



VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

TECHINNOVATION

NEWS LETTER

APR - JUN, 2025

DEPT. OF ECE

VOLUME NO.: 36

ECE Department

Electronics and Communication engineering is a discipline which uses the scientific knowledge of the behaviour and effects of electrons to develop components, devices, systems, or equipment that uses electricity as part of its driving force. This engineering field encompasses many subfields like signal processing, semiconductor chip design, telecommunication, data communication networks, satellite and radar link setup, embedded systems, robotics and many more.

Electronics and Communication engineering department transforms our day-to-day lives through a multitude of innovative technologies and products. The ECE department is intended to expose students to the unlimited opportunities for innovation in this exciting field, and to the methodologies and tools used by ECE engineers for the exploration and design of new technologies and products.

The applications of Electronics & Communication engineering is an endless list with a lot of scope in each and every subfield. It is a versatile branch that opens path for core electronics & communication jobs. Besides the numerous jobs in core field, the IT sector also welcomes an ECE engineer with open arms.

As compared to other branches, there are more interdisciplinary specializations in higher studies for ECE students like Embedded Systems, VLSI, Wireless communication, Signal Processing. Therefore, ECE students have a wider choice.

Department of Electronics and Communication Engineering was started since the inception of Vignan's Institute of Management and Technology for Women during 2008 with an initial intake of 90. The strength was enhanced to 120 during 2010. The Department had added Post graduate programme in VLSI during the year 2011 and Embedded Systems during 2014 with an intake of 18 each.

The Department has state-of-art laboratories equipped with advanced and well-maintained equipment, continuously updated application software packages, more than adequate computing systems with 24x7, 40 MBPS internet facility. All faculties are having a minimum teaching experience of 4 years. Seminars, Guest Lectures, Workshops, and Technical Symposia are conducted in the department to keep faculty and students updated with the latest developments in various technologies.

The Department is accredited by the National Board of Accreditation (NBA) has been accredited by National Board of Accreditation (NBA) successively two times i.e. in 2019 and 2022, which is valid up to 2025.

ECE students of the institution are well placed in different companies with different packages.



Department Vision

To transform the students into technologically competent professionals, with abilities to address the societal challenges of the time through innovative technical practices in electronics & communication engineering.

Department Mission

- M1: To foster inquisitive-driven advanced knowledge building among students for reinforcing the domain knowledge, develop capabilities, skills and solve complex engineering problems.
- M2: To prepare industry-ready graduates for global Electronics as well as communication-based engineering companies by conducting training programs, workshops and industry visits.
- M3: To build entrepreneurship and leadership qualities, research aptitude among students for the contribution of economic and technological development in cutting edge technologies in the national and as well as in the global arena.

Program Educational Objectives:

- PEO1: To develop the student's ability on technical concepts to design, simulate, and synthesize various electronic and communication circuits & systems for their research advancements.
- PEO2: To impart analytical skills and to prepare the students to excel in applying state-of-the-art hardware and software tools to solve complex engineering problems for R&D, Industry, and societal requirements.
- PEO3: To prepare the students to work in teams, take independent decisions, and integrate engineering issues for a successful career in a multi-disciplinary environment.
- PEO4: To promote entrepreneurship among the students to become successful entrepreneurs with professional ethics.

Program Specific Outcomes:

- A graduate of the Electronics and Communication Engineering Program will be able to
- PSO1: **Professional Skills Ability:** Identify, design electronics & communication circuits and conduct experiments with electronics & communication systems, analyze and interpret data, formulate and solve electronics & communication engineering problems.
 - PSO2: **Industrial Skills Ability:** Design digital and analog systems, algorithms, fire ware, modern engineering tools, software, etc. as per needs and specifications and work in laboratory and multidisciplinary tasks.
 - PSO3: **Ethical and Social Responsibility:** Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show an understanding of the impact of engineering solutions on the society, and also will be aware of contemporary issues.

EDITORIAL BOARD

- Mr.P.Harikrishna, HOD, ECE.
- Mrs. D. Shirisha, Assistant Professor, ECE.
- Mrs. V. Suzan Shalini, Assistant Professor, BS&H.
- M. Raja Suhasini IV-I, ECE (Student)
- Surigi Shivani IV-I, ECE (Student)
- Bonala Sohini III-I, ECE (Student)
- A.Vasanthi II-I, ECE (Student)



HOD'S MESSAGE

Mr. P.Harikrishna,
Associate Professor &
HEAD OF THE DEPARTEMENT,
DEPARTMENT OF ELECTRONICS
AND COMMUNICATION
ENGINEERING.

