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 throughrationalevolutiontowardssustainable and environment friendly technologies.

Vision of the Department

To emerge as a knowledge hub for higher learningandresearchinElectricalEngineering.

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:

- **PEO-1: Engineering Ethos:** Graduates of Electrical Engineering will be having physical, analytical and technical knowledge and skills to meet challenges of professional career in Industry and Society.
- **PEO-2: Diversification**: Graduates of Electrical Engineering shall gain cross disciplinary knowledge through projects and industrial assignments, leading to a sustainable competitive edge in Research and Development.
- **PEO-3: Ethics and Attitudes:** Graduates of Electrical Engineering shall maintain professional ethics and proper attitude to collaborate with other discipline and lead a team while promoting lifelong learning.

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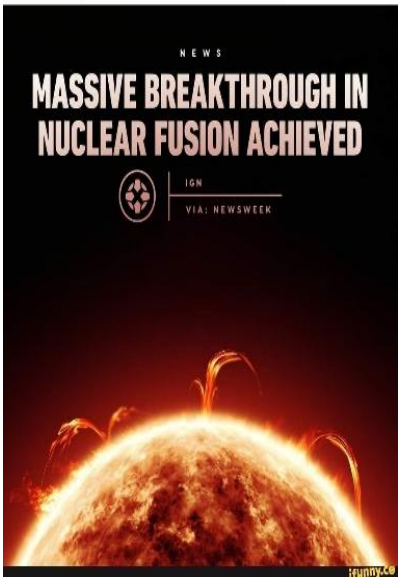
Editor: Mr. Mookul Paul, III, (EE)
Assistant Editor: Ms. Hena Mahato, II, (EE)
Ms. Shreya Das, I (EE)

Remembering Vikram Sarabhai: The Visionary Who Gave India the Sky

Vikram Sarabhai (1919–1971) is revered as the ***"Father of the Indian Space Programme"*** for his foundational role in establishing India's space research capabilities. Born into a prominent family in Ahmedabad, Sarabhai was intellectually nurtured and pursued natural sciences at the University of Cambridge, later researching cosmic rays under C. V. Raman at the Indian Institute of Science. At 28, he founded the Physical Research Laboratory in Ahmedabad, emerging as a key center for space and atmospheric research. Supported by Homi J. Bhabha, Sarabhai established the Thumba Equatorial Rocket Launching Station in 1963, initiating India's space launch activities. He advocated for leveraging advanced technology for national development, particularly in education and communication. Sarabhai contributed significantly to institution building, co-founding the Indian Institute of Management Ahmedabad and advancing science education initiatives. He received the Padma Bhushan in 1966 and was awarded the Padma Vibhushan posthumously in 1972. Sarabhai passed away on December 30, 1971, yet his visionary contributions continue to influence India's

Fusion Ignition Achieved: The Beginning of a New Energy Era

Scientists at Lawrence Livermore National Laboratory achieved a major milestone in nuclear fusion research in December 2022 by reaching fusion ignition at the National Ignition Facility. During the experiment, powerful lasers were directed at a tiny capsule containing hydrogen fuel, creating the extreme temperature and pressure conditions required for nuclear fusion, the same process that powers the Sun. Notably, the reaction produced more energy than the laser energy delivered to the fuel, demonstrating the possibility of achieving net energy gain from fusion. This landmark result is widely regarded as a breakthrough in physics and energy science after decades of research. Scientists believe the achievement could pave the way for developing fusion as a reliable, carbon-free energy source with minimal environmental impact, though commercial fusion power plants are still expected to take years to become viable.



Advancements in Science & Technology

- **In July 2022,** NASA released the first full-color images from the James Webb Space Telescope, revealing distant galaxies and providing new insights into the early universe.
- **In August 2022,** the AI system AlphaFold, developed by DeepMind, expanded its protein structure database to include predictions for over 200 million proteins, accelerating biological and pharmaceutical research.
- **In September 2022,** NASA successfully completed the Double Asteroid Redirection Test (DART) by crashing a spacecraft into the asteroid moonlet Dimorphos to test planetary defense technology.
- **In October 2022,** Scientists studying Alzheimer's disease announced promising clinical trial results for new drugs designed to slow the progression of the condition.

