College of Engineering & Management, Kolaghat

ANNUAL REPORT FOR THE ACADEMIC YEAR 2024-2025

Presented by: Prof. (Dr.) Dilip Kumar Gayen, Director
Date: 23rd September 2025
Venue: Balaka Mancha, KTPP Township, Kolaghat
Occasion: 28th Foundation Day Ceremony

Distinguished Guests Included:

- Sri Biplab Roy Chowdhury, Hon'ble MIC, Government of West Bengal and Member of the Society & BoG
- Dr. Saumen Kumar Mahapatra, MLA, Tamluk
- Sri Arghya Ghosh, BDO, Kolaghat
- Along with other dignitaries, students, parents, faculty, alumni and staff members.

1. Director's Foreword

This Annual Report captures a year of dedication, progress, and collective achievement at the College of Engineering & Management, Kolaghat during 2024–25. It reflects our continued commitment to excellence and growth in technical education.

The year was marked by profound loss as we bid farewell to our student Ayan Ghosh, Mousom Mondal (Junior Electrical Engineer), Dr. Sukanta Samanta (Assistant Professor, BSH), and Shri B. K. Paul, a valued member of our Board of Governors. Their contributions and memories will remain an enduring source of inspiration.

In honor of **Shri B. K. Paul**, we have dedicated the ***B. K. Paul Memorial Hall***, a lasting tribute to his vision and commitment to the development of our institution.

Our mission continues with resolve—to secure a distinguished place among the leading engineering institutions of the state and to achieve national recognition. The accomplishments outlined in this report reflect our determined steps toward that goal.

2. Institute Profile & Vision

- **Programs Offered:**
  - **B.Tech:** Computer Science & Engg. (CSE) [Intake: 240], Information Technology (IT) [60], Electronics & Comm. Engg. (ECE) [90], Electrical Engg. (EE) [60], Mechanical Engg. (ME) [30], CSE (Artificial Intelligence & Machine Learning) [120].
- **Institute Vision:** Pursuing Excellence in Teaching-Learning Process to Produce High Quality Engineering Professionals.
- **Institute Mission:**
  1. To enhance the employability of our students by imparting high quality technical and professional education with continuous improvement in monitoring of students' performance as per the expectation of various stakeholders.
  2. To continuously upgrade, as well as broaden the knowledge base, along with promoting a culture of research for achieving excellence.

3. Departmental Achievements

3.1 Department of Computer Science & Engineering (HOD: Dr. Alok Ranjan Pal)

3.1.1 Department Profile

- **Faculty Strength**: 21 (incl. 7 PhDs, 1 Visiting)
- **Technical Staff**: 7
- **Vision**: Pursuing excellence in state-of-the-art teaching and dynamic learning in thrust technical domains ensuring production of technically high-quality Engineering Professionals.
- **Mission**: To produce globally equipped, high quality computer professionals in ever-changing technologies and to inculcate morally and socially committed resources for future generations.

3.1.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
    1. Provide strong foundation in engineering fundamentals to formulate, analyze and solve problems related to computer hardware and software.
    2. Provide adequate training on cutting edge technologies and soft skills to work as a team on global projects with leadership quality.
    3. Promote students to be entrepreneurs having sound social values and ethics.
- **Program Specific Outcomes (PSOs):**
    1. Empower students to analyse and appreciate evolving technologies to realize computer-based systems.
    2. Enhance skills to adopt ever-changing technologies in solving challenging problems of societal significance.

3.1.3 Key Academic & Research Achievements:

1. Publications

Journal Publications (Total: 11):

1. **Kaushik Sinha**, Debalina Sinha Jana, *The Role of JavaScript Frameworks in Performance Optimization: A Comparative Study, Journal of Network Security Computer Networks by MAT Journals,* 10 (3), pp.16–23, December 2024.
2. Barman, A., Saha, D. & **A.R Pal**,., *Bengali reduplication generation with finite-state transducers (FSTs), Int J Speech Technology,* 27, 729–737, August 2024. (SCIE)
3. Barman, A., Saha, D. & **A.R. Pal**,, *An Upgraded Approach for Identifying Partially Reduplicated Forms in Bengali Text, SN computer. Sci.,* Vol 5, Article 892, September 2024. (Scopus)
4. **Sushovan Das**, Uttam Kr. Mondal, Energy efficient acoustic sensor data integration in hybrid mode operated pervasive wireless sensor network*, Telecommunication Systems,* 87, pp. 61–72, September 2024. (SCIE)
5. **Sushovan Das**, Uttam Kr. Mondal, Acoustic data acquisition and integration for semantic organization of sentimental data and analysis in a PWSN*, Multimedia Tools and Applications,* pp.1–23, September 2024. (SCIE)

6. **Sushovan Das**, U.K. Mondal, Pilot agent implied efficient data communication in pervasive acoustic wireless sensor network, *Telecommunication Systems,* 88, Article 50, 2025. (Springer Nature, Indexed in Web of Science & Scopus)
7. Bibek B. Roy, **Sushovan Das**, Uttam Kr. Mondal, TinyML-driven Sensor Nodes for Energy-efficient Acoustic Event Detection in Pervasive Acoustic WSNs*, Journal of Telecommunications and Information Technology,* 2025. (Scopus, DBLP, Inspec)
8. P. M. Cuce, E. Cuce, D. K. Mandal, **D. K. Gayen**, et al., *ANN and CFD driven research on main performance characteristics of solar chimney power plants, Case Studies in Thermal Engineering,* Elsevier, Vol 60, 104568, August 2024. (SCI)
9. T. Chattopadhyay and **D. K. Gayen**, Equivalent artificial neural network model of optically driven electro-optic Mach-Zehnder interferometer*, Optical Engineering,* 63 (10), 108106, October 2024. (SCI)
10. **Soumitra De, Jaydev Mishra**, A Better Approach to Execute Imprecise Queries Through the Neutrosophic Database Model*, Indian Journal of Science and Technology,* 17(29), pp.2981–2991, July 2024. (WoS)
11. **Siddhartha Chatterjee**, Meghna Sarkar, Sudipta Hazra, Anurag Sinha, M. Sazid Reza and Mohd Asif Shah. Analyzing why AI struggles with drawing human hands with CLIP, In F1000 (2025). Research (Taylor and Francis Group), Open Access Peer Reviewed, SCOPUS Indexed, DOI:10.12688/f1000research.159688.1

Conference Papers (Total: 10):

1. J. Ghorai, A. Pal, D. Saha, **A. R. Pal**, *An Approach to User Profiling through Image Captioning,* International Conference on Computational Intelligence and Information Retrieval, Sister Nivedita University, West Bengal.
2. D. Bhattacharjee, A. Pal, D. Saha, **A. R. Pal**, *An Approach to User Profiling through Video Captioning,* International Conference on Computational Intelligence and Information Retrieval, Sister Nivedita University, West Bengal.
3. R. Sarkar, **J. Mishra**, R. Naskar, *Sentiment Analysis on Conversational Data using Deep Learning Method,* 27th International Symposium on Wireless Personal Multimedia Communications (WPMC2024), Sharda University, Greater Noida, NCR-Delhi.
4. **Lipika Datta**, *Deadline Constrained Least Laxity Time Based Cloudlet Scheduling,* International Conference on Computing, Semiconductor, Mechatronics, Intelligent Systems and Communications (COSMIC), Sahyadri College of Engineering and Management, Mangalore, November 2024.
5. Bibek B. Roy, A. Debnath, **Sushovan Das**, U.K. Mondal, *Efficient Audio CODEC for IoT Devices – Leveraging GANs, Adaptive Quantization and Arithmetic Coding,* International Conference on Computational Intelligence in Communications and Business Analytics, Jadavpur University.

