DEPARTMENT OF ECE

NEWSLETTER

JULY-AUGUST 2024

Faculty Members:

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Professor & HOD

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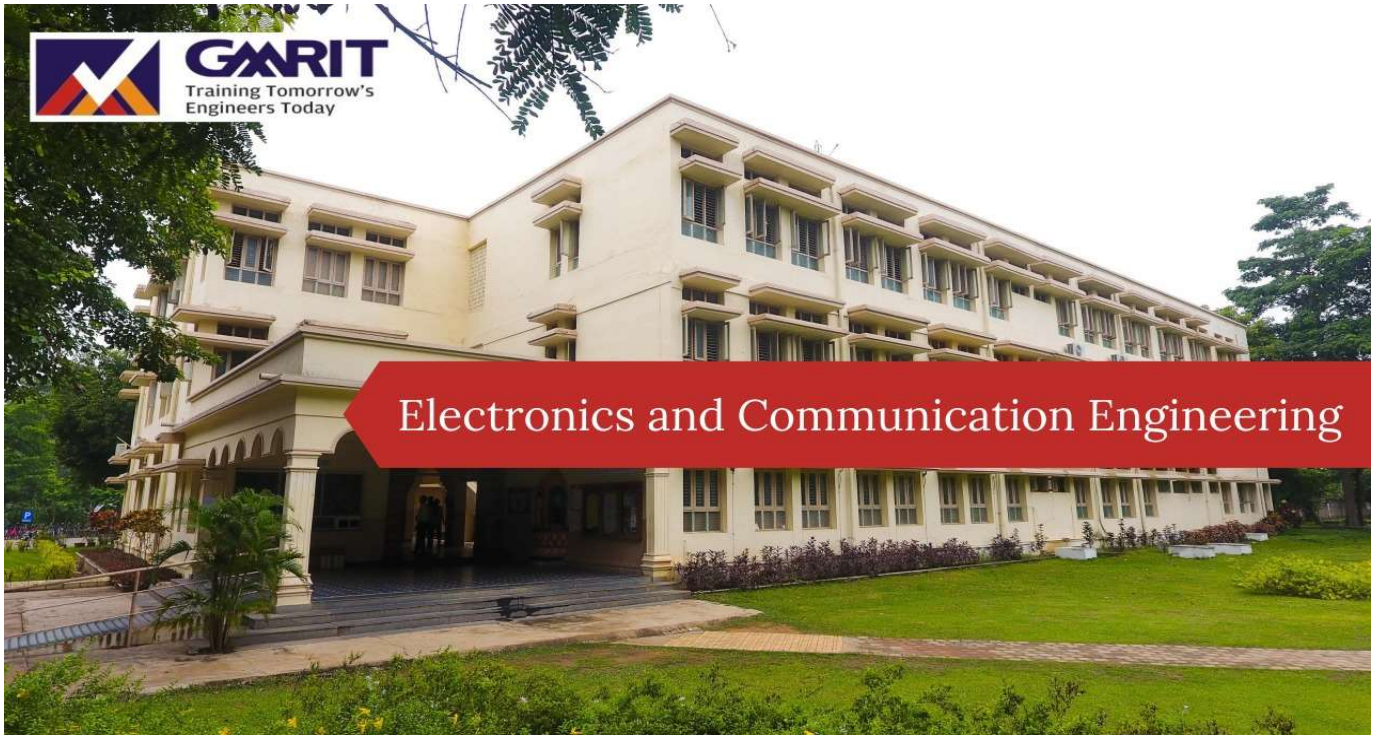
1. ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

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 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.

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

PROFESSIONAL SOCIETY ACTIVITIES

ISTE EVENTS:

- **WORD VAULT:** conducted on 27/08/2024
- This event is all about 3 rounds. In the 1st round few words will be given which participants should find in the jumbled lettered box. In the second-round questions was displayed according to the order which they have to find in the jumbled letter box. In the final round the questions were displayed in which they have fill the empty boxes according to the instructions. The event was held at CSE Block CSE SEMINAR HALL, with a total no of participants day wise given below.
- **Participants**: Event was conducted by 141 participants.
- The event was interactive and lively. The event was conducted successfully.

IETE EVENTS:

- **STRIKING CHALLENGERS:** conducted on 30/07/2024
- This Creative Quest features 2 rounds that challenge participant's creativity. In Round 1, teams brainstormed unique ideas based on a theme given and presented their creative concepts to the audience. In Round 2, teams used art supplies to collaboratively create artworks representing their ideas from Round 1, showcasing their teamwork. The event was held at ECE Block ECE SEMINAR HALL, with a total no of participants day wise given below.
- **Participants**: The event was attended by **38 participants**.
- The event was engaging and vibrant, successfully achieving its objectives.

