Polyयांत्रिकी

IIMT
COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

12 Jan – National Youth Day

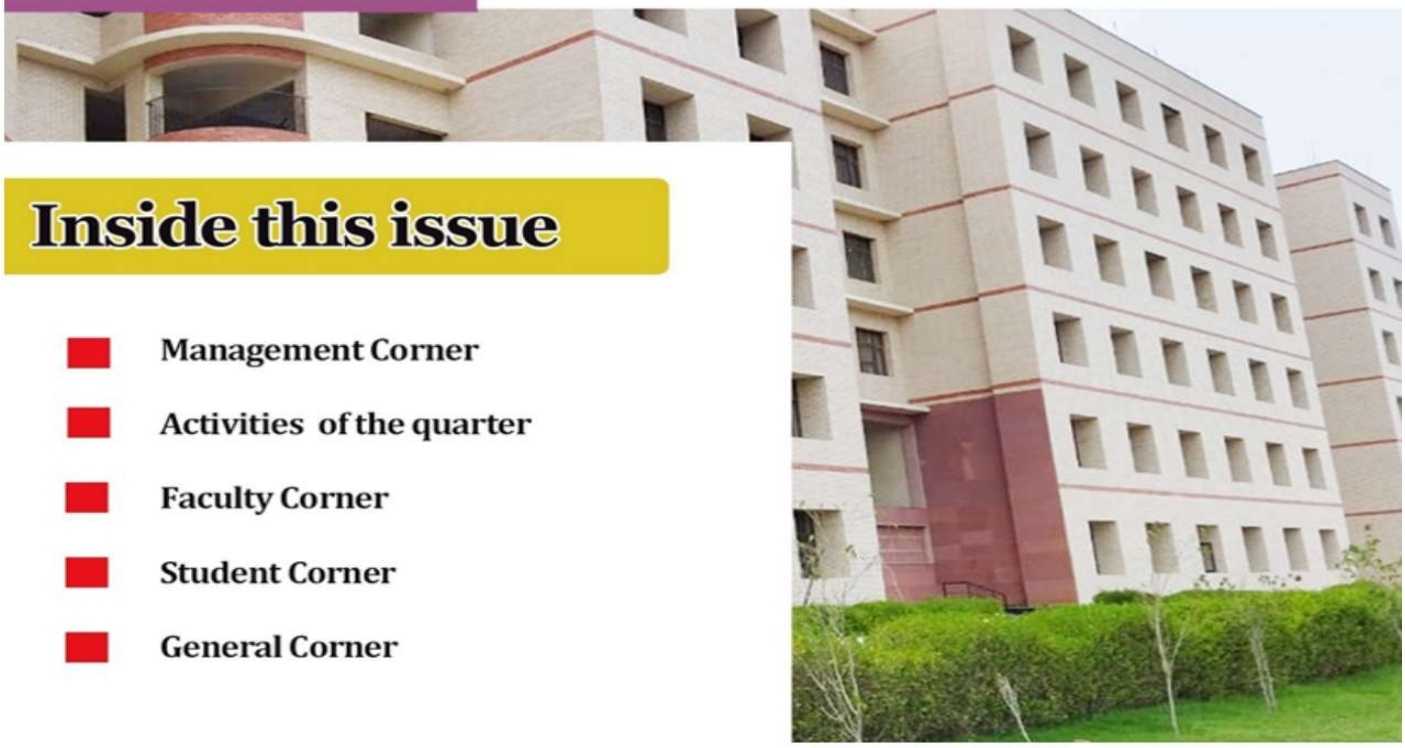
Jan-March 2026, Issue-XXIII, Volume- XXVII

Newsletter

Polyयांत्रिकी

IIMT
COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

Jan-March, 2026, Issue-XXIII, Volume- XXVII
www.iimtindia.net



Inside this issue

4 April 1928-
28 May 2014

"Do the best you can until you know better. Then when you know better, do better." Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

15 Jan – Indian Army Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

FROM THE DESK OF HOD (EE)

Mr. MIRTUNJAY KUMAR
Acting HOD (EE)
IIMT College of Polytechnic

LOW POWER OPTIMIZATION IN VLSI DESIGN USING FINFET TECHNOLOGY

In the field of modern electronics, reducing power consumption while maintaining high performance has become a major challenge. With the continuous scaling of semiconductor devices, traditional CMOS technology faces limitations such as leakage current and power dissipation. To overcome these issues, advanced technologies like FinFET and hybrid logic design techniques are being widely explored. These innovations play a crucial role in the development of efficient digital systems.