6. **Siddhartha Chatterjee**, Babli Kumari, Renu Dhir and Suchi Jain,Automated Identification of Traffic Accidents in Images and Videos Employing Advanced Deep Learning Methods, In Proceedings of 26th International Conference on Distributed Computing and Networking (ICDCN 2025), January 04-07, 2025, IIT Hyderabad, India. Association for Computing Machinery (ACM), New York, NY, USA, 6 Pages. https://doi.org/10.1145/3700838.3703684.

7. **Siddhartha Chatterjee**, Rajdeep Chatterjee Saikat Samanta and Suman Biswas, AI Approaches to Investigate EEG Signal Classification for Cognitive Performance

Assessment, In the 6th International Conference on Computational Intelligence and Networks (CINE 2024), IEEE Conference Record#63708, IEEE Computer Society, IEEE CTSoc, IEEE Digital Explore indexed by SCOPUS and Web of Science (WoS), 1-23, February, 2025, DOI:10.1109/CINE63708.2024.10881208.

8. **Siddhartha Chatterjee**, Sima Das, Samik Acharya, Ritwika Ghosh and Anwesa Naskar, Early Diagnosis: Alzheimers and Parkinsons Disease Detection using Machine Learning Techniques; in the Proceedings of International Conference on Data Analytics and Insights (ICDAI-2024), Springer Singapore, DOI: https://doi.org/10.1007/978-981-96-3287-9_16 LNNSBook Series, SCOPUS Indexed, vol. 1233, pp. 189-197 on 15th June 2025.

9. **Siddhartha Chatterjee**, Sudipta Hazra, Rituparna Mondal and Anwesa Naskar, Analysis and Comparison Study of Cardiovascular Risk Prediction using Machine Learning Approaches, in the Proceedings of International Conference on Advanced Computing and Systems (AdComSys2024), Springer Nature Book Series, Singapore, Algorithm for Intelligent_Systems; SCOPUS, WoS, DOI:https://doi.org/10.1007/978-981-97-9532-1_11 pp. 125-134 on 23 June 2025.

10. **Siddhartha Chatterjee**, Sutirtha Kumar Guha, Somasree Bhadra, Sudipta Hazra, and Abhinaba Bhattacharyya;Classical Optimization Problem Solution using Nature Inspired Algorithm, in IEEE 4 International Conference on Recent Advances in Electrical, Electronics, Ubiquitous Communication and Computational Intelligence (RAEEUCCI 2025), IEEE Xplore Digital Library, IEEE Madras Section, pp. 1-5, DOI:10.1109/RAEEUCCI63961.2025.11048319, ISBN: 979-8-3503-9266-1, SCOPUS; DBLP Indexed on 28 June, 2025 organized by SRMIST, Tamil Nadu, India.

Books/Book Chapters (Total: 4):

1. **Sushovan Das**, U.K. Mondal, Energy Efficient Lossless Audio Encoder for IoT Enabled Devices, in *Computational Technologies and Electronics (ICCTE 2023),* Springer CCIS, Vol 2377, 2025. (Scopus)
2. **Sushovan Das**, U.K. Mondal, Designing a Context-Aware Virtual Machine (CWVM) for PWSN Data Integration, in *Computational Technologies and Electronics (ICCTE 2023),* Springer CCIS, Vol 2377, 2025.
3. D. K. Gayen, All-Optical Binary Decrementer Using Terahertz Optical Asymmetric Demultiplexer Switches*,* in *Next Generation Wireless Communication,* Springer, July 2024.
4. D. K. Gayen, AI-Based Movie Recommendation System*,* in *Industry 4.0: Key Technological Advances,* CRC Press, August 2024.

Patents (Total: 3):

1. **Sushovan Das**, U.K. Mondal, U. Ghosh, A. Debnath, *Low-Cost Portable AI Enhanced Ultrasonic Device for Metal Density and Uniformity Assessment,* Design Patent filed 30.12.2024, Journal No. 10/2025.
2. **Sushovan Das**, U.K. Mondal, U. Ghosh, *Low-Cost Integrated Support Device for Remote Reading of Non-Accessible Electrical Meters,* Patent Application No. 202431098127, 12/12/2024.

3. **Sushovan Das**, U.K. Mondal, A. Debnath, B.B. Roy, R. Chakraborty, *AI-enabled Acoustic Profiling for Detecting Faults in Automatic Motor Vehicles,* Patent Application No. 202531043692, Journal No. 22/2025.

R&D Project:

- *A.R.PAL: Preparing and Annotating a Set of Collocating Words for Context Analysis using Eugene Nida Classification Model (Bengali case study)* – Cost: □20,000.

Authored Book

1. **Siddhartha Chatterjee**, Chiranjib Dutta, Aniruddha Das and Nelkantha Dey, "Data Structure & Algorithm: A Practical Approach". Published by Chyren Publication on 10/02/2025, vol.1, Edition-1, pp.1-256. ISBN: 9789349076433. Available at https://www.flipkart.com/product/p/time?pid=9789349076433.

2. **Siddhartha Chatterjee**, Nayana Manna, "Foundations to Algorithmic Time Complexity Analysis: Mathematical Solutions and Understanding". Published by S. K Kataria and Sons (KATSON) Publication. ISBN: 978-93-49499-77-5. Available at Amazon, Flipkart and Books Wagon.

Indian Copyright

- Indian copyright "Integration IoT AND AI for Smarter and Cleaner Cities" with diary no. 41374/2024-CO/L published by **Siddhartha Chattejee**, Anwesa Naskar, Dr. Subir Gupta, **Puja Chakraborty**, Saikat Samanta and Sayanti Mukherjee on May, 2025.

2. Faculty Achievements

- **Ph.D. Awarded:**
  - Prof. Chinmay Maiti (July 2024)
  - Prof. Lipika Datta (November 2024)
- **FDP Participation:** 38 FDPs attended by faculty across different domains. (Highlights: Prof. Kaushik Sinha – 4, Prof. Puja Chowdhury – 3 , Prof. Bidisha Maiti – 1, Prof. Abhinaba Bhattacharyya – 9, Prof. D. K. Gayen – 4, Prof. Alok R Pal – 3, Prof. Soumitra De – 4, Prof. Rupsa Sarkar – 5, Prof. Arijita Ghosh - 5)

3. Student Achievements

- **GATE Qualified:** 5 students
- **Higher Studies:** 3 students (M.Tech at IITs)
- **Publications by Students:** 2 (presented at international conferences in collaboration with faculty)

4. Student Activities

- **Career-Upgrading Courses/Internships:** 18 students completed AI, ML, Web Development, Cybersecurity, and Hackathon programs through IIT Kharagpur, ISRO, Goldman Sachs, and other platforms.