It gives me immense pleasure to present the April–June 2025 issue of our department newsletter, TECHINNOVATION. This newsletter reflects the dedication and achievements of our students and faculty, celebrating academic excellence, innovation, and creativity. I congratulate everyone involved in maintaining the high standards of the department and wish our students continued success in their professional journey.

FDP ATTENDED

SI No	Name of the faculty	Title	Event Type	Date of event	Mode of attending
1	Mr.E.Nagaraju	Semiconductor Technology: Advancing from Fundamentals to Future Innovations	National	15/06/2025 TO 20/06/2025	ONLINE
2	Mrs.G.Susmitha	Recent Trends In Vlsi Design And Modeling Using Cadence Tools	National	16/06/2025 to 21/06/2025.	ONLINE
3	Mrs.G.Swathi	Advancing from Fundamentals to Future Innovations	National	15/06/2025 TO 20/06/2025	ONLINE
4	Mrs.G.Swathi	deep learning	AICTE	26/04/2025	ONLINE
5	Mrs.D.Shirisha	AI Mastery for Educators	National	15/05/2025 TO 07/06/2025	ONLINE
6	Mrs.D.Shirisha	Semiconductor Technology: Advancing from fundamentals to future Innovations	National	15/06/2025 To 20/06/2025	ONLINE
7	Mrs.M.Pravallika	AI Tools Organized	National	17/06/2025 TO 21/06/2025	ONLINE
8	Mr.J.Sunil Kumar	Semiconductor Technology advancing from fundamentals to future innovations	National	15-06-25 20-06-2025	ONLINE

EVENTS AT DEPARTMENT

Celebrating Talent and Togetherness: The Annual College Fest

The annual college fest is the most awaited event of the year, bringing together students, faculty, and staff to celebrate talent, creativity, and camaraderie. This year's fest was a perfect blend of culture, technology, and entertainment, making it a memorable experience for everyone.

Events and Activities

The fest featured technical competitions, cultural performances, quizzes, debates, and exhibitions. Students showcased innovative projects, breathtaking dance and music performances, and artistic creations that reflected their hard work and creativity.

Student article on Paper Presentation on 5G Communication

Second-year students from the ECE department participated in the IEEE Student Conference 2025, presenting a paper titled “Advancements in 5G Network Optimization.” The team explained how adaptive antenna arrays can improve latency and connectivity. Their well-researched presentation earned them the Best Paper Award at the event, showcasing the growing research culture within the department.

Unity and Collaboration

Departments collaborated to organize events, encouraging teamwork, leadership, and cross-disciplinary interaction. The fest also included guest lectures and workshops, giving students opportunities to learn from experts and industry professionals.

Memories to Cherish

The college fest was more than a celebration — it was a platform to explore talent, build friendships, and create lasting memories. It reminded everyone that college life is not just about academics but also about joy, learning, and togetherness.

“A college fest is where talent shines, ideas flourish, and memories are made that last a lifetime.”



FACULTY PUBLICATIONS

Sl No	Author	Title	Date of event	ISSN No	Journal
1	Mr.E.Nagaraju	Dual Axis Solar Tracking System with Temperature and Voltage Measurement	Jun-25	2319-2690	IJSAT
2	Mr.E.Nagaraju	Electronic Voting Machine Based On Fingerprint Scanner	Jun-25	2319-2690	IJSAT
3	Mrs.G.Indira Priya darshini	Solar Power Environmental Air Pollution, Water Quality & Climate Control Monitoring System Based on IoT	May-25	2319-2690	IJSAT
4	Mrs.G.Swathi	Zigbee based secure wireless communication using AES	Jun-25	ISSN :2582-3930	IJSREM
5	Mr.D.Naresh	Electronic Protection Of Exam Paper Leakage	Jun-25	2319-2690	IJSAT
6	Mrs.D.Shirisha	Fire Fighting Robot	03/06/2025	2349-5138	IJSAT
7	Mrs.D.Shirisha	Exact Compressor-Based Approximate Multiplier Architecture for Next-Generation Neural Network Processing		ICEE 2025	SCOUP US
8	Mr.J.Sunil Kumar	Design and ANALYSIS OF High performance GAN LNA	06-06-2025	2582-3930	IJSREM
9	Mr.G.Ganesh Reddy	Design of Automatic Pet Feeder Using Arduino	June, 2025	2582-3930	IJSREM
10	Mr.G.Ganesh Reddy	IOT Enabled Cold Chain Alerts	June, 2025	2582-3930	IJSREM
11	Mr.G.Ganesh Reddy	Vehicle Driving Safety System Using Microcontroller	June, 2025	2582-3930	IJSREM

