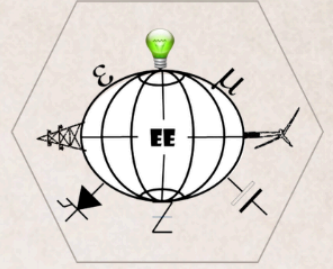




# SPARK



## A Bi-yearly in-House Newsletter of Department of Electrical Engineering

B.P. Poddar Institute of Management & Technology

### **Vision of the Institute**

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

### **Mission of the Institute**

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

### **Vision of the Department**

To emerge as a knowledge hub for higher learning and research in Electrical Engineering.

### **Mission of the Department**

- To create a conducive quality teaching –learning environment to make the student assimilate thorough knowledge in Electrical Engineering. To create a platform for building confidence among faculties and students by exchanging their views through research, interactive sessions with industry and by the use of modern tools.
- To adopt a goal driven teaching learning method to foster innovative entrepreneurship skills in student community with expertise in different engineering domain.
- To enable students to become authorities in the field of electrical engineering along with sustainable and environment friendly technologies to meet the societal needs.

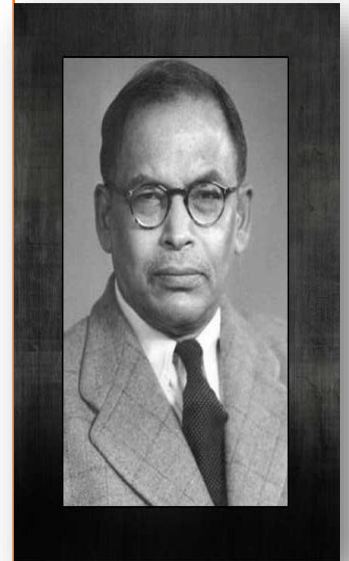
### **Program Educational Objectives**

The graduates of Electrical Engineering shall:

- Acquire adequate physical, analytical and technical knowledge of Electrical Engineering and allied fields to curate solutions, which effectively address the challenges posed by dynamic work environments.
- Inculcate self- assurance, collaborative spirit, critical thinking and acumen for innovation towards gaining a competitive edge in research and development as well as in entrepreneurial ventures.
- Imbibe professional ethics and the attitude to bank on sustainable and eco-friendly practices only, for the wellbeing of society at large.

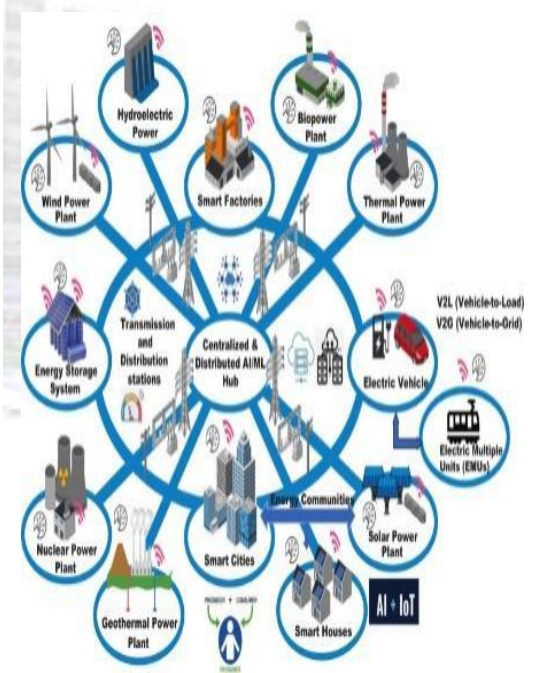
## Remembering Meghnad Saha: The Architect of Stellar Science