- **Department Tech Magazine:** *Binary* (Odd Semester)
- **Wall Magazine:** *A-Yantrik* (Even Semester)
- **Hackathon V3.0:** 23 teams, 138 participants, top three teams awarded.
- **Coding Club:** 5 teams (20 students) showcased projects in April 2025.
- **Departmental Innovation Council:** Entrepreneurial talks, project synopsis, and idea presentations.

5. Extension, Outreach & Collaborations

- **FDP Organized:** *Intelligent Computing Techniques and Its Engineering Applications (ICTEA-2025)* – 06–10 January 2025
    - 1540 participants from 500+ organizations, 20 states, and 3 countries.
- **Invited Talks:**
    - Mr. Indranil Chatterjee (ITC) – August 2024
    - Mr. Sabyasachi Mukhopadhyay (IIT KGP) – August 2024

3.2 Department of CSE (Artificial Intelligence & Machine Learning) (HOD: Dr. Apurba Roy)

3.2.1 Department Profile

- **Faculty Strength**: 5 (incl. 2 PhD, 2 Visiting)
- **Technical Staff**: 1

Vision: Pursuing Excellence in Teaching – Learning Process to Produce High Quality Engineering Professionals

Mission:

- To enhance the employability of our students by imparting high quality technical and professional education with continuous improvement in monitoring of students' performance as per the expectation of various stakeholders.

- To continuously upgrade, as well as broaden the knowledge base, along with promoting a culture of research for achieving excellence.

3.2.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
    1. Provide strong foundation in engineering fundamentals to formulate, analyze and solve problems related to computer hardware and software.
    2. Provide adequate training on cutting edge technologies and soft skills to work as a team on global projects with leadership quality.
    3. Promote students to be entrepreneurs having sound social values and ethics.
- **Program Specific Outcomes (PSOs):**
    1. Empower students to analyse and appreciate evolving technologies to realize computer-based systems.
    2. Enhance skills to adopt ever-changing technologies in solving challenging problems of societal significance.

3.2.3 Key Academic & Research Achievements:

Publications

- Journal Papers (Total: 2):
    - Prof. Suman Biswas – 2 papers published in reputed journals.
- Conference Papers (Total: 1):
    - Prof. Suman Biswas – 1 paper presented at a national/international conference.

2. Faculty Development Programs (FDPs)

- Total FDPs Attended: 43
    - Prof. T. K. Maiti – 36 FDPs attended and organized 1 FDP.
    - Prof. Suman Biswas – 3 FDPs attended.
    - Prof. Dipanwita Ghosh – 2 FDPs attended.

3.3 Department of Information Technology (HOD: Dr. Apurba Roy)

3.3.1 Department Profile

- **Faculty Strength**: 9 (incl. 2 PhDs, 0 Visiting)
- **Technical Staff**: 4

Vision: The department aims to produce quality Software Engineers with an attitude to adapt to ever changing IT needs of local, national and international arena through teaching, interactions with alumni and industry.

Mission:

- To offer high quality up-to-date graduate programs in information technology education and to nurture students suitable for professional career as well as higher studies.

- The department endorses proficiency in teaching, research, collaborative approaches and moral liability to society.

3.3.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
    1. PEO1: Graduates will establish successful careers as IT professionals leveraging their technical expertise to address real-world challenges.
    2. PEO2: Graduates will effectively collaborate within multidisciplinary teams and evolve into leadership roles to drive organizational success.
    3. PEO3: Graduates will engage in lifelong learning to keep pace with advancements in technology and meet evolving industry demands.
    4. PEO4: Graduates will uphold ethical practices, embrace social responsibility, and contribute to sustainable technological solutions for societal and environmental betterment.
- **Program Specific Outcomes (PSOs):**
    1. PSO-1. Ability to develop smart programming skills through comprehensive understanding of analytical and logical concepts and algorithms.
    2. PSO-2. Ability to investigate social, environmental, ethical and economic feasibility of an IT solution to a complex/composite problem in terms of long-term impact and sustainability of every intricate application.
    3. PSO-3. Ability to keep pace with fast changing technology like Machine Learning, Cloud Computing, IOT, Pattern Recognition and adapt to new tools, systems& applications and manage challenging IT projects.

3.3.3 Key Academic & Research Achievements:

1. Publications

- **Journal Publications (Total: 4):**
    1. Sinha, K., & **Debalina Sinha Jana**. (2024). The Role of JavaScript Frameworks in Performance Optimization: *A Comparative Study*. *Journal of Network Security Computer Networks, 10*(3), 16–23.
    2. Sinha, K., & **Sinha Jana, Deblina..** (2025). AI-Powered Software Testing: Transforming Quality Assurance through Artificial Intelligence. *Journal of Computer Science Engineering and Software Testing, 11*(1), 20–38.

3. Sinha, K., **& Debalina Sinha Jana**. (2025). AI-Generated Speech Detection Using Convolutional Neural Network. *International Journal of Computer Science, Algorithms and Programming Languages, 1*(1), 47–54.
4. S. Chattopadhyay, T. Roy, **& M. Midya**. (2024). Wavelet Decomposition Driven Machine Learning for Mechanical Vibration Dependent Fault Detection in Automotive Air Circular System. *IEEE Sensors Journal, 24*(16), 26148–26158.

- **Book/Book Chapter (Total: 1):**
  - K. Sinha & **Deblina. Sinha Jana**. *Multimedia Database: Data Structures and Algorithms for Efficient Management*. Book Chapter 9, pp. 153–174.

- **Faculty Development Programs (FDPs) Attended (Total: 18):**

Dr. Arunava Bhattacharyya – 2, Dr. Apurba Roy – 2, Prof. Debalina Jana – 4, Prof. Rinku Khatua – 3, Prof. Taniya Purkait – 3, Prof. Mrityunjoy Midya – 1, Prof. Nazma Banu – 1

Student Achievements

- **GATE Qualified:** 1
- **Higher Studies:** 1 (M.Tech in Software Engineering, NIT Rourkela)

3.4 Department of Electrical Engineering (HOD: Dr. Subhra Jana)

3.4.1 Department Profile

- **Faculty Strength**: 9 (incl. 3 PhDs)
- **Technical Staff**: 5

- **Vision**: To produce highly skilled, value-driven and best quality Electrical Engineers by pursuing excellence in teaching-learning process. Pursuing excellence in state-of-the-art teaching and dynamic learning in thrust technical domains ensuring production of technically high-quality Engineering Professionals.

- **Mission**:

  1) To enhance the competitiveness of our electrical engineers in the current field by maintaining excellent academic environment that promotes continuous up gradation in learning and research through constructive interaction between students, faculty, staff, industry and community.

  2) To continuously upgrade and broaden the knowledge base of our students by encouraging innovative ideas, problem solving skills, utilizing the available resources to the best and understanding their ethical responsibilities

3.4.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
  1. Our graduates will attain productive careers in professional practice of Electrical Engineering and related fields with strong conceptual background and interest. Provide adequate training on cutting edge technologies and soft skills to work as a team on global projects with leadership quality.
  2. Our graduates will be engaged in life-long learning by advanced education/degrees, professional development activities and involvement in realistic fields through research and professional collaborative activities.
  3. Our graduates will demonstrate technical competence in identifying, analyzing and creating engineering solutions, keeping in mind the ethical and societal needs. They will be able to establish themselves by analyzing the demand of the existing world.