Low Power Optimization in VLSI

Low power optimization refers to the techniques used to minimize power consumption in digital circuits without significantly affecting performance. It is especially important in portable and battery-operated devices where energy efficiency is critical.

Various optimization methods are used, including:

- Gate resizing
- Reduction of input capacitance
- Leakage current minimization
- Efficient circuit design techniques

These methods help in improving parameters such as average power, delay, and power-delay product (PDP).

Role of FinFET Technology

FinFET (Fin Field-Effect Transistor) technology is an advanced semiconductor design that offers better control over the channel compared to traditional CMOS transistors.

Key advantages of FinFET technology include:

- Reduced leakage current
- Improved gate control
- Enhanced performance at smaller technology nodes (such as 22nm)

By using FinFET technology in full adder design, significant improvements in power efficiency and overall circuit performance can be achieved.

Conclusion

Low power optimization using hybrid logic and FinFET technology improves VLSI design by reducing power consumption while maintaining performance. It helps engineers develop efficient and high-performance digital circuits.

4 April 1928-
28 May 2014

- "You have your humanity, and you must not allow anything to reduce that." Maya Angelou

Polyयांत्रिकी

IIMT
COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

30 Jan – Martyr's Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

Department of Mechanical Engineering

Hackathon 2k26

The Departments of Mechanical Engineering and Computer Science Engineering, IIMT College of Polytechnic, Greater Noida, successfully organized Hackathon 2k26 on 19th March 2026 in the college premises. The event aimed to foster innovation, creativity, and technical skills among students by providing a platform to present ideas and working models addressing real-world problems.

To encourage participation, cash prizes were awarded (₹1000 for the winner and ₹500 for the runner-up), and winners were selected based on overall performance and effectiveness of their models. All participants and co-participants were also awarded certificates in recognition of their efforts.

4 April 1928-
28 May 2014

- "Life is going to give you just what you put in it. Put your whole heart in everything you do, and pray, then you can wait." Maya Angelou

ALUMNI CONNECT

The Department of Civil Engineering organized an Alumni Connect Session on 15 April 2026 at IIMT College of Polytechnic with the objective of bridging the gap between academic learning and industry requirements. The session aimed to provide students with real-world exposure, motivate them through alumni success stories, and strengthen alumni-institute interaction in line with NBA and NAAC guidelines.

The event began with a warm welcome by the Head of Department, Mr. Rajiv Ranjan Singh, who highlighted the importance of alumni engagement. The guest speaker, Mr. Rishav Raj (Batch 2022), currently working as a Quality In-charge at RDC Concrete Pvt. Ltd., shared his journey from being a diploma student to a professional, emphasizing the importance of practical knowledge, site experience, and quality control in modern construction practices.

During the interactive session, the speaker provided valuable insights into ready-mix concrete (RMC), quality assurance techniques, workplace challenges, and professional ethics. Students actively participated and gained clarity on career opportunities, skill development, and industry expectations.

The session proved highly beneficial as it enhanced students' understanding of the construction industry, encouraged career planning, and highlighted the importance of internships and continuous learning. Overall, the event was a successful and enriching experience that contributed to students' professional development, strengthened alumni relations, and supported institutional growth aligned with academic excellence and accreditation standards.

4 April 1928-
28 May 2014

- "Success is liking yourself, liking what you do and liking how you do it." Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

12 Feb – National Productivity Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

Department of Civil Engineering

INDUSTRIAL VISIT

The Department of Civil Engineering organized an industrial visit on 19th March 2026 to Avenew Construction Co. Ltd., Manoharram Project at Gaur Yamuna City, Greater Noida (Sector 18), with 17 students and 3 faculty members under the coordination of Mr. Mainuddin Khan.

The visit provided valuable practical exposure to construction techniques, materials, machinery, and safety protocols, allowing students to connect theoretical knowledge with real-world applications. Interaction with industry professionals enhanced their understanding of project management, problem-solving, and workplace practices.

