2024-25

DEPARTMENTAL NEWSLETTER

HALF EARLY IN HOUSE NEWSLETTER

By

THE DEPARTMENT OF

Electronics and Communication Engineering

B.P. Poddar Institute of Management and Technology

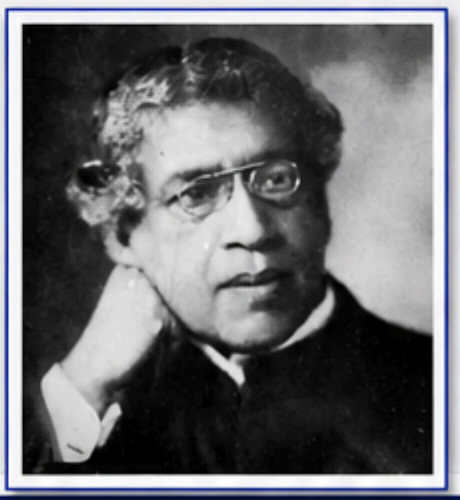
Issue: MARCH EDITION

EDITORIAL BOARD | Bapan Banik (2nd Year) | Sakchham Kapoor (1st Year) | Archita Hazra (1st Year)

"The true laboratory is the mind, where behind illusions we uncover the laws of truth"

Jagadish Chandra Bose

(November 30, 1858, to November 23, 1937)



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B. P. Poddar Institute of Management & Technology
Department of Electronics & Communication

Vision, Mission, PEO, PO, PSO

Vision of the Institute

To emerge as a progressive and premier institute for Engineering and Technology education with ethical values for creative engineering solutions with global changes.

Mission of the Institute

1. Offer quality education through a modern accessible, comprehensive and research oriented teaching-learning process.
2. Create opportunities for students and faculty members in acquiring knowledge through research and development.
3. Providing effective interface with industry by strengthening Industry- Institute interaction and developing entrepreneurial skills.
4. Meet ever-changing needs for the nation through rational evolution towards sustainable and environment friendly technologies.

Vision of the Department

To emerge as a premier department for studies in Electronics and Communication Engineering.

Mission of the Department

1. Imparting innovative educational program through laboratory and project-based teaching-learning process for meeting the growing challenges of industry and research.
2. Providing an inspiring and conducive learning environment to prepare skilled and competent engineers and entrepreneurs for sustainable development of the society.
3. Creating a knowledge centre of advance technologies committed to societal growth using environment-friendly technologies

Program Educational Objectives:

PEO1: Graduates of Electronics and Communication Engineering will be able to use latest tools and techniques to analyze, design and develop novel systems and products to solve real life problems.

PEO2: Graduates of Electronics and Communication Engineering will have strong domain knowledge, skills and attitude toward employment in core and allied industries, higher studies and research or will become successful entrepreneurs.

PEO3: Graduates of Electronics and Communication will exhibit ethical values, professionalism, leadership, communication and management skills, team work and multi-disciplinary approach to adapt current trends in technology through life-long learning.

Program Outcomes (POS)	
1. Engineering knowledge	7. Environment and sustainability
2. Problem analysis:	8. Ethics
3. Design/development of solutions	9. Individual and team work
4. Conduct investigations of complex problems	10. Communication
5. Modern tool usage	11. Project management and finance
6. The engineer and society	12. Life-long learning

Program Specific Outcomes (PSO)

PSO1: Students will acquire knowledge in Advance Communication Engineering, Signal and Image Processing, Embedded and VLSI System Design.

PSO2: Students will qualify in various competitive examinations for successful employment, higher studies and research.

TECH TRENDS-*FUTURE IS NOW*

Tesla Optimus GEN 2– By TESLA

Release Date -January 2024

AI-DRIVEN HUMANOID ROBOT

Tesla's humanoid robot Optimus Gen 2 became one of the most hyped innovations Optimus Gen-2 is lighter, faster, and more stable, demonstrating near-human movement and precision.