- **Program Specific Outcomes (PSOs):**
  1. Students will be creative enough to solve the complex problems by applying professional and analytical approach.
  2. Students should be imparted with the state-of-the-art industry development so that they become more competent, rather being creative and imaginative electrical engineers, employable in fields of design, research, manufacturing, safety, quality and technical services.

3. Students should be encouraged for higher level of learning so that they become competent enough for perusing higher studies in electrical and associated fields of engineering.

3.4.3 Key Academic & Research Achievements:

1. **Publications:**

- **Journal Publications (Total: 1):**
  1. **Shankar Prasad Ghosh**, Sonali Nadanwar, G. K. Pandey. Design and Optimization of a Hybrid Solar-Hydrogen Microgrid for Off-Grid Rural Electrification in Bhopal, India*. Journal of Engineering and Technology Management*, 2024.
- **Conference Papers (Total: 3):**
  1. **Shankar Prasad Ghosh**, Sonali Nadanwar, G. K. Pandey. Cost-Effective and Sustainable Microgrid System for Reliable Energy Supply in Remote and Rural Communities: *A Case Study in Bhopal, Madhya Pradesh*. *2024 IEEE 3rd International Conference on Electrical Power and Energy Systems (ICEPES)*, MANIT Bhopal, India. June 21–22, 2024.
  2. Asit Kumar Mondal, Tapan Santra, **Tirtha Sankar Daphadar**. Mitigating Transformer Inrush Currents using Passive Magnetic Fault Current Limiter. *IEEE International Conference*, 2025.
  3. **Debabrata Mukharjee**, Tanmoy Maity, Kaushik Sit, Abhik Hazra. *Enhancing Economic Power Delivery:* A Squirrel Search Algorithm Approach Addressing Realistic Power System Constraints*. 2025 IEEE 1st International Conference on Smart and Sustainable Developments in Electrical Engineering (SSDEE).*

2. Faculty Development Programs (FDPs) Attended (Total: 26)

- Prof. S. P. Ghosh – 2, Dr. S. Gupta – 3, Dr. D. P. Chakrabarty – 3, Prof. T. S. Daphadar – 2, Prof. D. Mukherjee – 3, Prof. S. Mondal – 3, Dr. S. Jana – 3, Prof. Animesh Karmakar – 3, Prof. Avik Metia – 4

3.4.4 Student Achievements

- **Placements:** The placement record for the batch of 2024–25 has been excellent, with several students securing multiple offers (3 to 5) from reputed companies.
- **Alumni Engagement:** Alumni interaction with students has significantly increased after the alumni reunion held on **1st March 2025** under the leadership of Dr. Debi Prasad Chakrabarty (Faculty, EE). Alumni are now actively mentoring current students and assisting them with placement opportunities through their professional networks.
- **Industrial Visits:** Students undertook a one-day industrial visit to **Ramco Cements**.
- **Extracurricular Activities:**
  - Departmental Magazine: *SPARK* (2024)
  - Wall Magazine: *RAINBOW* (2024)
  - Departmental Newsletter: *CEMK ELECTRA NEWS*

- Invited Talk: *"Fundamentals of E-Vehicle"* by Sri Asok K. Pal (Ex-GM, SAIL) organized by WBPDCL Engineers' Welfare Forum on 04.03.2025.
- 5-Day Internship: *Fundamentals of E-Vehicles* (04.03.2025 – 08.03.2025) conducted by Engineers' Welfare Forum in collaboration with NEED.

3.4.6 Infrastructure Development

- Laboratories upgraded with new PCs.
- **Machine Lab enhanced with** DC motor coupled compound generator set **and** single-phase transformer set**.**

3.4.7 Extension, Outreach & Collaborations

- **MoUs Signed With:** Engineers' Welfare Forum, WBPDCL, Tech DECO LLP, RAMCO Cements, Rashmi Metalliks Ltd. (KGP), and other reputed companies.
- **Expert Contribution:** Prof. Debabrata Mukherjee was invited as a resource person to deliver lectures on PLC for 5 days at **I**IT (ISM) Dhanbad**.**

3.5 Department of Electronics & Communication Engineering (HOD: Dr. Samiran Pramanik)

3.5.1 Department Profile

- **Faculty Strength**: 14 (incl. 5 PhDs)
- **Technical Staff**: 05

- **Vision**: Pursuing Excellence in Teaching-Learning Process to Produce High Quality Electronics and Communication Engineering Professionals.

- **Mission**:

  M1: To enhance the employability of our students by strengthening their creativity with different innovative ideas by imparting high quality technical and professional education with continuous performance improvement monitoring systems.

  M2: To carry out research through constant interaction with research organizations and industries.

3.5.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
  1. Apply their technical expertise and analytical skills in Electronics, Communication, and related fields for solving complex engineering problems in industries or pursuing higher studies and research.
  2. Exhibit professional ethics, communication, and leadership skills while working in interdisciplinary teams and diverse environments.
  3. Demonstrate innovation and entrepreneurship, contributing to the development of sustainable and socially relevant technologies.
  4. Engage in lifelong learning through advanced degrees, certifications, or self-learning to stay updated with technological advancements.

- **Program Specific Outcomes (PSOs):**

  1. An ability to design and conduct the experiments, analyse and interpret the data using modern software or hardware tools with proper understanding (basic conceptions) of Electronics and Communication Engineering.
  2. Ability to identify, formulate & solve problems and to apply the knowledge of electronics and communication to develop techno-commercial applications.

3.5.3 Key Academic & Research Achievements:

1. Publications

- **Total Journal Publications (5):**

1. Bikas Chandra Bag, (2024). Data hiding on digital images using Deep Neural Network (DNN). *Journal of Mechanics of Continua and Mathematical Sciences*, 19(8). doi:10.26782/jmcms.2024.08.00003.
2. Pramanik, Samiron. et al. (2025). *Broadband metasurface-based reflective polarization converter. Frequenz*, 79(5–6), 241–246. doi:10.1515/freq-2024-0306.
3. Dipan .Kumar Dey. et al. (2024). Understanding of efficient optical circuit using silicon waveguide at third communication window. *Journal of Optics* [Preprint]. doi:10.1007/s12596-024-02189-y.
4. Dipan .Kumar Dey. et al. (2025). Efficient photonic integrated circuit for Enhanced Optical Communication System. *Journal of Optics* [Preprint]. doi:10.1007/s12596-025-02680-0.
5. Satyajit Bhunia. et al. (2025). Broadband metasurface-based reflective polarization converter. *Frequenz*, 79(5–6), 241–246. doi:10.1515/freq-2024-0306.

- **Conference Papers (2):**
  1. Debottam Das. Study on Bandwidth Tuning Metasurface with Polarization Conversion Characteristics. *9th International Conference on IoT & Connected Technologies*, September 2024.
  2. Sabitabrata Dey. Cancer Detection by Integrated Optic Devices: A Digital Signal Processing Approach. *39th Indian Engineering Congress*, Kolkata, December 20–21, 2024.

