DEPARTMENT OF ECE

NEWSLETTER

MAY- JUNE 2024

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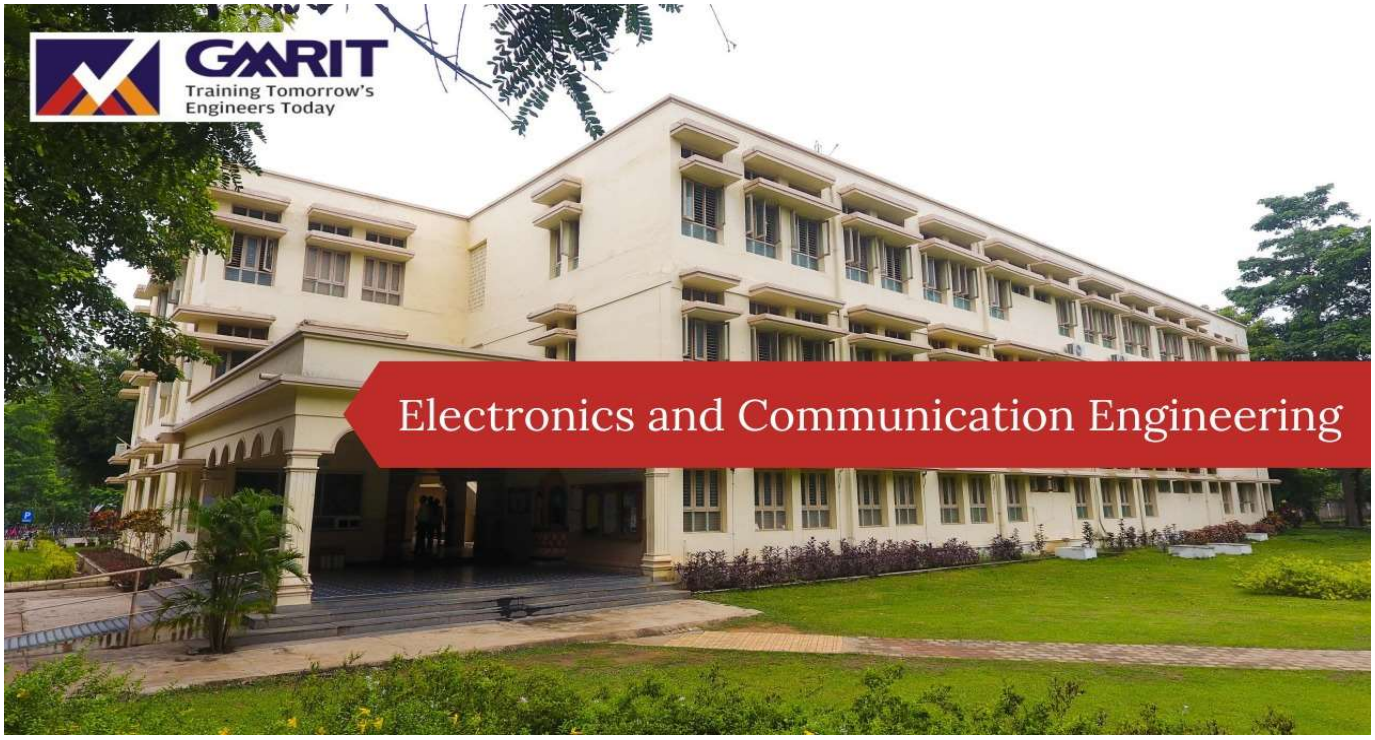
1. ELECTRONICS AND COMMUNICATION ENGINEERING DEPARTMENT

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

2. FACULTY PUBLICATIONS & ACHIEVEMENTS

JOURNAL PAPERS

1. Amani K. Samha, Ghalib H. Alshammri, Niroj Kumar Pani, Yogesh Misra, and Venkata Ratnam Kolluru Paper entitled "Privacy-Preserving Wireless Sensor Networks for E-Healthcare Applications", International Journal of Cooperative Information Systems, on 5/1/2024, Publisher World Scientific Publishing Co Pvt Ltd Volume: 0, Issue No:0, Page No:0, ISSN No:1793-6365 . Impact factor: 1.38 Index: Sci
2. Dr. D. Srinivasa Rao Paper entitled "A survey of train disasters and safety systems in Indian railways with a focus on signalling and telecommunications" Journal of Disaster Advances, on 5/2/2024, Publisher World Research Associations, Volume No:17 Issue No:6, Page No:40-46, ISSN No:2278- 4543. Index: Scopus.
3. Nagandla Prasad, Pokkunuri Pardhasaradhi, B.T.P. Madhav, G.V. Ganesh, paper entitle "Design of Fractal shaped antenna with MBBA LC Material dispersed with ZnO nanoparticles for bandwidth improvement", International Journal of Zeitschrift für Naturforschung A , on 5/31/2024, Publisher De Gruyter Volume: 1, Issue No:1, Page No:1, ISSN No:9 . Impact factor: 1.8 Index: Sci
4. Dasari Yugandhar, M. S. R. Naidu1, Anilkumar B2 Paper entitled "A novel hybrid optimization-based improved artificial intelligence methods for pancreatic disease segmentation and diagnosis" Journal of Multimedia Tools and Applications, Publisher Springer Nature, Date of Publication 6/7/2024 Volume No:1 Issue No:1, Page No:1-9, ISSN No:2278- 4543. . Impact factor: 2.75 Index: Sci.
5. B. Srinivas, B. Anil kumar, N Lakshmi devi, VBKL Arun Paper entitled "A fine-tuned transformer model for brain tumor detection and classification" Journal of multimedia tools and applications , Publisher Springer Nature, Date of Publication 6/7/2024 Volume No:1 Issue No:1, Page No:1-25, ISSN 1573-7721. . Impact factor: 2.75 Index: Sci.