WORKSHOP'S ATTENDED

Sl No	Name of the faculty	Title	Event Type	Date of event	Mode of attending
	Mr.E.Nagaraju	AI tools and ChatGPT	National	14/05/2025	ONLINE
2	Mr.D.Naresh	AI Tools Workshop	National	01/06/2025	ONLINE
3	Mrs.D.Shirisha	AI Tools Mastery Workshop	National	17/05/2025	ONLINE
4	Mrs.D.Shirisha	AI Tools Workshop	National	01/06/2025	ONLINE
5	Dr.G.Jhansi Reddy	Workshop on AI Tools	National	01/06/2025	ONLINE
6	Mrs.M.Pravallika	Ph.D. Planning: A Step-by-Step Guide	National	04/06/2025	ONLINE

EVENTS - TECHNICAL (ATTENDED) (WEBINARS/SEMINARS)

Sl No	Name of the faculty	Title	Event Type	Date of event	Mode of attending
1	Mrs.G.Indira Priya darshini	Power BI	National	May-25	ONLINE
2	Mrs.G.Indira Priya darshini	Excel Using AI	National	May-25	ONLINE
3	Ms.G.Susmitha	The Final Leap: Executing Research and Writing Powerful Ph.D. Results and Discussion	National	28/05/2025	ONLINE
4	Mrs.D.shirisha	Ph.D Planning-A step-by-Step Guide	National	28/05/2025	ONLINE
5	Mrs.M.Pravallika	Ph.D Planning-A step-by-Step Guide	National	04/06/2025	ONLINE

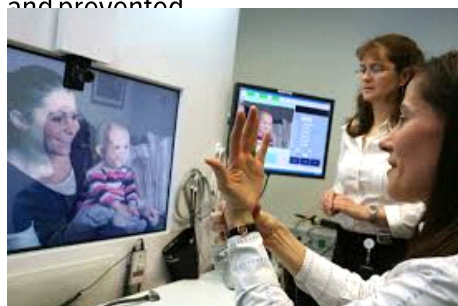
Faculty article on Revolutionizing Modern Healthcare through Technology

By, Mrs Nagaraju , Assistant Professor

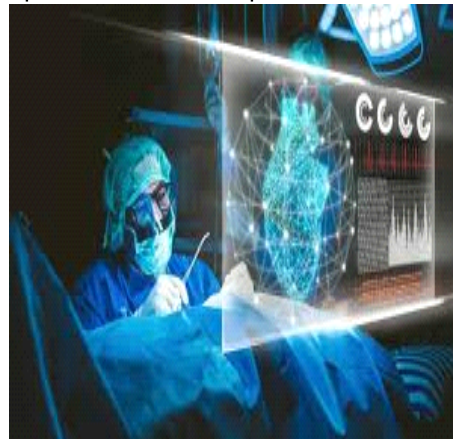
Revolutionizing Modern Healthcare through Technology



The integration of advanced technologies is transforming the global healthcare landscape, making it more efficient, personalized, and accessible. Innovations in Artificial Intelligence (AI), Internet of Things (IoT), Big Data Analytics, and Biotechnology are revolutionizing the way diseases are diagnosed, treated, and prevented.



AI-driven diagnostic tools now assist doctors in detecting illnesses such as cancer and heart disease with remarkable accuracy. Wearable IoT devices continuously monitor patients' vital signs, enabling real-time health tracking and early detection of medical conditions. Big Data analytics empowers healthcare providers to analyze patient data, predict disease outbreaks, and optimize treatment plans.



Moreover, robotic surgeries, telemedicine, and genomic research are bridging gaps in healthcare delivery, making precision medicine a reality. As digital innovation continues to evolve, the synergy between technology and medicine promises a future where healthcare is not only curative but also predictive and preventive.

One-Day National Level Seminar on “Research Paper Writing & Patent Filing for ECE Students”

Introduction

The Department of Electronics and Communication Engineering (ECE) at Vignan's Institute of Management and Technology for Women, in association with IETE, organized a One-Day National Level Seminar on “Research Paper Writing & Patent Filing for ECE Students” on 4th June 2025.

The seminar aimed to create awareness among students about the importance of research, scholarly publication, intellectual property rights, and patent filing procedures in the field of Electronics and Communication Engineering.

Objectives of the Seminar

- To provide guidance on writing high-quality research papers.
- To explain the structure and format of technical papers.
- To create awareness about plagiarism and ethical research practices.
- To introduce Intellectual Property Rights (IPR) concepts.
- To explain the procedure for patent filing in India.

Session 1: Fundamentals of Research Paper Writing

The session covered:

- Identifying research problems in ECE domains
- Literature survey and review techniques
- Structure of a research paper (Abstract, Introduction, Methodology, Results, Conclusion)
- Selecting appropriate journals and conferences

- Referencing styles and citation management tools

Students were guided on how to improve the quality, clarity, and originality of their technical writing.