2. Faculty Development Programs (AY 2024–25) : 18

- Dr. S. Maity – 03, Prof. A. Sarkar – 02, Prof. D. K. Dey – 02, Prof. S. Maiti – 02, Prof. D. Saha – 01, Prof. S. Ganguly – 02, Prof. S. Bhunia – 02, Dr. S. Pramanik – 01
- Prof. P. Mukherjee – 02, Prof. D. Das – 01

Student Achievements

The Department of Electronics & Communication Engineering has witnessed significant student accomplishments during the academic year 2024–25. A total of three students qualified GATE, with Annanta Shankar Khanna securing a score of 534, Shubhajit Bhaumik scoring 432, and Kahini Kartick obtaining 268. This demonstrates the department's consistent focus on academic excellence and preparation for higher education opportunities.

In terms of higher studies, one student, Annanta Shankar Khanna, was admitted to the M.Tech program in Wireless Communication and Networks at IIT Kharagpur, reflecting the department's commitment to guiding students toward premier technical institutions.

Furthermore, students have contributed to research publications. Notably, S. Bhaumik et al. published a paper titled "Broadband metasurface-based reflective polarization converter" in Frequenz (Vol. 79, 2025), exemplifying active student engagement in scholarly work.

3.5.5 Student Activities

The department emphasizes career-oriented skill development and practical learning. During the academic year 2024–25, several students completed NPTEL certification courses to enhance technical expertise:

Data Analytics with Python: Subhashree Samanta (Score: 56%), Introduction to Industry 4.0 & Industrial Internet of Things: Arghyadeb Pradhan (75%), Arnab Pahari (81%), Vijay Raj (79%), Digital Circuits: Ankit Kundu (58%), Developing Soft Skills and Personality: Ashis Kumar Jana (64%), VLSI Physical Design: Arnab Pahari (47%)

These initiatives demonstrate the department's focus on continuous skill enhancement and employability, preparing students for both industry and higher education opportunities.

Infrastructure Development

The department has strengthened its laboratory infrastructure to support practical learning and research activities. During the academic year, the department procured Ana-Digi-Trainer Kits (Micro Lab-IV), total three units at a cost of Rs. 79,650 (inclusive of GST). These kits facilitate hands-on experiments in analog and digital electronics, contributing to improved learning outcomes.

The infrastructure upgrades reflect the department's commitment to providing a robust learning environment that combines theoretical knowledge with practical application, ensuring students gain essential technical skills.

Extension, Outreach & Collaborations

A Memorandum of Understanding (MoU) was signed with Jadavpur University, Kolkata, to provide training to students in VLSI, Embedded Systems, and IoT.

3.6 Department of Mechanical Engineering (HOD: Dr. Tarun Kanti Pal)

3.6.1 Department Profile

- **Faculty Strength**: 08 (including 01 PhD, 01 Visiting Faculty)
- **Technical Staff**: 07
- **Vision**: To create globally competent mechanical engineers who can excel in interdisciplinary environments and contribute to society through innovation, entrepreneurship, and leadership.

- **Mission**:

- To produce mechanical engineers with strong theoretical and practical knowledge who contribute to society with high moral and ethical values.
- To nurture students with a global outlook, promoting sustainable development and sound health.
- To prepare graduates to be productive members of interdisciplinary teams, capable of adapting to the evolving needs of engineering, technology, and society.
- To inculcate critical thinking, creativity, and entrepreneurial skills while fostering innovation and leadership qualities.
- To establish facilities for lifelong learning, advanced training, research, and consultancy.

3.6.2 Program Objectives & Outcomes

- **Program Educational Objectives (PEOs):**
    1. To prepare graduates with a strong foundation in mathematics, science, and engineering for developing problem-solving skills essential for career advancement in mechanical and allied disciplines.
    2. To equip graduates with sound theoretical and practical knowledge in Mechanical Engineering, enabling them to contribute through interdisciplinary research, innovation, entrepreneurship, and leadership in designing and developing products.
    3. To inculcate teamwork, communication, interpersonal skills, and ethical values while fostering critical thinking, creativity, and innovation, thereby preparing graduates to adapt to evolving environments of engineering, technology, and society and to take initiatives for research, industry, and societal needs.
- **Program Specific Outcomes (PSOs):**
    1. Graduates will demonstrate the application of mathematics and advanced software tools in the design, development (fabrication), analysis (testing), and operation of mechanical systems, components, and processes.

2. Graduates will demonstrate the knowledge, skills, and attitude to analyze the causes and effects influencing machine elements, processes, and systems.

3.6.3 Key Academic & Research Achievements:

1. Publications

Conference Papers:

International Conferences (3):

1. **Tarun Kanti Pal**, Anjan Bhunia, and Himadri Chattopadhyay, *"Enhanced Transport under Impinging Circular Jet by Introducing Square Rib"*, International Conference on Multidisciplinary Research in Mechanical Engineering and Nanotechnology (ICMRMEN 2025), GEC Samastipur, Bihar, April 5–6, 2025, Conference Proceedings, pp. 72–73, ISBN: 978-93-89947-92-2 (eBook).
2. **Deb Kumar Adak**, Bidhan Chandra Gayen, Santanu Das, and Barun Haldar, *"Study on Abrasive Jet Drilling of Soda-Lime Glass under Varying Abrasive Jet with SiC Abrasive at 4 kg/cm² System Pressure"*, 1st International Conference on Advances Innovations in Engineering, Science and Technology (AIEST-2024), Abacus Institute of Engineering and Management, Mogra, Hooghly, West Bengal.
3. **Deb Kumar Adak**, Bidhan Chandra Gayen, Santanu Das, and Barun Haldar, *"Surface Preparation with Abrasive Jet Erosion on SS 316 using Silicon Carbide"*, 5th International Conference on Advanced Engineering Optimization through Intelligent Techniques (AEOTIT), Sardar Vallabhbhai National Institute of Technology, Surat, India, 28–30 November 2024.

National Conferences (2):

1. **Deb Kumar Adak**, Bidhan Chandra Gayen, Santanu Das, and Barun Haldar, *"Study of Abrasive Jet Drilling Operation on Soda Lime Glass at 8 kg/cm² System Pressure"*, West Bengal State 7th Regional Science & Technology Congress 2024–25, Midnapore College, 03–04 January 2025.
2. **Deb Kumar Adak**, Alakesh Maity, and Saikat Jana, *"Study of Drilling Soda-Lime Glass by Air-Abrasive Jet using SiC Abrasive with Varying Impingement Angle"*, Recent Advancements in Manufacturing Technology & Management, RAMTM-II 2025, Jadavpur University, 16–17 January 2025.