Overall, the visit improved students' technical knowledge, professional awareness, and confidence, while offering insights into career opportunities in the civil engineering field.

4 April 1928-
28 May 2014

- "Nothing can dim the light which shines from within." Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

28 Feb – National Science Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

Department of Electrical Engineering

INDUSTRIAL VISIT

The Department of Electrical Engineering organized an industrial visit to Ducat (School of AI), Noida Extension on 30th March 2026 with the objective of providing students practical exposure to emerging technologies like drone technology and robotics. The visit began with an introductory session about the institute, followed by an in-depth explanation of drone concepts, including their components, types, and applications in fields such as agriculture, surveillance, delivery services, and disaster management. A live drone demonstration allowed students to observe real-time operations like take-off, landing, navigation, and the use of sensors such as GPS and cameras. They were given hands-on learning opportunities to observe equipment, understand basic coding, and interact with trainers regarding career opportunities and future scope in AI and robotics. The visit enhanced students' understanding of practical applications, industry trends, and the importance of technical skills, making it a valuable and enriching learning experience.

4 April 1928-
28 May 2014

- "Develop enough courage so that you can stand up for yourself and then stand up for somebody else." Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

3 March – World Wildlife Day

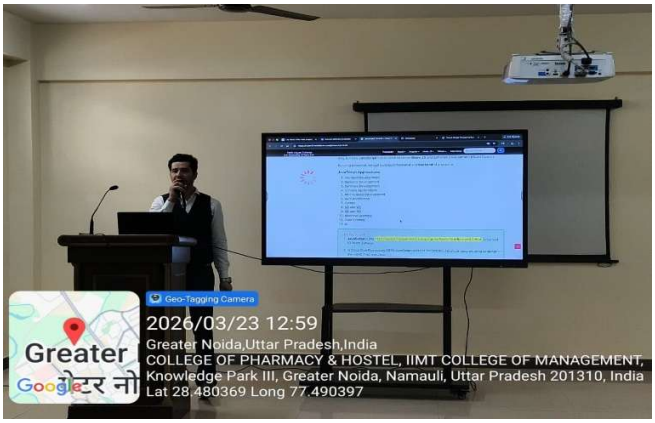
Jan-March 2026, Issue-XXIII, Volume- XXVII

Department of Computer Science & Engineering

WORKSHOP

The Department of Computer Science & Engineering at IIMT College of Polytechnic organized a workshop on "Full Stack JavaScript" on 23rd March 2026 at Vishveshvarya Hall. The main objective of the workshop was to provide students with a clear understanding of modern web development using JavaScript for both front-end and back-end technologies.

The session was conducted by Mr. Avinash Malhotra, Co-Founder of Tech Altum and an IIT Kharagpur alumnus, who introduced key concepts such as client-side scripting, server-side programming, database integration, and the use of HTML, CSS, and JavaScript to build dynamic web applications. The session covered real-world applications, security challenges, and career opportunities, followed by an interactive discussion where students actively participated. The session was interactive, encouraging students to ask questions and explore innovative ideas for building web-based solutions.



4 April 1928-
28 May 2014

- "We may encounter many defeats, but we must not be defeated."
  Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

8 March – International Women's Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

FACULTY CORNER

Development and investigation of the surface roughness prediction model using ANN in terms of Machining Parameters during the turning of AISI 1040 steel.

Nowadays, surface finish of machined parts plays an important role in manufacturing industry. Poor surface finish invites organization problem seeking identification of the best process condition for the manufacturing process. Surface roughness is the one of the critical performance parameter that has an appreciable effect on several mechanical properties of machined parts such as fatigue behaviour, corrosion resistance, creep life, etc. In this present research, an experimental investigation on surface roughness in turning of AISI 1040 steel with coated carbide inserts was carried out. Prediction model for surface roughness in terms of speed, feed and depth of cut is developed using artificial neural network based on gradient descent back-propagation with adaptive learning rate procedure. The predicted values of surface roughness using proposed ANN model have been found to be in close agreement with the experimental data. The correlation coefficient for the entire data set has been found to be 0.982.