Meghnad Saha (1893–1956) was a pioneering astrophysicist and a key figure in contemporary theoretical astronomy. Born in Shaoratoli, Bengal Presidency (now Bangladesh), he rose from humble beginnings to international prominence. His most significant contribution, the Saha Ionization Equation (1920), elucidated the influence of temperature and pressure on the ionization of atoms in stellar atmospheres, fundamentally transforming astrophysics by allowing astronomers to interpret stellar spectra and determine the physical properties of stars. During his tenure at the University of Calcutta and later at Allahabad University, Saha significantly advanced astrophysical and nuclear science research. In 1927, he achieved considerable recognition as a Fellow of the Royal Society. Additionally, he founded the Saha Institute of Nuclear Physics and served as a member of the Indian Parliament, leaving a legacy marked by scientific innovation, institutional development, and contributions to national growth.



## Intelligent Energy Era: When AI Took Control of the Grid

The modern power grid is experiencing a transformation toward a digitally enhanced system, moving from traditional "dumb" wiring to a dynamic ecosystem managed by algorithms. Initiatives like Project Tapestry in Chile and AI forecasting in Rajasthan exemplify the global shift towards advanced energy management. This evolution includes the emergence of "self-healing" smart grids that can reroute power seamlessly and AI-driven digital twins for wind farms that predict weather changes. As electric vehicles and solar energy sources proliferate, AI will function as a critical coordinator, aligning the demands of numerous devices with broader energy needs through the use of Virtual Power Plants. Electrical engineering has transcended its conventional focus, now describing a sophisticated digital nervous system that adapts to changes, thus representing a shift toward using renewable intelligence instead of merely conducting electricity.



## Advancements in Science & Technology

- ❖ On **May 2024**, by obtaining the first tangible samples from the Moon's far side, Chang'e 6 (China) accomplished a historic mission and provided hints about the development of the lunar crust.
- ❖ The Japanese SLIM, also known as the "Moon Sniper," displayed incredibly accurate landing technology by striking a target location within 100 meters, **January 2024**
- ❖ With the use of artificial intelligence (AI), Project Bellwether (X Development) may predict wildfires and other natural disasters years in advance, enabling more intelligent infrastructure and emergency preparedness, **April 2024**
- ❖ 6G research is working to create ultra-fast, intelligent networks that will power future technologies like holograms and smart cities, **June 2024**

## EVENT CORNER

### “Electrifying 2.24” – Wall Magazine Launch

“Electrifying 2.24”- the Wall Magazine was published by the students of the Department of Electrical Engineering on 14th May, 2024. The magazine served as a vibrant platform for students to showcase their creativity, featuring insightful articles, captivating artwork, and inspiring stories, along with research and project publications from both students and faculty members. Curated with a blend of technical and creative content, the magazine featured aesthetic doodle art, interactive quiz cutouts, and covered key topics such as Indian Space Research Organization journey including Aditya-L1, cyber security in electrical infrastructure, electric vehicles, IoT in power systems, and power electronics in renewable energy. The magazine reflected a perfect blend of innovation, technical awareness, and artistic expression.

Editor: Tanushka Joshi (2nd year EE)

Faculty coordinator: Chandrani Das



*“Electrifying 2.24” – Wall Magazine Launch--Captured moments from the event.*

## Industrial Visit to Paharpur Cooling Towers Ltd.

On 25th April 2024, the Department of Electrical Engineering at BPPIMT, in collaboration with CESC Limited, organized an insightful industrial visit to Paharpur Cooling Towers Ltd. The visit was coordinated by Aritra Ghosh and Subhasish Das, with active participation from 18 third-year students. The primary objective of the visit was to bridge the gap between classroom learning and real-world industrial practices. At the facility, students gained first-hand exposure to the design, manufacturing processes, and operational aspects of cooling towers—an essential component in thermal power plants and large-scale industrial systems. The experience provided valuable insights into industrial workflows, quality control practices, and the practical application of electrical and mechanical engineering concepts. It served as an enriching opportunity for students to connect theoretical knowledge with practical implementation.



