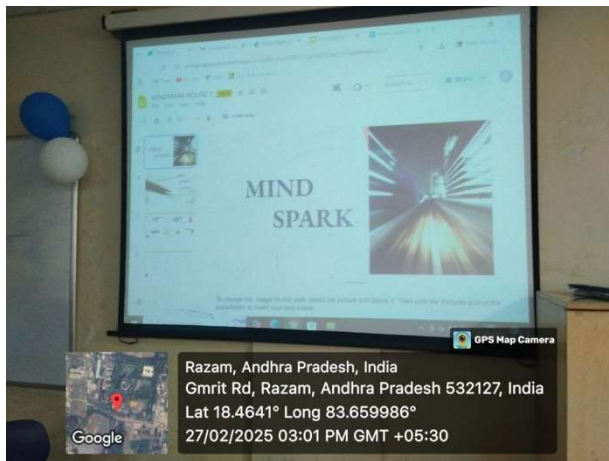
PAPER PRESENTATION: Conducted on 27/02/2025.

- This event was organized as part of Stepcone events.
- The aims to showcase empirical research outcomes across diverse engineering domains, emphasizing the identification of research gaps and advancements in emerging areas of engineering and technology. The platform also encourages the examination of current scientific contributions relevant to engineering research. Research communication, encompassing both novel perspectives on traditional domains and cutting-edge technologies, is highly encouraged.
- **Participants: 11**
- This event was conducted successfully.



MIND SPARK: Conducted on 27/02/2025.

- This event was organized as part of Stepcone events.
- The event consisted of 3 rounds: Round 1: Memory Mastery - Participants were given visuals or sounds to remember and write in the correct order. Round 2: Puzzle Pursuit - Qualifiers received hints to find and solve a hidden puzzle within a time limit. Round 3: Rapid Fire Frenzy - Qualifiers answered rapid-fire questions based on selected topics, with the most correct responses claiming victory.
- **Participants: 50**
- This event was conducted successfully.



SENSORS, SENSING AND PROGRAMMING (WORKSHOP): Conducted on 27/02/2025.

- This event was organized as part of STEPCONE.
- Hand-on exposure will be provided to the learners on Embedded Development Boards. Learners will also understand features of various sensors and their applications in real time world. Demonstration will also be provided to the students to interface embedded board with the cloud for IoT applications.
- **Participants: 77**
- This event was conducted successfully.



CIRCUIT DEBUGGING: Conducted on 28/02/2025.

- This event was organized as part of STEPCONE.
- The event consisted of 3 rounds, testing participants' electronics knowledge and problem-solving skills. Round 1: Quiz on core electronics concepts. Round 2: Solving circuit-based questions, identifying components using waveforms, and analyzing circuits. Round 3: Mini treasure hunt, involving QR codes, riddles, collecting components, and building a working circuit. This event fostered teamwork, critical thinking, and practical expertise.
- **Participants: 56**

- This event was conducted successfully.



FOX HUNT: Conducted on 27/02/2025 & 28/02/2025

- This event was organized as part of Stepcone events.
- As part of this grand event, a fun-filled competition was organized to showcase talent and creativity. The competition consisted of two rounds: Round 1 (Feb 27, 2025): Teams competed to locate the hidden transmitter. Round 2 (Feb 28, 2025): Qualifying teams proceeded to the final round, following the same procedure.
- **Participants:** Event was conducted by 60 participants.
- This event was conducted successfully.