EVENT CORNER

One-Day Industrial Visit to Durgapur Steel Thermal Power Station (DSTPS)

A one-day industrial visit was organized by the Department of Electrical Engineering to Durgapur Steel Thermal Power Station (DSTPS) on 9th September 2022. DSTPS is a major coal-based thermal power plant operated by West Bengal Power Development Corporation Limited, contributing significantly to the power supply of West Bengal and supporting the industrial ecosystem of the Durgapur region. Known for its large-scale generation capacity and modern operational practices, the plant plays a vital role in ensuring energy security and grid stability.

A total of 42 students participated in the visit under the supervision of faculty members. The visit was efficiently coordinated by Dr. Nandita Sanyal, HoD and Madhumita Kundu Mondal. During the visit, officials guided students through various sections such as the coal handling plant (CHP), water treatment plant (WTP), ash handling plant (AHP), boiler, furnace, turbine-alternator, electrostatic precipitator, and the 200kV and 400kV switchyard. Engineers also provided detailed explanations on automation, monitoring, and control

Field Visit Highlights: Durgapur Steel Thermal Power Station (DSTPS) Control Room and Switchyard

One-Day Seminar on IoT: Trends, Opportunities & Challenges

The Department of Electrical Engineering organized a one-day seminar on "Internet of Things" on 24th September 2022 (Saturday) to provide students with insights into current industry scenarios, emerging opportunities, and key challenges in IoT. The first session featured an industry interaction by Shouvik Sarkar and Rajesh Mitra from Ardent Computech Pvt. Ltd., focusing on practical applications of IoT. The second session was an alumni interaction with Tunir Saha, who discussed IoT fundamentals and career prospects. Students from 2nd, 3rd, and 4th year, along with faculty members and technical staff, actively participated in the seminar.

Participants of the One-Day Seminar on IoT: Trends, Opportunities & Challenges

Green Minds 2.22: Model & Idea Competition on Sustainable Energy

"Green Minds 2.22," a one-day model and idea presentation competition on "Alternate Sources of Energy and Energy Sustainability," was organized by the Department of Electrical Engineering, B.P. Poddar Institute of Management and Technology on 23rd July 2022. The event was inaugurated by Dr. Sutapa Mukherjee and Dr. Nandita Sanyal, followed by a keynote lecture from Hiranmay Saha on renewable energy systems.The competition featured two groups: school students (Class IX–XII) and polytechnic students. Participants presented innovative models before judges from academia and industry. Winners received cash prizes, while all participants were awarded certificates. The event concluded with a valedictory session, appreciating judges, coordinators, faculty, and student volunteers for its successful execution.

Award Presentation at Green Minds 2.22: Celebrating Sustainable Innovation

ACHIEVEMENT CORNER

Mookul Paul (2nd Year) secured 1st runner-up position at Technovation 2022, organized by Heritage Institute of Technology on September 23–24. The inter-college program featured participants from leading institutions. Pijus Ranjan Ghosh inaugurated the event, while Dr. Brojeshwar Bhowmick delivered sessions on emerging technologies. An Innovation Meet and project exhibitions highlighted students' creativity and technical excellence.

Subhajit Maur was honored with the Outstanding Volunteer Award by the IEEE Kolkata Section in 2022, recognizing his exceptional dedication, leadership, and active contributions to organizing technical events and supporting student initiatives. His efforts significantly enhanced engagement within the engineering community and promoted knowledge-sharing among peers.

Sagnik Kundu and Sunayana Ram secured the 1st runner-up position in the Young Engineers Award 2022, organized by the IET YPS Kolkata Local Network in collaboration with CESC Limited. The event was held at Hotel Hindustan International, where they were recognized for their technical excellence, innovative approach, and strong engineering problem-solving skills.

