



# VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN

# TECHINNOVATION

## NEWS LETTER

OCT - DEC, 2022

DEPT. OF ECE

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### 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.
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## 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 Oct- Dec,2022 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     | G.Swathi            | FDP“Applied Python & IOT with Raspberry Pi”. | National   | 16th and 17th December 2022 | OFFLINE           |

## FACULTY PUBLICATIONS

| SI No | Author        | Title                                                                                                    | Date     | ISSN No                                               | Journal name |
|-------|---------------|----------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------|--------------|
| 1     | Dr.T.Pullaiah | BΔNIS: Performance analysis of an efficient data compression technique for on-chip communication network | Nov 2022 | Vol: 89:<br>Issue :<br>Page no:83-93, ISSN: 0167-9260 | SCI          |

## BOOKS & CHAPTERS PUBLISHED

| S. No | Author       | Title of book                                                  | Date   | ISSN              |
|-------|--------------|----------------------------------------------------------------|--------|-------------------|
| 1     | Mrs.G.Swathi | Introduction to Basics of VLSI Design-A comprehensive Approach | Nov-22 | 978-93-93769-37-4 |

## WORKSHOP'S ORGANIZED

| Sl No | Name of the faculty         | Title                 | Event Type | Date of event           | Mode of attending |
|-------|-----------------------------|-----------------------|------------|-------------------------|-------------------|
| 1     | Mrs.G.Indira priya darshini | My SQL and salesforce | National   | 14-11-2022To 15-11-2022 | OFFLINE           |

### Faculty article on Metaverse: Reality, Virtual Worlds, and Human Connection

By, B.SIRISHA Assistant Professor

Metaverse: Reality, Virtual Worlds, and Human Connection

The Metaverse is a digital universe where real and virtual worlds merge, creating immersive spaces for work, play, and connection. Unlike traditional online platforms, it's interactive, shared, and persistent—continuing to exist even after users log off. With technologies like Virtual Reality (VR), Augmented Reality (AR), and Blockchain, the metaverse is transforming how we live, learn, and interact.

Originally rooted in gaming, the metaverse now extends to virtual offices, concerts, museums, and even shopping experiences. It's redefining human connection in the digital age—making remote meetings more engaging and online friendships more meaningful through lifelike avatars and shared experiences.

Blockchain adds a new dimension by enabling digital ownership of virtual assets such as NFTs and virtual land, creating a thriving digital economy. While the metaverse offers endless opportunities—from virtual tourism and education to digital entrepreneurship—it also brings challenges like privacy risks, cybercrime, and addiction. The metaverse isn't just a tech trend;

it's a glimpse into a future where innovation meets imagination. As virtual and physical worlds continue to blend, this new digital frontier is set to redefine how humanity connects, creates, and collaborates.

### Student article on The Gen Z Way of Making Change

By, Najma Illrd year

#### From Online Movements to Start-Up Moments: The Gen Z Way of Making Change

In today's digital world, a single post or video can spark a global movement. Gen Z is redefining what it means to create change—turning hashtags into real-world impact and ideas into innovation.

From climate action campaigns to mental health awareness drives, young voices are using social media not just for expression but for empowerment. Movements like Fridays for Future and #MeToo show how digital activism can lead to lasting social transformation.

At the same time, Gen Z is reshaping the world of work. With freelancing, content creation, and start-up culture on the rise, students are becoming creators, innovators, and entrepreneurs. Platforms like YouTube, Fiverr, and Upwork have become classrooms for skill, creativity, and independence.

Hackathons, late-night coding sessions, and brainstorming marathons are now the breeding

grounds of next-gen start-ups. These events spark not just projects but a mindset of entrepreneurship and problem-solving.

What truly defines Gen Z is their ability to link passion with purpose—combining creativity with consciousness. From apps that promote mental health to start-ups tackling sustainability, they prove that success and social impact can go hand in hand.

Armed with technology, empathy, and collaboration, Gen Z isn't waiting for opportunities—they're creating them. From hashtags to hustles, from likes to launches, this generation is building a bold, connected, and unstoppable future.

## Department Event

### One-Week Workshop

Department of Electronics and Communication Engineering

Vignan's Institute of Management and Technology for Women

The Department of Electronics and Communication Engineering (ECE), Vignan's Institute of Management and Technology for Women, organized a One-Week Workshop from 14th to 19th November, 2022 at the college campus.

The workshop was conducted under the guidance of Ms. G. Indira Priyadarshini, Associate Professor, ECE, who served as the Speaker and Coordinator for the event. The program aimed at enhancing the technical knowledge and practical skills of students in emerging technologies relevant to Electronics and Communication Engineering.

### Objective of the Workshop

The primary objective of the workshop was:

- To provide hands-on training and practical exposure.
- To bridge the gap between theoretical knowledge and real-time applications.

- To improve students' technical competency and industry readiness.
- To introduce advanced tools and technologies used in the field of ECE.

### Session Highlights

During the one-week workshop:

- Students were introduced to fundamental and advanced concepts related to the workshop theme.
- Practical demonstrations and live examples were conducted.
- Hands-on sessions allowed participants to work on real-time problems.
- Doubt clarification sessions encouraged interactive learning.
- Students were guided on implementation techniques and project development approaches.

The sessions were designed to be interactive, enabling students to actively participate and clarify their queries.

### Outcomes of the Workshop

The workshop resulted in:

- Improved practical knowledge among students.
- Better understanding of real-world applications.
- Enhanced confidence in handling technical tools.
- Motivation to undertake innovative projects.
- Development of teamwork and problem-solving skills.

The One-Week Workshop conducted by the Department of ECE was highly informative and beneficial for students. Under the effective coordination of Ms. G. Indira Priyadarshini, the workshop achieved its objectives successfully. Such initiatives significantly contribute to academic excellence and prepare students to meet industry demands.

### Program Outcomes (Adapted from NBA)

Engineering Graduates will be able to:

**P01: Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**P02: Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**P03: Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**P04: Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**P05: Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**P06: The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**P07: Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**P08: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**P09: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**P010: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**P011: Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**P012: Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.



**VIGNAN'S INSTITUTE OF MANAGEMENT AND TECHNOLOGY FOR WOMEN**

Sponsored by Lavu Educational Society, Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad.  
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**WORKSHOP ON**



**ON 14<sup>TH</sup> & 15<sup>TH</sup> NOVEMBER, 2022**

**Speaker & Co-Ordinator:**  
**Ms. G. Indira Priyadarshini**  
Assistant Professor, ECE

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**