3. FACULTY PUBLICATIONS & ACHIEVEMENTS

SEMINARS & WORKSHOPS

- Dr. J.V. Suman [et...al.] attend a Conference on “Integrated Approaches for Agricultural Landscape Monitoring and Plant Disease Management”, ASIANCON 2024 Date of :24-08-2024, PIMPRI CHINCHWAD COLLEGE OF ENGINEERING & RESEARCH, Pune. Published on 21.01.25.
- Dr. Jami Venkata Suman, Subhashini Kodur, G.M.Anitha Priyadarshini attend a Conference on “Design and Optimization of FinFET based Analog and Mixed Signal Circuits”, ASIANCON 2024 Date of :24-08-2024, PIMPRI CHINCHWAD COLLEGE OF ENGINEERING & RESEARCH, Pune. Published on 21.01.25.
- Dr. Jami Venkata Suman [et...al] attend a Conference on “Integrated Approaches for Agricultural Landscape Monitoring and Plant Disease Management”, ASIANCON 2024 Date of :24-08-2024, PIMPRI CHINCHWAD COLLEGE OF ENGINEERING & RESEARCH, Pune. Published on 21.01.25.
- Dr. B. Anil Kumar, attend a workshop on “AICTE QIP PG PROGRAM in AIML” from 01-07-2024 to 31-01-2025 for 180 days organized by IIT Lucknow.
- Dr. B. Anil Kumar, Conducting Five Day Skill Development Workshop in association with TiHAN Foundation–IIT, Hyderabad Titled “Navigating with UAVs: Technology” and Trends 27th to 31st January 2025. Organized by Department of Electronics & Communication Engineering, GMRIT.

PAPER PUBLICATIONS

- Dr.N.Prasad, Yaminisasi, Guntamukkala, et al. "Fish-Tail Structured Fractal Monopole Printed Antenna with Dual Broadband Characteristics for Sub-6GHz 5G and X-Band Radar Applications." *Fractal and Fractional* 9.1 (2025): 29.

CONFERENCES

- Dr J. Venkata Suman, Kadiri, Padmaja, et al. "Integrated Approaches for Agricultural Landscape Monitoring and Plant Disease Management." *2024 4th Asian Conference on Innovation in Technology (ASIANCON)*. IEEE, 2024.
- Dr J. Venkata Suman, Hemantha, G. Reddy, et al. "An Optimized FIR Filter Design for Noise Reduction in Bio-Medical Signal Processing." *2024 4th Asian Conference on Innovation in Technology (ASIANCON)*. IEEE, 2024.
- Dr J. Venkata Suman,, Subhashini Kodur, and GM Anitha Priyadarshini. "Design and Optimization of FinFET based Analog and Mixed Signal Circuits." *2024 4th Asian Conference on Innovation in Technology (ASIANCON)*. IEEE, 2024.

VISITORS –GUEST FACULTY- GUEST LECTURES

- Guest lecture on **“Process of Innovation Development, Technology Readiness Level (TRL), Commercialisation of Lab Technologies and Tech Transfer”** by Prof. Deepika Gupta, IIM, **Date:11-02-2025.Time: 11:00-1:00PM.**

PATENTS

- Dr J. Venkata Suman, awarded with a patent for the title of book is **“SYSTEM AND METHOD FOR REAL-TIME SIGNAL PROCESSING USING NEURAL NETWORKS”** of patent id **“202541008044”** on 14-02-2025.
- Dr J. Venkata Suman, awarded with a patent for the title of book is **“DIGITAL ELECTRONICS: PRINCIPLES AND APPLICATIONS”** on 17-02-2025.

OTHERS

- Dr. B. Anil Kumar attend a 180 days FDP title on **“Integrated Approaches for Agricultural Landscape Monitoring and Plant Disease Management”** Starting date 01-07-2024 Ending date:31-01-2025. Organized by IIIT, Lucknow.
- Dr. B. Anil Kumar attend a 5 days FDP title on **“Navigating with UAVs: Technology and Trends”** Conducting Five Day Skill Development Workshop in association with TiHAN Foundation–IIT, Organized by Department of Electronics & Communication Engineering Starting date 27-01-2025 Ending date: 31-01-2025. Organized by IIIT, Lucknow.

GMR Institute of Technology
**Five Day Skill Development Workshop in association with
TiHAN Foundation-IIT, Hyderabad**

Titled
**Navigating with UAVs:
Technology and Trends**
27th to 31st January 2025

Organized by
Department of Electronics & Communication Engineering



The Coordinator concluded by thanking the **Principal, guest speakers, faculty, and organizing team** for their support and dedication in making this event possible.



Inauguration speech by Coordinator



Inauguration speech by Principal sir



Students along with Coordinator & resource persons