Session 2: Plagiarism and Publication Ethics

The speaker emphasized:

- Importance of academic integrity
- Avoiding plagiarism
- Use of plagiarism checking tools
- Ethical guidelines for publication

Real-time examples were discussed to highlight common mistakes made by beginner researchers.

Session 3: Patent Filing Process

The seminar further focused on:

- Introduction to Intellectual Property Rights (IPR)
- Types of patents and their significance
- Steps involved in patent filing in India
- Drafting a patent specification
- Role of innovation and prototype development

Students were encouraged to convert their project ideas into patentable innovations.



Outcomes of the Seminar

- Enhanced awareness about research methodologies and academic writing.
- Improved understanding of publication standards and ethics.
- Knowledge gained about patent filing procedures in India.
- Motivation among students to publish research papers and file patents.
- Strengthened research culture within the ECE department.

Conclusion

The One-Day National Level Seminar on “Research Paper Writing & Patent Filing for ECE Students” organized by the ECE Department at Vignan's Institute of Management and Technology for Women under the banner of IETE was successfully

conducted.

The seminar provided valuable insights into academic research, publication ethics, and intellectual property rights. It significantly benefited students by equipping them with essential knowledge required for research excellence and innovation in the field of Electronics and Communication Engineering.



Two-Day National Level Workshop on “Antenna Design and Simulation using HFSS”

Introduction

The Department of Electronics and Communication Engineering (ECE) at Vignan's Institute of Management and Technology for Women, in association with ISTE, organized a Two-Day National Level Workshop on “Antenna Design and Simulation using HFSS” on 27th and 28th June 2025.

The workshop aimed to provide participants with practical knowledge of antenna design principles and hands-on experience in electromagnetic simulation using HFSS software.

Objectives of the Workshop

- To understand the fundamentals of antenna theory and radiation mechanisms.
- To introduce electromagnetic simulation concepts.
- To provide hands-on training in HFSS for antenna modeling and analysis.
- To analyze antenna parameters such as gain, return loss, VSWR, and radiation pattern.
- To enhance practical design skills for wireless communication applications.

Day 1: Fundamentals of Antenna Design

The first day focused on theoretical concepts including:

- Basics of electromagnetic waves
- Types of antennas (Dipole, Monopole,

Patch, Microstrip)

- Antenna parameters: Gain, Directivity, Bandwidth, Efficiency
- Introduction to simulation tools and HFSS interface

The resource person explained real-time applications of antennas in wireless communication, satellite systems, and radar technology. Participants were introduced to the basic environment of HFSS and its design workflow.

Day 2: Hands-on Simulation using HFSS

The second day emphasized practical implementation:

- Designing a microstrip patch antenna
- Setting up boundary conditions and excitation
- Meshing and simulation process
- Analysis of S-parameters and radiation patterns
- Optimization techniques for better antenna performance

Participants actively engaged in simulation exercises and analyzed the results using graphical outputs. The hands-on session helped them understand the correlation between theoretical design and simulated performance.

Participation

The seminar witnessed active participation from ECE students and faculty members. Participants showed keen interest in understanding research documentation and patent procedures. The interactive session at the end allowed students to clarify their doubts regarding publication and intellectual property rights.

Outcomes of the Workshop

- Improved understanding of antenna fundamentals and design principles.
- Practical exposure to HFSS simulation software.
- Ability to analyze antenna performance parameters.
- Enhanced skills in designing antennas for wireless applications.
- Encouragement towards research and innovation in RF and microwave engineering.

The seminar provided valuable insights into academic research, publication ethics, and intellectual property rights. It significantly benefited students by equipping them with essential knowledge required for research excellence and innovation in the field of Electronics and Communication Engineering.



VIGNAN'S
INSTITUTE OF MANAGEMENT AND
TECHNOLOGY FOR WOMEN

Congratulations

Batch
2024-2025

RUCHITHA MADDURU
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Batch: 2024-25

Congratulations!



VIGNAN'S

INSTITUTE OF MANAGEMENT AND
TECHNOLOGY FOR WOMEN

8

STUDENTS
HAVE BEEN
SELECTED

EMPOWERING WOMEN



21LP104010
CH. MANISHA
ECE



21LP104014
G. DIVYESHREE
ECE



21LP104016
G. CHIRANJANA
ECE



21LP104092
A. SAMYASH
ECE



21LP104004
N. SARIKA
ECE



21LP104008
G. DIVYA
ECE



21LP104005
S. DIVYA
ECE



21LP104014
S. HARINI
ECE

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LAKHS
PER ANNUM

PO11 : Life-Long Learning: Recognize the need for, and have the preparation and ability for
i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (Wk8)