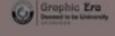


Graphic Era
Deemed to be
University DEHRADUŃ



Madhur Saxena

Department of Mechanical Enga





**ALUM** INTERACTIO SERIES

Ms. Prachi Sawan

Career opportunities in upcoming industries

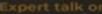




APRIL **09** 2022

02:00 PM onwards

n Semester



"Process of Innovation Development & Technology Readiness Level (TRL)" & "Commercialization of Lab Technologie

& Tech-Transfer



Dr. Paresh Kumar C. Dave





11:00 AM to 12:30 PM







(Rolling, Casting, Forgings and Extrusion)

Dr. Arvind Suryavanshi

General Manager, Technical, PT Pionirbeton Industri (A group company of Heidelberg Cement, Germany). Jakarta Timur 13930 Indonesia

March 26, 2022 (3 to 5 PM IST)



March 27, 2022 (2 to 4 PM IST)







>> Register Now: bit.ly/36Fytzt. <<



#### Vision:

We visualize Graphic Era (Deemed to be University) as an internationally recognized, enquiry driven, ethically engaged diverse community, whose members work collaboratively for positive transformation in the world, through leadership in teaching, research and action.

#### Mission:

The mission of the university is to promote learning in true spirit and offer knowledge and skills in order to succeed as professionals. The university aims to distinguish itself as a diverse, socially responsible learning community with high-quality scholarship and academic rigour.

### **Department:**

#### Vision:

The vision of the department is to be regionally, nationally and internationally recognized in providing Mechanical Engineering education, leading to well qualified Engineers who are Creative, Ethical Environmentally friendly, Self-esteemed and successful in Research.

#### Mission:

The mission of the department is to educate, prepare, inspire, and mentor students to excel as professionals at both the undergraduate and post graduate levels for leadership roles in the fields of mechanical engineering and to conduct research for the benefit of society.

- M1- To imparting quality education to the students and enhancing their skills to make them globally competitive engineers.
- **M2-** To maintaining vital, state-of-the-art research facilities to improve its students and faculty with opportunities to create, interpret, apply and disseminate knowledge.
- M3- To develop linkages with world class R&D organization and educational institutions in India and abroad for excellence in teaching, research and consultancy practices.
- **M4-** To produce ethical, motivated and competent engineers capable of solving current problems and envisaging and developing new technologies beneficial to society.

### 1.2 State the Program Educational Objectives (PEOs) (5)

The Program Educational Objectives (PEOs) for Mechanical Engineering students typically center around the broad goals that the program seeks to achieve for its graduates. There are four commonly stated objectives:

**PEO1:** To enable students to apply core principles and emerging technologies in Mechanical Engineering to address modern industry and societal challenges.

**PEO2:** To equip students with a strong foundation in core principles and emerging technologies, enabling them to solve complex engineering problems and pursue advanced studies, research, and innovation in Mechanical Engineering.

**PEO3:** To foster communication, ethics, and leadership in students, enabling them to excel in emerging Mechanical Engineering trends and contribute to industry, society, and science globally.

**PEO4:** To foster lifelong learning, innovation-driven entrepreneurship, and research in emerging technologies, with a focus on ethics and environmental sustainability for societal benefit.

### Alumni Interactive Session with Mr. Madhur Saxena

The Department of Mechanical Engineering at Graphic Era Deemed to be University (GEU) organized an Alumni Interactive Session on 29th January 2022 via the Microsoft Teams platform. The session featured Mr. Madhur Saxena, an esteemed alumnus currently working as an OSP Design Engineer at Congruex, Asia Pacific LLP. The topic of discussion was "Employment Opportunities through Motor Cart Club," offering students valuable insights into how participation in student-led engineering clubs can enhance career prospects.



### **About the Speaker**

Mr. Madhur Saxena pursued his undergraduate studies in Mechanical Engineering at GEU from 2016 to 2020. With a strong foundation in automotive engineering and design, he has successfully transitioned into his current role, contributing to the telecommunications and infrastructure industry as an OSP (Outside Plant) Design Engineer. His journey is an inspiration for students aiming to explore diverse career

paths beyond traditional mechanical engineering roles.

Key Highlights of the Session
The session focused on how student involvement in technical clubs like the Motor Cart Club (MCC) can significantly improve employability.
Some of the key takeaways from the session included:

- Role of Motor Cart Club (MCC) in Skill Development – Hands-on experience in automobile design, fabrication, and troubleshooting enhances technical proficiency.
- Project-Based Learning & Industry
  Readiness Working on real-world
  projects within MCC helps students
  develop problem-solving, teamwork,
  and leadership skills.
- Internship & Job Opportunities –
  Participation in engineering clubs
  increases the chances of securing
  internships and placements in
  automotive, manufacturing, and
  design industries.
- Bridging the Gap between Academia and Industry – MCC provides exposure to industry-standard tools, methodologies, and competitions, making students job-ready.
- Multi-Domain Career Options –
   Exploring how mechanical engineers
   can transition into fields such as
   design engineering,
   telecommunications, and
   automation.