Book/Book Chapters (3):

1. Nalla Bhanu Teja, T. Senthilnathan, V. Kannagi, **Tarun Kanti Pal**, A. Chandrashekhar, and Sampath Boopathi, *"Impacts of Nano-Materials and Nano Fluids on the Robot Industry and Environments"*, 2024, DOI: 10.4018/979-8-3693-5767-5.ch012.
2. **Deb Kumar Adak**., Misra, S., Das, S., Alsaleh, N.A., Haldar, B. (2025), *"Optimization of Abrasive Jet Drilling on Alumina Plate Using Silicon Carbide Abrasive"*, In: Advances and Futuristic Trends in Machining Volume-II, Lecture Notes in Mechanical Engineering, Springer, Singapore. https://doi.org/10.1007/978-981-96-8372-7_3

3. **Deb Kumar Adak**, Bidhan Chandra Gayen, Santanu Das and Barun Haldar (2025), " Study on hole-making in soda-lime glass under varying abrasive jets with SiC abrasive at 4 kg/cm^2 system pressure", In: Jyoti Sekhar Banerjee, Siddhartha Bhattacharyya, Debashis De, Jiinia Datta, Panagiotis Sarigiannidis, Jan Platos, Muhammad Mujtaba Asad, (eds) Recent Trends in engineering, Science and Technology, CRC Press, Taylor and Francis Group. https://doi.org/10.1201/9781003663348-34

Patents (1):

1. Dr. Le Dang Khanh, Dr. Duc-Phuc Vuong, Prof. Dipak Kumar Jana, Dr. Le Minh Huy, Dr. Swapnila Roy, and Dr. **Tarun Kanti Pal**, *"Underwater Scooter with Navigation System"*, UK Design, Grant date: 18 December 2024, Registration date: 02 December 2024, DN: 6408785.

Copyrights (1):

1. Rahul Bhandari, **Dr. Tarun Kanti Pal**, Snthil Kumar C, Dr. L. Karthick, Rabiranjan Murmu, and Ashutosh Kakde, *"An Equipment for Production of Wear-Resistant Superhard Carbon Compound"*, Canada, Registration Date: 24 September 2024, RN: 1224919.

- **Faculty Development Programs Attended:** 07

Dr. T.K. Pal – 01, Prof. S. Bandyopadhyay – 02, Prof. K. Mondal – 02, Prof. A. Singh – 01, Prof. D.K. Adak – 01

Student Achievements

GATE Qualification and Higher Studies:

- **GATE Qualified:** 01 student – Mr. Aditya Banerjee
- **Higher Studies:** Mr. Aditya Banerjee – M.Tech at IIT (ISM) Dhanbad

Student Publications:

1. Tarun Kanti Pal, Anjan Bhunia, and Himadri Chattopadhyay, *"Enhanced Transport under Impinging Circular Jet by Introducing Square Rib"*, ICMRMEN 2025, GEC Samastipur, Bihar.
2. Deb Kumar Adak, Alakesh Maity, and Saikat Jana, *"Study of Drilling Soda-Lime Glass by Air-Abrasive Jet using SiC Abrasive with Varying Impingement Angle"*, RAMTM-II 2025, Jadavpur University.

3.7 Department of Basic Science and Humanities (HOD: Dr. Anirban Das)

3.7.1 Department Profile

- **Faculty Strength**: 19 (incl. 8 PhDs, 1 Visiting)
- **Technical Staff**: 4

- **Vision**: Pursuing Excellence in Teaching – Learning Process to Produce High Quality Engineering Professionals.
- **Mission**:

  - To impart knowledge of Basic Sciences for their effective application in engineering and technology.
  - To strengthen analytical, problem-solving, and critical thinking skills among students.
  - To foster communication skills, ethics, and human values for holistic development.
  - To encourage interdisciplinary learning and research for addressing societal and industrial challenges.

3.7.2 Key Academic & Research Achievements:

1. Publications

- Total Journal Publications: 2
- Conference Papers: 4
- Book/Book Chapters: 1

Faculty Achievements:

- PhDs Awarded: 2
  1. Prof. (Dr.) Arko Banerjee – *"A Study on Weighted Cluster Ensemble"*, July 2024
  2. Dr. Aditi Kuila – *"A Social Media Boom: Evolution of New Literary Trends and Their Dynamics"*, October 2024
- Faculty Development Programs Attended: 15
  - Dr. A. Mitra – 2, Dr. A. Banerjee – 2, Dr. A. Das – 2, Dr. Amit Jana – 2, Dr. I. Ghosh – 2, Dr. Biswajit Jana – 2, Avishak Kar – 1, Dr. Aditi Kuila – 2

3.7.3 Infrastructure Development

- Equipment Purchased: Physics and Chemistry lab instruments purchased with a total cost of Rs. 80,000.
- IT Infrastructure Upgrades: 15 computers upgraded and a new LAN connection installed for all 30 computers in the English and Computational labs.

4. Central Facilities & Support Services

4.1 3D Printing and Additive Manufacturing Technology lab

A 3D Printing and Additive Manufacturing Technology lab has been setup which is Programmed by: Ministry of Electronics and Information Technology (MeitY), Government, of India**,** Implemented by : Centre for Development of Advanced Computing (C-DAC), Kolkata.

Empowering Innovation: High-End Training Centres Across West Bengal and Bihar

Training Centres Located at:

- Maulana Abul Kalam Azad University of Technology (MAKAUT), Nadia, West Bengal
- Dr. B. C. Roy Engineering College, Durgapur, West Bengal
- College of Engineering & Management, Kolaghat, West Bengal
- Siliguri Institute of Technology, West Bengal
- National Institute of Technology (NIT), Bihta Campus, Patna, Bihar
- Darbhanga College of Engineering, Darbhanga, Bihar
- Bhagalpur College of Engineering, Bhagalpur, Bihar

Program Objectives:

- Provide industry-aligned professional training in advanced manufacturing technologies across sectors such as automobile, medical, defense, engineering, and architecture.
- Develop a skilled workforce through hands-on technical training, R&D exposure, content development, and real-world applications.
- Establish high-end laboratories and foster an ecosystem for rapid prototyping, innovation, and entrepreneurship using Additive Manufacturing technologies.
- Enable college faculties with digital teaching tools and curriculum-aligned content creation capabilities.
- Promote regional heritage products through technology-driven design and replication using 3D printing.
- Ensure career readiness through grooming, counselling, and placement support, bridging the gap between academia and industry.
- Continuously evaluate, improve, and sustain the program through structured assessment, impact analysis, and knowledge dissemination.

3D Printing & Fabrication Lab

The lab is a state-of-the-art digital manufacturing space that allows students to quickly fabricate parts from computer-generated designs, enabling rapid iteration of prototype designs.

Equipment Available:

- Fused Deposition Modeling (FDM)

- Liquid Deposition Modeling (LDM)
- Fused Filament Fabrication (FFF)
- 3D Scanner

Training Program Modes and Duration:

Type of Program	Duration
Workshop & Mobilization	1 Day
Bootcamp Program	2 Days
Industrial Training	1 Month
Internship	3 Months

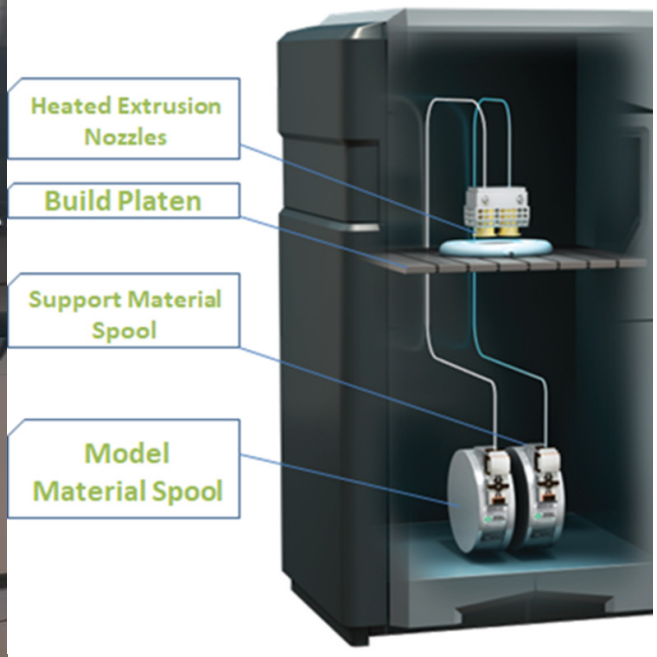
Inauguration Program

Photo gallery of 3D Printer room:

Fused Deposition Modeling (FDM)

Thermoplastic filament is heated to a semi-liquid state and extruded across computer-controlled tool paths to build parts layer-upon-layer.