Physical Specs

- Height: ~173 cm, Weight: ~57 kg
- Powered by Tesla-designed actuators + high-density Li-ion battery
- Runs up to 2 hours of continuous task operation

Mobility & Handling

- 28 degrees of freedom with human-like balance,
- Advanced hand dexterity for delicate object handling.
- Self-calibrating walking with improved gait stability.
- Lifts up to 10–20 kg depending on task.

Vision & Intelligence

- Tesla Autopilot-grade cameras for spatial perception.
- AI model trained on vehicle + humanoid movement datasets.
- Real-time object segmentation for indoor tasks.

Optimus showed smooth walking, yoga moves, and object sorting, proving that Tesla is moving toward an AI-driven automated workforce.

Apple Vision Pro — by APPLE

Release Date — February 2, 2024

Spatial Computing Experience Apple Vision Pro is the first consumer “spatial computer” blending digital content with real- world space using eye, hand, and voice control.

Display & Optics

- Dual micro-OLED panels
- 23 million pixels
- Custom R1 chip for real-time sensor processing

Interaction System

- Eye-tracking with sub-millisecond accuracy
- Gesture-based controls (tap, pinch, scroll)
- Spatial audio with dual

drivers Battery & Usage

- 2 hours with external battery
- Full-day use when connected to power

Applications

- Used in education, gaming, healthcare, engineering, and virtual collaboration.
- Helps create immersive AR/VR experiences.

RECENT EVENTS

ONE DAY INDUSTRY VISIT AT THE AT C-DAC, Kolkata

The Department of Electronics and Communication Engineering (ECE), BPPIMT,

Kolkata organized a one-day industrial visit to the Centre for Development of Advanced Computing (C-DAC), Kolkata on 24th February 2025. A group of 25 ECE students, accompanied by two faculty members, took part in the visit.

During the session, project engineers and scientists shared valuable knowledge about several cutting-edge technologies, including the Water Quality Determination System, Tea Leaf Picking Machines, Diarrhoea Detection Device, and Chili Sorting Machine. Students were also introduced to advanced research areas like image processing and pattern recognition.

The visit offered a highly enriching experience, giving students firsthand exposure to the workings of one of India's leading R&D institutions driving the IT and technological revolution.

SCHOOL AWARENESS PROGRAM

The SPIE Student Chapter at BPPIMT organized a School Awareness Program on March 20, 2025, at Panpur Makhonlal High School. The event was led by SPIE student chapter members from the ECE department under the guidance of the Faculty Advisor of the Student Chapter, BPPIMT, and the Head of the ECE Department, Prof. (Dr.) Ivy Majumdar.

During the session, two solar cell-based projects were showcased. The first project, a Weather Monitoring System powered by a solar cell, displayed real-time temperature, humidity, and rainfall data. The second

project, a Dual Axis Solar Tracker, demonstrated how solar panels can adjust their position to follow sunlight for maximum efficiency.

The primary objective of this initiative was to spread awareness and technical knowledge among young minds while introducing students to SPIE's global contributions and activities. The enthusiastic participation and positive feedback from the students reflected their engagement and enjoyment in the session.

SOCIAL AWARNESS PROGRAM by SPIE

SPIE student Chapter, BPPIMT conducted a Social Awareness Program by the students of the core committee, on 3rd and 4th March, 2025 at Kalikapur, Kakdwip, South 24 Parganas. The students along with Faculty Advisor Prof. (Dr.) Ivy Majumdar and Prof. (Dr.) Surajit Mandal, reached the place and witnessed the challenges faced by the lack of electricity. SPIE student Chapter, BPPIMT donated Solar Street Light System to the community. They also distributed some Solar light among the common people to facilitate their household work.