FACULTY DEVELOPMENT PROGRAMME

1. Dr. J.V. Suman attended 31 days FDP on "Remotely Monitored, Controlled & Real Time Implementation of Incubation Parameters via Cutting Edge IoT & Cloud Technology" Starting from:3/1/2024 to 3/31/2024, Organised by Department of ECE, Methodist College of Engineering and Technology, Hyderabad.
2. Dr. J.V. Suman attended FDP on "Wireless Communications for Everybody" portal Coursera, Yonsei University duration of 4 weeks date of completion 4/25/2024.
3. Dr.Yogesh Mishra6 days FDP on "Recent Trends in Embedded Systems and IoT (RTESIoT-2024)", Starting from:5/27/2024 to 6/1/2024, Organised by Online Conducted by GMR Institute of Technology, Rajam & Sri Sairam Institute of Technology, Chennai.
4. Dr.A. Sudhakar 6 days FDP on "Recent Trends in Embedded Systems and IoT (RTESIoT-2024)", Starting from:5/27/2024 to 6/1/2024, Organised by Online Conducted by GMR Institute of Technology, Rajam & Sri Sairam Institute of Technology, Chennai.

5. Dr. P. Ravi Kumar 6 days FDP on “Recent Trends in Embedded Systems and IoT (RTESIoT-2024)”, Starting from:5/27/2024 to 6/1/2024, Organised by Online Conducted by GMR Institute of Technology, Rajam & Sri Sairam Institute of Technology, Chennai.
6. Mr. B M S Srinivasa Rao 5 days FDP on “Advancing Power Grid Operations: Integrating Renewable Sources and EVs at scale”, Starting from:5/20/2024 to 6/24/2024, Organised by Online Conducted by SR University Warangal, Telangana, India.
7. Dr. T. Anil Kumar days FDP on “Recent Trends in Embedded Systems and IoT (RTESIoT-2024)”, Starting from:5/27/2024 to 6/1/2024, Organised by Dept. of ECE, GMRIT, Rajam
8. . Dr. TVS. Divakar attend a online course “Introduction to Semiconductors, PN Junctions and Bipolar Junction Transistors” Portal EDEX, Hong Kong university of science and Technology duration 8 Weeks date of completion 6/20/2024
9. 9. Dr. A. Sivasangari attend a online course “Python Basics for Data Science”, IBM duration 4 Weeks date of completion 6/22/2024
10. 10. Dr. T. Anil Kumar attend a online course “MAKE1x: 3D Printing Essentials: From Design to Reality” APSCHE edX, University of Alaska Fairbanks duration 3 weeks

PATENTS

1. Dr. P. Ravi Kumar granted patent titled “Ai-Driven Personalized News Recommendation System To Analyze User Preferences And Behaviors, Delivering Tailored News Content Based On Individual Interests” Patent No:202441032525 Date Of Publication:5/3/2024 , NA.
2. Mr. Sri. P. Kalyanchakravarthi granted patent titled “Electrochemical Biosensor Device for Measuring Water Quality Parameter” Patent No:6359028 Date of Publication:5/10/2024 , UK design.
3. Dr. J.V. Suman granted patent titled “AI based Sanitizer Robot” Patent No:6368876 Date of Publication: Date of Publication: 6/10/2024 , UK design.
4. Dr. P. Ravi Kumar attend a online course “Python Programming: Basic Skills” Portal EDEX, codio duration 5 Weeks date of completion 6/15/2024

SEMINARS AND WORKSHOPS

1. Dr. Anilkumar Tirunagari, Narasimha Makireddi, B. T. P. Madhav, B. T. P. Madhav, M. Venkateswararao attended a conference entitled “Design and Comparative Study on Planar ELC Resonators for ϵr Analysis”, 2024 IEEE Wireless Antenna and Microwave Symposium (WAMS), date on 2/29/2024, organized by WAMS Society, location Raghu Engineering College, Visakhapatnam.
2. Dr. P. Ravi Kumar et..al. attended a conference entitled “Wrist Band Antenna for Wireless Body Area Network Applications”, 2024 IEEE Wireless Antenna and Microwave Symposium (WAMS), date on 2/29/2024, organized by WAMS Society, location Raghu Engineering College, Visakhapatnam.