Our FDM Machine



Common materials used in FDM

- PLA (Polylactic Acid)
- ABS (Acrylonitrile Butadiene Styrene)
- PETG (Polyethylene Terephthalate Glycol)
- TPU (Thermoplastic Polyurethane)
- Nylon (Polyamide)
- Carbon Fiber Reinforced Filaments

Our LDM Printer

Liquid Deposition Modeling (LDM):

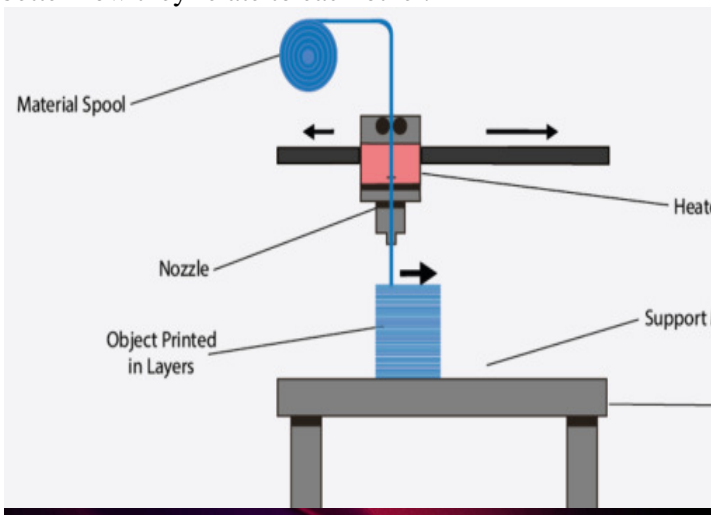
It is an innovative method in 3D printing technologies that allows for the production of three-dimensional parts by depositing liquid or semi-liquid materials layer by layer. In recent years, the LDM printing process has been preferred in a wide range of applications, from industrial manufacturing to medical uses, offering significant advantages for sustainable production.

Common materials used in FDM

- Silicones
- Biopolymers
- low-viscosity ceramics

Fused Filament Fabrication (FFF):

While FDM is short for Fused Deposition Modeling. The two terms refer to the same 3D printing process, but their primary difference is trademark issues. Let us begin by explaining FFF vs FDM history to understand better how they relate to each other.



Common materials used in FFF

- PLA
- ABS
- PETG
- TPU
- Nylon
- Composite materials infused with wood
- Metal
- Carbon fiber.

Our FFF Printer

Sinter

Agitation Tank

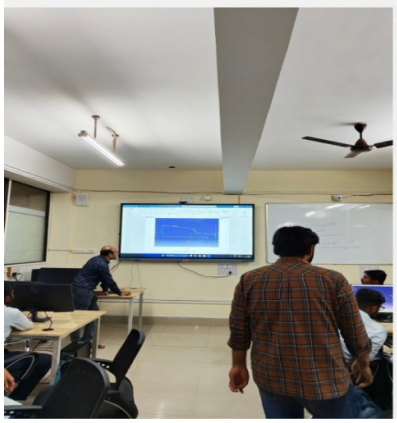
3D Scanner:

Explore the world of 3D scanning technologies and their applications in various industries. Learn about laser triangulation, structured light, photogrammetry, and more, and discover how they enhance accuracy and efficiency in design, healthcare, entertainment, and architecture.

3D scanning is the process of analyzing a real-world object or environment to collect three-dimensional data of its shape and possibly its appearance (e.g. color). The collected data can then be used to construct digital 3D models.

There are a variety of technologies for digitally acquiring the shape of a 3D object. The techniques work with most or all sensor types including optical, acoustic, laser scanning, radar, thermal, and seismic. 3D scan technologies can be split in 2 categories: contact and non-contact. Non-contact solutions can be further divided into two main categories, active and passive. There are a variety of technologies that fall under each of these categories.


CDAC
Finishing School Program
on
3D Printing & Additive Manufacturing Technology



4.2 Estate, Civil & Security (ECS) Department

Key Developments in Campus Infrastructure: FY 2024–2025

Civil Works

- Annual Maintenance: Rs. 12.6 lakhs
- Completed Projects: Rs. 15.3 lakhs
- Academic and Laboratory Upgrades: Significant enhancements were made in the AIML, ECE, and CDAC labs at a cost of Rs. 6.38 lakhs.
- Hostel Improvements: Works such as net fixing, gate repairs, and internal painting amounted to Rs. 1.74 lakhs.
- Renovations: The NGH Dining Hall and Workshop Ladies' Toilet were renovated for Rs. 2.91 lakhs.
- NBA Accreditation Modifications: Civil adjustments were undertaken at a cost of Rs. 0.71 lakhs.
- Further Campus Development: Upgrades in drinking water facilities, sports infrastructure, and residential quarters totaled Rs. 3.59 lakhs.

Electrical Works

- Installation of 5 new air conditioners and electrical upgrades in the C-DAC lab cost Rs. 3.30 lakhs.
- Purchase and maintenance of fans and lighting amounted to Rs. 2.25 lakhs.
- Underground cabling between the Mechanical Lab and Administrative Building was completed at a cost of Rs. 0.93 lakhs.
- Total Electrical Expenditure: Rs. 6.49 lakhs

Fire Safety

- New fire extinguishers were procured, existing units refilled, and installations upgraded across the campus, with a total expenditure of Rs. 0.37 lakhs.

Security

- Regular audits and system upgrades were carried out to ensure a safe and secure campus environment.

4.3 Training & Placement Highlights (2024–25)

Industrial Training

- A total of 122 students from the 2025 batch underwent industrial training across 12+ organizations, including WBPDCL, All India Radio, BSNL, Ramco Cements, WBSEDCL, WBSETCL, DVC, Jadavpur University, and South Eastern Railway.

Placements (2021–25 Batch)

- Total Eligible Students: 293
- Total Offers Received: 276
- Students Placed (Actual): 250
- Overall Placement Percentage: 94% (including multiple offers)

Department-wise Placement:

- CSE: 77% (103 offers)
- ECE: 71% (35 offers)
- EE: 173% (59 offers)
- ME: 280% (59 offers)
- IT: 36% (20 offers)

Top Recruiters:

Pricewaterhouse Coopers, TCS, Infosys, Paias Reliability Services, Amazon, Rashmi Metaliks, Laxmi Agni Components, Rinex Technologies, Tech Mahindra, InterraIT, Exavalue, Skipper Ltd., R R Kabel, Banco Products, Synnova Gears, Shyam Metaliks, and many others.