*Field Visit Highlights: Paharpur Cooling Towers Ltd.*

## PLACEMENT CORNER

The Department is pleased to highlight the recent placement achievements of its students, reflecting their technical competence and industry readiness.

**Lumino Industries Ltd:** Dipchand Ghosh, Dhiman Ghosh, Somenath Bhattacharjee, Mritunjay Majee, Anchita Biswas, Anchita Biswas, Utsav Roy, Sourav Haldar, Samrik Barma

**PricewaterhouseCoopers LLP:** Mookul Paul

**Manikaran Power/C. K. De & Associates:** Sunayana Ram

## ACHIEVEMENT CORNER



At *Wavicle 5.0*, an interdisciplinary event organized by Techno Main Salt Lake, Mr. Mookul Paul secured the **3rd position** in the highly competitive *Ideathon*. Competing among 28 teams, he demonstrated outstanding creativity and problem-solving ability. The event, supported by the IET and SPIE Student Chapters, focused on emerging fields like quantum computing and nanometrology.

Sayan Patra (3rd Year) earned the **2nd prize** in *OMEGATRIX* at *TECHSTORM 2.24*, organized by B.P. Poddar Institute of Management and Technology (3rd–5th April, 2024). The mathematics and logic-based quiz tested participants through challenging puzzles and analytical questions, highlighting his sharp reasoning skills and intellectual agility.



Tanushka Joshi (2nd Year) secured the **2nd prize** in *Technical Writing* at *TECHSTORM 2.24*, the annual tech-fest of B.P. Poddar Institute of Management and Technology. The competition involved writing a structured paper on a scientific topic with problem solving solution, where she excelled by demonstrating clarity of thought, depth of knowledge, and strong technical communication skills.

Mr. Aritra Ghosh, Assistant Professor in the Department of Electrical Engineering getting recognized for his performance during 2022-2024, as a *Young Professional Chairman of IET Kolkata Local Network*. He made a strong impact through effective leadership, efficient management, and active engagement initiatives, significantly contributing to the growth and dynamism of the network.



## Publications

“An IoT-based smart building energy management using DSM strategies” in proceedings of 2024 IEEE *3rd International Conference on Power Electronics and IoT Applications in Renewable Energy and its Control (PARC)*, 23-24 Feb, 2024, authored by, **Mr. Aritra Basu, Madhurima Bose and Mr. Aritra Ghosh.**

## GAMES CORNER

### Quizquake

What do you call an acid with attitude?

- A) Basic
- B) Neutral
- C) A-mean-o acid
- D) pH-7 drama

What is the speed of light?