Mr. ARITRA GHOSH, Assistant Professor, Department of Electrical Engineering, Secretary YPS, IET KOLKATA LOCAL NETWORK, is honoured to attend IET Young Professionals Summit 2022 at London, United Kingdom at IET London: Savoy Place De Vere Grand Connaught Rooms on 11th November and 12th November 2022.

Students brought pride to the department by securing prestigious awards.

Mr. Aritra Ghosh Represents IET Kolkata Local Network at IET Young Professionals Summit 2022 at London

PLACEMENT CORNER

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

Infosys Limited : Subhrima Gope, Soumik Mondal, Shashi Raj, Biswanath Karmaka

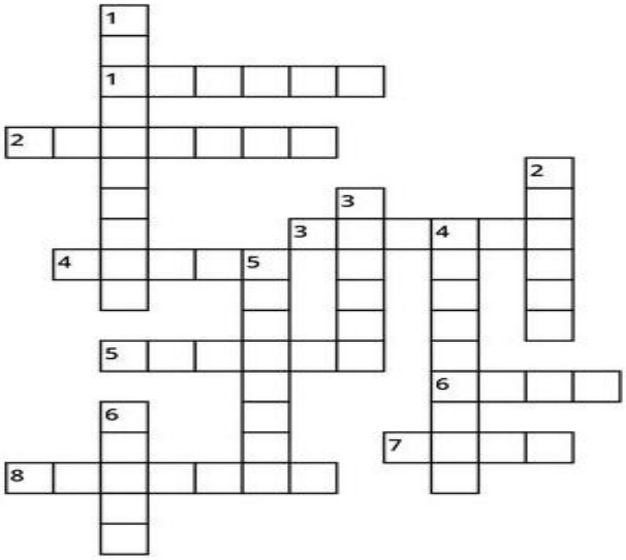
Cognizant Technology Solutions : Rohit Saha, Tirtharup Ghosh, Rohit Paul

PricewaterhouseCoopers LLP : Sambit Pauls

GAME CORNER

ACROSS

1. Laid the groundwork for quantum mechanics
2. Laid the foundation of electromagnetism
3. Formulated the laws of planetary motion
4. Pioneered research on radioactivity
5. Discovered the structure of DNA
6. Developed the first successful polio vaccine
7. Invented the first practical telephone
8. Discovered penicillin, the first antibiotic



DOWN

1. Proposed the heliocentric model of the universe
2. Developed the theory of evolution by natural selection
3. Discovered the laws of motion and gravity
4. Father of modern chemistry, discovered oxygen
5. Developed the theory of general relativity
6. Pioneered the field of psychoanalysis

Word Bank

Einstein, Newton, Darwin, Curie, Lavoisier, Bell, Fleming, Salk, Copernicus, Faraday, Kepler, Planck, Watson, Freud, Einstein,

Jumbled Words

1. NCEELORTAGCMIEATNIUDNC
2. TSNEAITRLTANSSSEYTSAE
3. REPMEAABILTIY
4. NOSEANCRE
5. RTOATCUMMOU
6. CNAEIMPD
7. CITCAAPNAE
8. RTSEESISNAHCY

Word Search

T R A N S F O R M E R X Z Q W E R T Y U I O
G E N E R A T O R A B C D E F G H I J K L M
A L T E R N A T O R N O P Q R S T U V W X Y
C O N D U C T O R Z X C V B N M Q W E R T Y
I N S U L A T O R A S D F G H J K L P O I U
V O L T A G E Y T R E W Q A S D F G H J K L
C U R R E N T M N B V C X Z A S D F G H J K
P O W E R F A C T O R Q W E R T Y U I O P A
R E S I S T A N C E L K J H G F D S A P O I
Z X C V B N M Q W E R T Y U I O P L K J H G
H J K L M N B V C X Z A S D F G H J K L Q W
E L E C T R I C A L E N E R G Y X Y Z A B C

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.