IE(I) EVENTS:

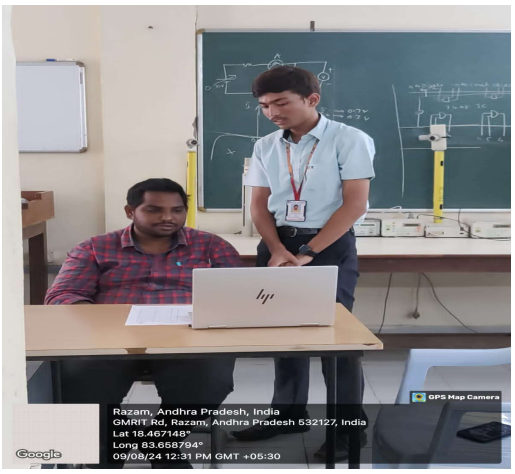
- **GLORY OF TELUGU**: Conducted on 29/08/24
- On the occasion of **Telugu Language Day**, this is a small event which aims to celebrate the richness and diversity of Telugu literature and to promote the use of Telugu language among future generations.
- This event is all about Newspaper Reading Challenge and writing correct spellings of Telugu words:

- Participants are given a Telugu newspaper to read aloud.
- Judges tell some Telugu words ,the student has to write it on the board .
- Judges evaluate their performance based on:
- Accuracy (correct pronunciation and intonation)
- Fluency (speed and smoothness)
- Time (completing the reading within a set timeframe)

- **Participants**: Event was conducted by 72 participants.
- This event was conducted successfully

➢ STARTUP SHOWDOWN:

- Conducted on 13/08/24
- In this event students can participate either individuals or in teams.
- The Startup Showdown was an event where people shared their new business plans or start up ideas.
- Faculty Coordinator listened their ideas and choose the best ones.
- Now the selected people can be the winner and runner of the event.
- They also qualified for the Central Event which was conducted on Entrepreneurship Day.
- Winners got a chance to turn their ideas into successful businesses.
- Total 5 people participated and shared their innovative ideas.
- By conducting this type of events **Encourages Entrepreneurship**: Inspires students to become entrepreneurs and innovators.



3. FACULTY PUBLICATIONS & ACHIEVEMENTS

JOURNAL PAPERS

- Srinivas, B., et al. "DEEP LEARNING-BASED MODIFIED TRANSFORMER MODEL FOR AUTOMATED NEWS ARTICLE SUMMARIZATION." *Facta Universitatis, Series: Electronics and Energetics* 37.2 (2024): 261-276.
- Ayyappan, Sivasangari, et al. "IoT Based Detection and Alerting of Hazardous Gas Detection for the welfare of Sewer Labourers." *Nanotechnology Perceptions* (2024): 39-49.
- Rekha, Vutukuri Sarvani Duti, et al. "Design and analysis of Minkowski fractal shaped metasurface absorber with broadband and polarization-insensitive characteristics using a tunable graphene layer for terahertz applications." *Physica Scripta* 99.8 (2024): 085934.
- Prasad, Nagandla, et al. "Quartz Substrate-Based Super Absorber Using Graphene Material with 18 Absorption Bands for Terahertz Applications." *Plasmonics* (2024): 1-13.
- Geetamma Tummalapalli, " literature survey on deep learning techniques for detection of tuberculosis disease" ISSN : 0378 – 4568.

CONFERENCE PAPER

- Telagarapu Prabhakar has presented a paper "Design of Real Time Facial Emotion Recognition system wing Convolutional Neural Network" via online/offline at International Conference on Al Powered Technology Integration for Sustainability (AI-PTIS-2024) organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.
- A .Sudhakar has presented a paper " Design of Slotted Microstrip Antenna for ISM Band Application" via online/offline at International Conference on Al Powered Technology Integration for Sustainability (AI-PTIS-2024) organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.
- Dr. J.venkata Suman, et al. "Characterization and Modeling of Gate-All-Around FET (GAA FET) for Low-Power and High-Performance Applications." *2024 International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE)*. IEEE, 2024.
- Dr. J.venkata Suman, et al. "Effective Image Reconstruction Using Various Compressed Sensing Techniques." *2024 International Conference on Advances in Modern Age Technologies for Health and Engineering Science (AMATHE)*. IEEE, 2024.
- T.V.S.Divakar has presented a paper "Triple Slotted Miniaturized PIF Antenna with an Electrongnetke Meta Surface for Medical Applicalias at 5-6643" via online/offline at International Conference on Al Powered Technology Integration for Sustainability (AI-PTIS-2024) organized by GMR Institute of Technology, Rajam, Andhra Pradesh, India during 5th - 6th July 2024.