### **Interactive Q&A Session**

Students actively participated in the Q&A session, discussing career challenges, skill-building strategies, and the importance of extracurricular activities. Mr. Saxena emphasized the need to combine academic knowledge with practical

experiences to stand out in the competitive job market.

### **Impact of the Session**

The session successfully:

- Encouraged students to actively participate in technical clubs to gain hands-on experience.
- Provided insights into unconventional career pathways in industries beyond core mechanical engineering.
- Guided students on skill development and networking to enhance their job prospects. Conclusion

The Alumni Interactive Session with Mr. Madhur Saxena was an insightful and motivational event, reinforcing the importance of practical learning and extracurricular involvement. The Department of Mechanical Engineering at Graphic Era Deemed to be University continues to organize such sessions to help students gain valuable industry exposure and career guidance.

### **Alumni Interactive Session** with Ms. Prachi Sawan

The Department of Mechanical Engineering at Graphic Era Deemed to be University (GEU) organized a virtual Alumni Interactive Session on 9th April 2022 via the Microsoft Teams platform. The esteemed alumni speaker, Ms. Prachi Sawan, who is currently working as a Reliability Engineer at Cummins India Limited, Pune, shared her valuable insights on "Career Opportunities in Upcoming Industries."

### **About the Speaker**

Ms. Prachi Sawan pursued her undergraduate studies in Mechanical Engineering at GEU from 2014 to 2018. With years of industry experience, she has contributed significantly to the reliability and performance enhancement of mechanical systems at Cummins India Limited, Pune. Her journey serves as an inspiration for aspiring engineers looking to build a successful career in mechanical engineering and allied fields.



### **Key Highlights of the Session**

The session focused on emerging career opportunities in the evolving industrial landscape and provided students with valuable insights into the skills and expertise required to thrive in modern industries. Some of the key points covered in the session

- Introduction to Industry Trends -Analyzing the future scope of mechanical engineering in automation, artificial intelligence, and sustainability.
- The Role of a Reliability Engineer Understanding the responsibilities and challenges in ensuring the

- reliability and efficiency of mechanical systems.
- Career Pathways in Upcoming Industries – Exploring opportunities in renewable energy, electric vehicles (EVs), robotics, data-driven manufacturing, and Industry 4.0.
- Skills & Certifications for Career
   Growth Importance of technical
   expertise, software proficiency, and
   industry-recognized certifications
   such as Six Sigma, Reliability
   Engineering, and CAD tools.
- Work-Life in a Multinational Corporation (MNC) – Gaining insights into corporate culture, challenges, and professional growth opportunities in leading companies.

### **Interactive Q&A Session**

Students enthusiastically participated in the Q&A session, seeking guidance on internship opportunities, industry expectations, and skill development. Ms. Sawan emphasized the importance of continuous learning, adaptability, and networking to succeed in the highly competitive job market.

### **Impact of the Session**

The session was highly beneficial for students, as it:

- Provided clarity on career paths and emerging job opportunities in mechanical engineering.
- Guided students on the necessary skill sets to stay relevant in the changing industry landscape.
- Encouraged active networking with alumni and industry professionals for better career prospects.

#### Conclusion

The Alumni Interactive Session with Ms. Prachi Sawan was an enlightening and informative experience for students. The

Department of Mechanical Engineering at Graphic Era Deemed to be University continues to organize such interactive sessions to bridge the gap between academia and industry, ensuring students are well-prepared for their professional journeys.

### Two-Day Webinar on "Defects in Formed Products"



The Department of Mechanical
Engineering, Graphic Era Deemed to
be University (GEU), organized an
informative two-day webinar on
"Defects in Formed Products
(Rolling, Casting, Forging, and
Extrusion)" on 26th and 27th March
2022. The webinar was conducted by
Dr. Arvind Suryavanshi, an expert in
manufacturing and material science,
who provided in-depth knowledge
about common defects in metal
forming processes and ways to
mitigate them.

### **Overview of the Webinar**

The metal forming industry plays a crucial role in manufacturing, and understanding defects in rolling, casting, forging, and extrusion is essential for improving product

quality and efficiency. The objective of this webinar was to provide students, researchers, and faculty members with practical insights into material defects, their causes, and prevention techniques.