Skill Development & Training

- Aptitude and soft skill sessions conducted by Mr. Joy Sengupta for the 2024 batch as well as other batches.
- Mock aptitude tests and interviews organized to enhance employability.
- Industry experts invited for career guidance seminars, workshops, and interactive sessions.

Alumni Engagement

- CEMK Alumni Association organized the Alumni Re-Union-2025 on 1st March, 2025, attended by approximately 200 alumni members. Alumni interacted with college management and current students, offering support for institute development and student initiatives.
- Cultural programs, games, and interactive sessions were conducted to strengthen alumni-student engagement.
- Distinguished senior alumni are conducting regular interactive programs with current students through both online and offline modes, providing mentorship and career guidance.

4.4 Student Welfare & Co-Curricular Activities

National Service Scheme (NSS) Activities – 2024–25

The NSS Unit of College of Engineering & Management, Kolaghat, actively organized several events and campaigns aimed at promoting social responsibility, environmental awareness, health consciousness, and student engagement. Key activities are summarized below:

1. Environment Day Quiz

- Date & Venue: 31st July 2024, J.K. Das Auditorium
- Guided by: Dr. Seba Maity and Dr. Amit Kumar Jana
- Objectives:
    - Raise awareness about environmental challenges and sustainability
    - Encourage critical thinking, teamwork, and group participation
    - Inspire students to adopt eco-friendly practices
- Achievements & Impact:
    - Over 40 participants from various departments engaged actively
    - Created a healthy competitive spirit while promoting teamwork
    - Boosted knowledge on climate change and environmental conservation
- Participants & Volunteers: 37 students participated; 12 volunteers ensured smooth execution
- Winners:
    - 1st Place: Aniket Dey, Asish Kumar Jana, Shreya Maity (ECE Dept.)
    - 2nd Place: Atanu Mahapatra, Koustav Mondal, Koustav Maity, Arnab Das (CSE Dept.)
    - 3rd Place: Soumili Dey, Suman Das, Pallabi Ghosh, Subhashree Samanta (ECE Dept.)

2. Thalassemia Awareness and Screening Camp

- Date & Venue: 25th September 2024, TPO Conference Room
- Highlights:
    - Educated students on causes, symptoms, and preventive strategies of thalassemia
    - Conducted preliminary screening tests for at-risk individuals
    - Provided counseling and follow-up guidance
- Outcome:
    - Enhanced awareness and promoted preventive healthcare among students
    - Encouraged early diagnosis and responsible health practices

3. Science Tech Quiz 2025

- Date & Venue: Prelims – 28th February 2025; Finals – 12th March 2025, J.K. Das Auditorium
- Participation: 120+ students
- Objective: Promote scientific awareness, technical knowledge, teamwork, and healthy competition
- Achievements:
    - Engaging and diverse quiz rounds

    - Certificates and prizes awarded to winners
    - Enhanced critical thinking and collaboration among students
- Winners:
    - 1st Place: Pritam Singh, Ritabrita Maity, Pramit Sarkar, Aparajita De (AIML Dept.)
    - 2nd Place: Debantika Mukherjee, Abiska Das, Angana Khatua, Suvajit Mondal
    - 3rd Place: Argha Panda, Richik Basu, Sayan Samanta, Soumyajit Mondal

4. Poster Making Competition

- Date & Submission Venue: 12th April 2025 (Submission by 22nd April 2025), Room W-212
- Objectives:
    - Promote awareness on environmental, technological, and societal issues
    - Foster creativity, critical thinking, and active participation
    - Align with NSS objectives of youth involvement in nation-building activities
- Topics Covered: Green India, Cybersecurity, Renewable Energy, Space Missions, AI in Healthcare, EVs, E-Waste, Mental Health, Climate Change, and more
- Outcome:
    - Enhanced student understanding of major societal and environmental challenges
    - Encouraged participation in further NSS and social outreach activities

5. Blood Donation Camp

- Date & Venue: 3rd May 2025, TPO Conference Hall
- Organized in Collaboration With: MOIC Panskura SSH Blood Bank
- Details:
    - Faculty and students actively participated; 50 donors contributed
    - Arrangements included medical facilities, resting rooms, refreshments, and certificates
- Outcome:
    - 50 units of blood collected and donated
    - Raised awareness about voluntary blood donation
    - Strengthened collaboration between students, faculty, and medical professionals

6. Clean and Green Campus Initiative

- Date & Venue: 16th May 2025, CEMK Campus
- Activities:
    - Campus clean-up drives across classrooms, corridors, gardens, and common areas
    - Installation of dustbins and recycling stations
    - Limited tree plantation activities
- Outcome:
    - Noticeable improvement in campus cleanliness
    - Enhanced awareness of sustainable practices
    - Strengthened teamwork and community spirit

4.5 National Cadet Corps (NCC)

The NCC Unit at College of Engineering & Management, Kolaghat, continued to actively engage students in disciplined training, community service, and leadership development during the academic year 2024–25.

Camps Attended:

- Three Annual Training Camps (CATC) held at Pingla, Kalyani, and Mahishadal

Campus Activities:

- Plastic-Free Drive
- Republic Day Parade participation
- Support for Blood Donation Camp

Certifications Awarded (Cumulative since 2022):

- 'C' Certificate: 22 students
- 'B' Certificate: 30 students

Special Mentions:

- NCC cadets represented the college at various district and state-level events, showcasing discipline, leadership, and community engagement.

4.6 Scholarships & Freeships

CEMK provided substantial financial assistance to students, ensuring equitable access to higher education and supporting meritorious and economically disadvantaged students.

Scholarship Distribution:

- **Swami Vivekananda MCM (SVMCM):** 433 students (Fresh: 154, Renewal: 279)
- **Kanyashree Prakalpa (K2):** 21 students
- **Aikyashree Scholarship:** 33 students (MCM: 14, SVMCM: 19)
- **National Scholarships (AICTE-Pragati, Central):** 17 students (Fresh: 8, Renewal: 9)
- **OASIS (SC/ST/OBC):** 12 students
- **Full Tuition Fee Waiver:** 12 students (9 under SWS, 3 for WBPDCL wards)
- **Half-Freeship:** 1 student
- **Scholarships from outside the State (E-Kalyan, Govt. of Jharkhand):** 3 students

Additional Note:

- The college has a dedicated Student Welfare Cell to assist students in applying for scholarships, free ships, and other financial aid programs.

Conclusion

The academic year **2024–25** has been a landmark period of growth, achievement, and consolidation for the College of Engineering & Management, Kolaghat. Notable accomplishments include:

- Robust academic performance and research outputs across all departments
- Significant infrastructure developments, including modern labs, digital learning facilities, and residential upgrades
- Outstanding placement records and industry collaborations
- Holistic student development through vibrant co-curricular activities, NSS, NCC, and skill-enhancement programs

The college remains committed to nurturing future-ready engineers and professionals, guided by academic rigor, innovation, and social responsibility. We extend our sincere gratitude to our **faculty, staff, students, parents, alumni, and industry partners**, whose support has been integral to our success.

With confidence and dedication, CEMK is poised to scale new heights in the coming academic years.

Director
College of Engineering & Management, Kolaghat