BOOKS

- Telagarapu, Prabhakar, Babji Prasad Chapa, and Sahithi Reddy Pullanagari. "Automatic White Blood Cells Counting Using OPENCV." *Exploring the Advancements and Future Directions of Digital Twins in Healthcare 6.0*. IGI Global, 2024. 342-357.
- Dr.Nagandla Prasad, et, “DESIGN AND ANALYSIS OF GRAPHENE METASURFACES FOR BROADBAND APPLICATIONS” .
- Dr.Jami Venkata Suman, et., “Microprocessors &Interfacing”.

FACULTY DEVELOPMENT PROGRAMME

- This is to certify that Prof/Dr/Mr/Ms BABJI PRASAD CHAPA , Associate Professor, ECE , has actively participated in “7 DAYS ONLINE FACULTY DEVELOPMENT PROGRAM ON ESSENTIAL SKILLS FOR PROFESSIONAL DEVELOPMENT IN HIGHER EDUCATION” organized by Star International Foundation for Research and Education on 01.07.2024 - 07.07.2024.
- This is to certify that Prof/Dr/Mr/Ms Jami Venkata Suman, Assistant Professor , has actively participated in “7 DAYS ONLINE FACULTY DEVELOPMENT PROGRAM ON ESSENTIAL SKILLS FOR PROFESSIONAL DEVELOPMENT IN HIGHER EDUCATION” organized by Star International Foundation for Research and Education on 01.07.2024 - 07.07.2024.
- Dr.CHAPA BABJIPRASAD GMR INSTITUTE OF TECHNOLOGY has attended One Week International Online FDP on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” from 1st July to 6th July-2024. Organized by DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, KONERU LAKSHMAIAH EDUCATION FOUNDATION, DEEMED TO BE UNIVERSITY, BACHUPALLY CAMPUS, HYDERABAD, TELANGANA-500043.
- Mr.P.Kalyanchakravarthi GMR Institute of Technology has attended One Week International Online FDP on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” from 1st July to 6th July-2024. Organized by DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, KONERU LAKSHMAIAH EDUCATION FOUNDATION, DEEMED TO BE UNIVERSITY, BACHUPALLY CAMPUS, HYDERABAD, TELANGANA-500043.
- Dr.JAMI VENKATA SUMAN GMR Institute of Technology has attended One Week International Online FDP on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” from 1st July to 6th July-2024. Organized by DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, KONERU LAKSHMAIAH EDUCATION FOUNDATION, DEEMED TO BE UNIVERSITY, BACHUPALLY CAMPUS, HYDERABAD, TELANGANA-500043.
- Dr.Annapantula Sudhakar GMR Institute of Technology has attended One Week International Online FDP on “Emerging Trends in Electronic Circuit Design, Signal Processing, and Communication” from 1st July to 6th July-2024. Organized by DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING, KONERU LAKSHMAIAH EDUCATION FOUNDATION, DEEMED TO BE UNIVERSITY, BACHUPALLY CAMPUS, HYDERABAD, TELANGANA-500043.

ONLINE COURSES

- TELAGARAPU PRABHAKAR successfully completed all courses and received passing grades for a Professional Certificate in IBM Python Data Science a program offered by IBM, in collaboration with edx.

PATENTS

- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr. Geetamma Tummalapalli in respect of the application of such design to: Robotic Device for Integrated Circuits Fabrication International Design Classification: Version: 14-2023 Class: 15 MACHINES, NOT ELSEWHERE SPECIFIED Subclass: 99 MISCELLANEOUS.
- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr. Ravi Shankar Saxena in respect of the application of such design to: AI Based Digital Clock International Design Classification: Version: 14-2023 Class: 10 CLOCKS AND WATCHES AND OTHER MEASURING INSTRUMENTS, CHECKING AND SIGNALLING INSTRUMENTS Subclass: 01 CLOCKS AND ALARM CLOCKS.
- In pursuance of and subject to the provision of Registered Designs Act 1949, the design of which a representation or specimen is attached, had been registered as of the date of registration shown above in the name of Dr.Tanikella Venkata Suryanarayana Divakar in respect of the application of such design to: Sensor-Based Wireless Earbuds with Noise Cancellation: A New Era of Audio International Design Classification: Version: 14-2023 Class: 14 RECORDING, TELECOMMUNICATION OR DATA PROCESSING EQUIPMENT Subclass: 01 EQUIPMENT FOR THE RECORDING OR REPRODUCTION OF SOUNDS OR PICTURES.