### Key Highlights of the Sessions Day 1: Introduction to Metal Forming Defects

On the first day, Dr. Suryavanshi focused on:

- Types of Metal Forming Processes A brief overview of rolling, casting, forging, and extrusion and their applications in industries.
- Defects in Rolling and Casting –
   Common issues like cracks,
   inclusions, porosity, segregation, and
   surface imperfections were discussed
   in detail.
- Root Causes and Solutions –
   Explanation of how improper material selection, temperature control, and process parameters lead to defects and how to optimize them.

### Day 2: Defects in Forging and Extrusion

The second day of the webinar covered:

- Forging Defects Discussion on laps, cold shuts, underfilling, and internal cracks in forged components.
- Extrusion Defects Explanation of surface cracking, pipe defects, and flow-related irregularities in extruded products.
- Advanced Detection and Prevention
   Techniques Modern solutions such
   as non-destructive testing (NDT),
   quality control measures, and
   automation in defect prevention.
   Interactive Q&A Session
   Participants actively engaged in the
   Q&A session, where they discussed

real-world challenges faced in manufacturing industries. Dr. Suryavanshi provided expert insights into case studies and practical strategies for improving product quality.

### **Impact and Learning Outcomes**

This two-day webinar proved to be highly beneficial for engineering students, researchers, and industry professionals by:

- Enhancing their understanding of material defects in formed products.
- Providing industry-relevant insights on defect prevention and quality control.
- Encouraging participants to explore advanced manufacturing techniques.
   Conclusion

The Department of Mechanical Engineering at GEU remains committed to providing high-quality learning experiences through expertled webinars. The session by Dr. Arvind Suryavanshi was a significant step in bridging the gap between theoretical knowledge and industrial applications, equipping students with essential skills for their future careers.

# Expert Talk on "Process of Innovation Development & TRL" and "Commercialization of Lab Technologies & Tech-Transfer"

The Department of Mechanical Engineering, Graphic Era Deemed to be University (GEU), organized an insightful Expert Talk on "Process of Innovation Development & Technology Readiness Level (TRL)" and "Commercialization of Lab Technologies & Tech-Transfer" on 28th February 2022. The

distinguished speaker for the event was Dr. Paresh Kumar C. Dave, an expert in innovation, technology commercialization, and industrial research.



#### **Session Overview**

The talk aimed to provide students, researchers, and faculty members with a comprehensive understanding of innovation processes, technology readiness levels, and the importance of commercializing lab-based research. The event served as an excellent platform for attendees to gain insights into how scientific discoveries evolve into market-ready products.

### Key Highlights of the Expert Talk Understanding the Process of Innovation Development & TRL

Dr. Paresh Kumar C. Dave explained the step-by-step approach to innovation development, emphasizing:

- Concept to Prototype How research ideas can be transformed into practical and scalable prototypes.
- Technology Readiness Levels (TRLs) –
   A structured nine-level framework used to assess the maturity of a technology before commercial deployment.
- Challenges in Innovation Common obstacles researchers face in

bringing their innovations to life and strategies to overcome them.

Commercialization of Lab

Technologies & Tech-Transfer
In the second session, Dr. Dave focused on:

- Bridging the Gap between Research & Industry – How research-based innovations can be transferred to industries for large-scale production.
- Patent Filing & Intellectual Property
   (IP) Rights Importance of patenting inventions before introducing them to the market.
- Funding & Industry Collaborations How startups, government grants, and industry partnerships can support commercialization.

### Interactive Discussion & Q&A Session

Participants engaged in an interactive discussion, where they sought guidance on protecting their research ideas, getting industry funding, and scaling innovations. Dr. Dave provided valuable insights and real-life examples of successful technology transfers and product launches.

Key Takeaways from the Session

- A deeper understanding of how innovations progress from idea to industry adoption.
- Awareness of the TRL framework and how to assess the readiness of new technologies.
- Strategies for securing patents, industry funding, and technology commercialization.

Conclusion

The Expert Talk by Dr. Paresh Kumar C. Dave proved to be a highly informative and engaging session, equipping participants with the knowledge needed to drive

innovation and commercialization. The Department of Mechanical Engineering, GEU, continues to organize such events to foster research-driven entrepreneurship and industry collaboration.

### Digital Illustration Workshop on Adobe Illustrator

The Papertech Club, Department of Mechanical Engineering, Graphic Era Deemed to be University (GEU), successfully organized an engaging and interactive Digital Illustration Workshop on Adobe Illustrator on 18th June 2022. The workshop aimed to introduce participants to the world of vector-based digital illustration and equip them with essential skills to create stunning artworks.