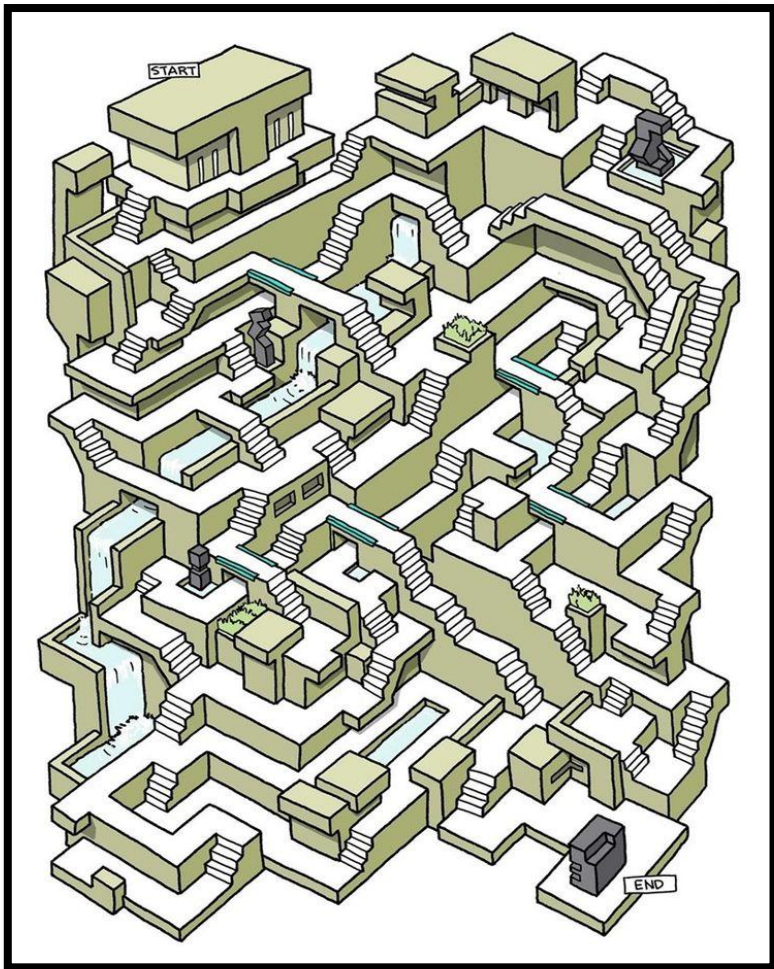
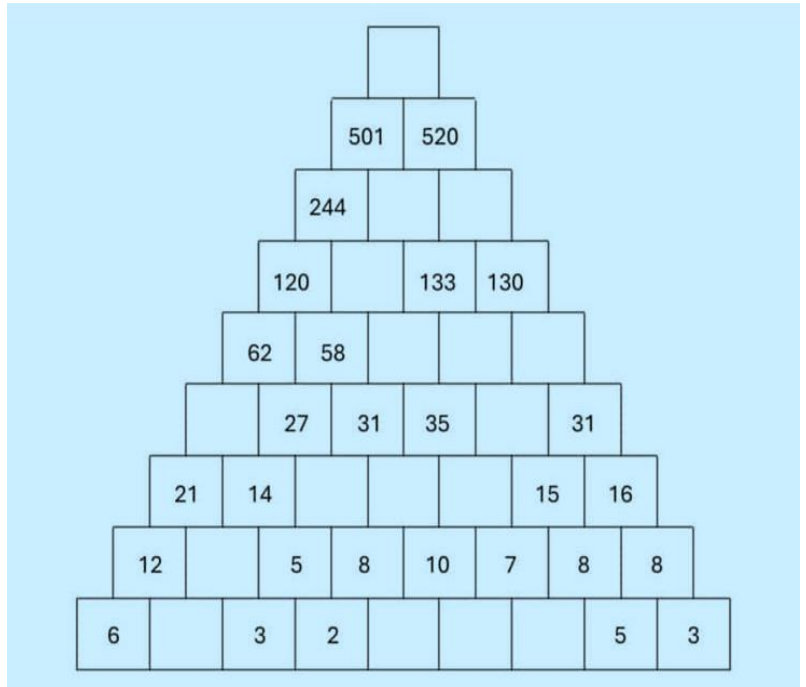
- A)  $3 \times 10^8$  m/s
- B) Very fast bro
- C) Depends on WiFi
- D) Faster than your exam prep

Welcome to the quiz where  $2+2$  is easy... until it suddenly isn't.



### Shockingly Weird Science

**Bananas are radioactive**  
They contain potassium-40, a naturally radioactive isotope. Don't panic though—you'd need to eat about 10 million bananas at once for it to matter. (Which is a very ambitious snack.)



Only one path is right – the rest are just character development... think it's easy? Go on, prove it!!!!

Be less curious about people and more curious about ideas  
-Marie Curie



### The Weird Side of Genius

If you think your habits are weird, Marie Curie literally carried glowing radioactive test tubes in her pocket like aesthetic accessories—and still casually won a Nobel Prize while shining brighter than everyone else!!

Call for Contribution: Students, staff and faculty members of Department of Electrical Engineering are requested to send their contribution for newsletter electronically to the [email: spark.ee18@gmail.com](mailto:spark.ee18@gmail.com).