Turning is the one of the important industrial processes which is used to create rotational parts by cutting away unwanted material of metal parts and give the desired shape to the material. The turning is an important process of manufacturing industries. The output quality can be achieved by optimizing the parameters.

Optimization of parameters improves output quality and also reduces the manufacturing. Turning parameters are feed rate, cutting speed, depth of cut, cutting fluids and so on.

Surface roughness is the one of the critical performance parameter that has an appreciable effect on several mechanical properties of machined parts such as fatigue behavior, corrosion resistance, creep life, etc. It also affects other functional attributes of machined parts like friction, wear, light reflection, heat transmission, lubrication, electrical conductivity, etc. Hence, achieving the desired surface quality is of great importance for the functional behavior of the mechanical parts.

Traditionally the selection of machining parameters is carried out manually based on the experience of the machinist or the planner and the information contained in catalogues and handbooks. Manual selection of machining parameters reflects the problem of variability in experience and judgment among the

Ms. Gargi Vyas
M. Tech (Production Engineering)
Lecturer, ME (P)
IIMT College of Polytechnic

4 April 1928-
28 May 2014

- "We delight in the beauty of the butterfly, but rarely admit the changes it has gone through to achieve that beauty." Maya Angelou

Polyयांत्रिकी

IIMT COLLEGE OF POLYTECHNIC
Greater Noida
— Aim For Excellence —

15 March – World Consumer Rights Day

Jan-March 2026, Issue-XXIII, Volume- XXVII

STUDENT CORNER

THE IMPORTANCE OF TIME MANAGEMENT IN STUDENT LIFE

Student life involves balancing studies, extracurricular activities, and personal responsibilities. In such a busy schedule, time management plays a crucial role in helping students stay organized and productive.

Importance of Time Management: Proper time management enables students to plan their tasks efficiently and avoid last-minute stress. It helps in setting priorities, meeting deadlines, and maintaining a healthy study routine.

Impact on Academic and Personal Growth: Effective time management enhances focus and academic performance. It also allows students to participate in other activities, promoting overall personality development and reducing anxiety caused by workload.

Conclusion: Time management is not about being busy all the time but about using time wisely. By developing this skill, students can achieve their goals and maintain a balanced and successful life.

Shriti Devnath
ME, 2nd Yr

GENERAL CORNER-QUIZ

General Knowledge Questions

1. Which is the smallest continent in the world?
2. Which is the fastest land animal?
3. Who proposed the theory of relativity?
4. What is the capital of Australia?
5. What is the full form of CPU?
6. Who discovered penicillin?
7. Which is the longest mountain range in the world?
8. Which country is known as the Land of the Rising Sun?
9. Which Indian city hosted the first Asian Games?
10. What is the currency of Japan?

Answers of Previous Newsletter General Corner (October - December 2025)

1. Mars
2. Indian Space Research Organization
3. The Ganges
4. Red Fort
5. Blue whale
6. Lotus
7. 15th September
8. Bengaluru
9. Silver
10. Global Positioning System

4 April 1928-
28 May 2014

"If you don't like something, change it. If you can't change it, change your attitude." Maya Angelou

Editorial Board Members

FROM THE EDITOR'S DESK

"We extend our sincere appreciation to our dedicated readers, whose engagement and support drive the success of our esteemed quarterly newsletter. We also express profound gratitude to our talented authors, whose innovative research enriches the scholarly discourse in our field.

Finally, we extend special thanks to our distinguished Editor-in-Chief for his guidance, leadership, and unwavering commitment to excellence.

CHIEF EDITOR

Prof. Umesh Kumar

Director

IIMT College of Polytechnic

FACULTY COORDINATOR

Ms. Gargi Vyas
Lecturer, ME

Ms. Deepali Arya
Lecturer, ASH

Mr. Swastik Mishra
Lecturer, EE

Mr. Sachin Yadav
Lecturer, CSE

STUDENTS COORDINATOR

Ms. Shriti Devnath
ME 2nd Yr

Mr. Abhinav Sharma
CE 2nd Yr

Mr. Mayank
CSE 2nd Yr

Mr. Utkarsh Pandey
EE 2nd Yr

4 April 1928-
28 May 2014

"All great achievements require time." Maya Angelou