STAFF DEVELOPMENT PROGRAM ON EMBEDDED SYSTEMS AND INTERNET OF THINGS (IoT)

A two day Staff Development Program is organised focusing on Embedded Systems and Internet of Things (IoT) from 9.1.2025 to 10.1.2025. It is designed to bridge the gap between traditional hardware engineering and modern connected technologies. This program typically focus on how "tiny computer brains" (embedded systems) are integrated with internet connectivity to create smart, data-driven ecosystems (IoT). Our institutional faculty members Dr. Debarati Dey, Ms. Sujata Pal, Mr. Ramesh Kumar and Mr. Mostafa Seikh have covered topics on Smart IoT Systems using Embedded Systems, Embedded Systems & IoT for Real-time Applications, Building Intelligent IoT Solutions with Embedded Systems, Practical Embedded Systems and IoT Integration etc. during this two days event. Sixteen members from the Electronics, Computer Science and Information Technology departments have participated in this event and successfully completed the program.

ALUMNI REUNION "DOWN ECE LANE 2025"

Organized by the Department of Electronics & Communication Engineering

The Department of Electronics & Communication Engineering, B. P. Poddar Institute of Management & Technology, organized the Alumni Reunion "Down ECE Lane 2025" on 21st June 2025 at the BPPIMT VIP Campus. A number of alumni enthusiastically attended the event, reconnected with faculty members, and engaged in meaningful interactions with the department. They shared their professional experiences, career

journeys, and valuable insights with the current academic community. Additionally, some alumni joined the event online, ensuring their presence and contribution despite geographical constraints.

PARENT–TEACHER MEETING

The Parent-Teacher Meeting was held on 30/3/2024 from 1.30 pm to 3.30 pm for the academic year 2025-26,2024-25,2024-23,2023-22 respectively. It was mandatory for all the students to meet with their respective mentors along with their parents at their respective classrooms. The meeting was in view of discussing about academic performance, attendance, and progress in studies.for the betterment of the students. Parents came to create a strong connection between parents and faculty members for better understanding and cooperation.

ACHIVEMENTS & AWARDS

YOU MAKE US PROUD

Literary & Cultural Competitions

- Aditya Jaiswal – 1st Prize in Extempore Competition during Anti-Ragging Week, BPPIMT
- Tipsa Pal – 1st Prize in Kalpakalam 2.25, BPPIMT
- Sukanya Sarkar – 3rd Prize in Kalpakalam 2.25, BPPIMT
- Shreya Bhattacharya – 1st Prize in Poster Making during Anti-Ragging Week, BPPIMT
- Parna Chakraborty – 2nd Prize in Earth Day Drawing Competition, BPPIMT

Technical & Innovation Events

- Adrija Ghosh, Oindrila Mishra, and team – Ranked in Top 4 at Innova Hackathonorganized by GCETT
- Arunadoy Pramanik – 2nd Prize in Omegatrix Techstrom 2.25, BPPIMT
- Niladri Saha – Runners-up in Hack n Pitch, Jadavpur University

Sports Achievements

Bharati Mishra and team – Runners-up in Inter-College Women's Throwball Tournament organized by iLEAD.

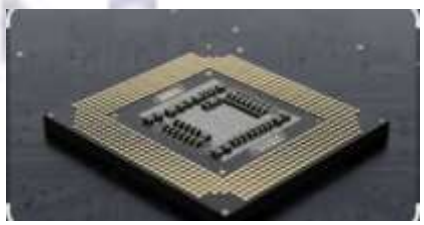
Team ARES

- Secured 1st place in Robo Soccer at SKFGI, Mankundu
- Achieved Runners-up position in Robo Race at RCCIIT
- Earned Runners-up in Robo Soccer and 2nd Runners-up in Ro-Navigator at BPPIMT
- Won 1st place and Runners-up in Robo Soccer, and 2nd Runners-up in Robo Race at Kalyani Government College of Engineering
- Clinched 1st place in Robo Soccer at MSIT
- Bagged Winner and Runners-up titles in Robo Race, andRunners-up in Robo Soccer at Jadavpur University
- Stood 2nd Runners-up in Rob o Race at FIT

Frequency Fun

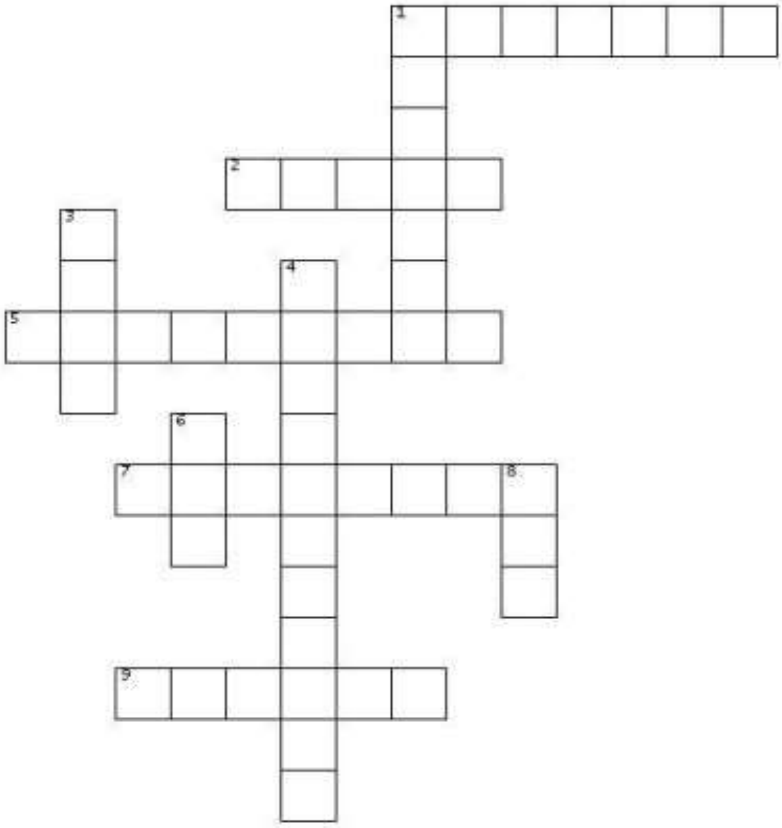
Your Wi-Fi, Bluetooth, and microwave all use frequencies — just in different ways!

The first commercial Microprocessor, the Intel 4004, was released in 1971 and had only 2,300 transistors — modern processors have billions.



BRAIN-BREAK

CROSSWORD PUZZLE

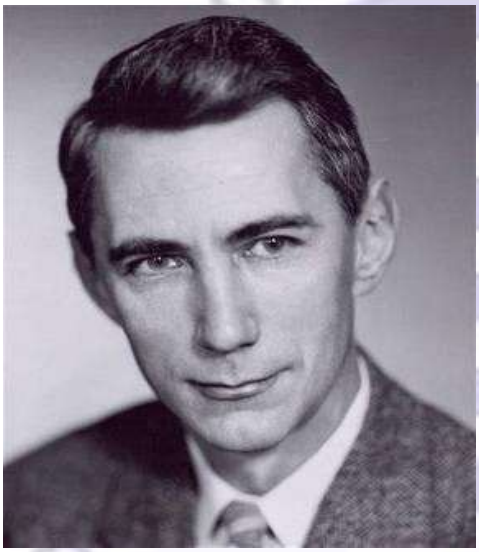


ACROSS
1. of finding and fixing errors in code
2. service model that provides virtual machines
5. memory that stores running programs
7. name for a portable document format
9. used to connect a computer to the internet wirelessly

DOWN
1. version control system used by developers
3. source operating system popular among developers
4. language mainly used for web styling
6. brain of a computer that executes instructions
8. full form of AI

"Communication is the transmission of information." **- Claude Shannon**

CLAUDE SHANNON (1916–2001)



Claude Shannon was an American mathematician and engineer who laid the foundation of the modern digital world. He proved that information can be measured, transmitted, compressed, and protected from noise. He Created Information Theory (1948), Introduced bits (0 and 1), Laid groundwork for digital communication, data compression, coding, cryptography, telecom, and computers.

ECE isn't just a department — it's a vibe. Keep exploring. Keep creating. Keep shining!