The session was delivered by Mr. Harshvardhan Singh Rawat, a senior member of the Papertech Club, and was coordinated by Mr. Yatharth Joshi, Faculty Coordinator, Papertech Club. The workshop attracted a diverse group of students interested

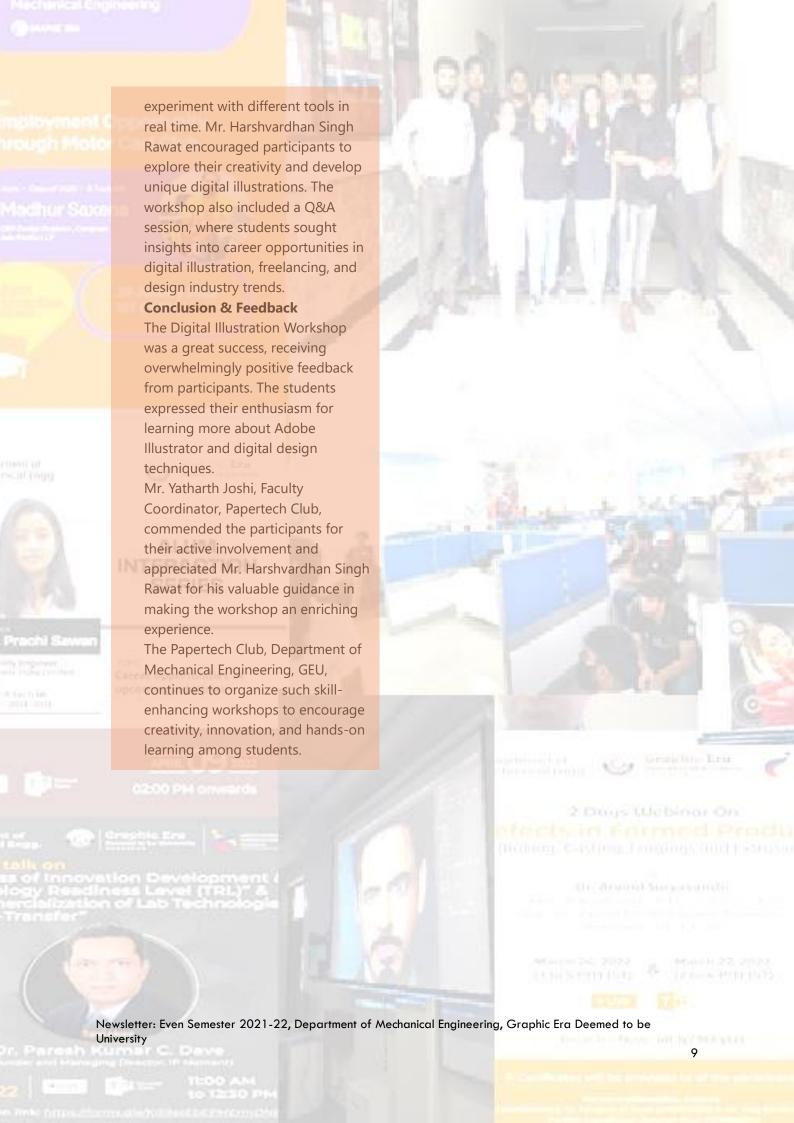
in digital design, graphic illustration, and creative visual storytelling.
Workshop Highlights
The workshop commenced with an introduction to Adobe Illustrator, one of the most powerful vector-based design tools used by professionals worldwide. Mr.
Harshvardhan Singh Rawat provided a step-by-step demonstration, starting from the basics of Illustrator's interface, tools, and workspace.



### **Key Topics Covered:**

- Introduction to Adobe Illustrator Understanding the workspace, essential tools, and basic functions.
- Vector Art vs. Raster Art The significance of scalable illustrations and how they differ from pixel-based graphics.
- Basic Shape Manipulation Creating and modifying basic shapes, lines, and paths to build complex designs.
- Typography & Text Effects How to enhance digital designs using creative text styling and formatting techniques.
- Color Theory & Gradients –
   Understanding color schemes,
   gradient effects, and how to use them effectively in design.
- Hands-on Illustration Activity –
   Participants created their own vector
   artwork under expert guidance.
   Interactive Learning Experience
   The practical approach of the

workshop allowed students to



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### **Satyarth Sarawat**

student of B.Tech (ME) passing out **Batch 2022**, for getting placed at



**India Glycols Limited** 

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### Sanchit Mittal

student of **B.Tech (ME)** passing out **Batch 2022**, for getting placed at







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### **Rohit Raizada**

student of B.Tech (ME) passing out **Batch 2022**, for getting placed at













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### Riya Tyagi

student of B.Tech (ME) passing out **Batch 2022**, for getting placed at





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### **Priyan Bhatnagar**

student of **B.Tech (ME)** passing out **Batch 2022**, for getting placed at



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student of B.Tech (ME) passing out Batch 2022, for getting placed at

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student of **B.Tech (ME)** passing out **Batch 2022**, for getting placed at

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### Karan Joshi

student of B.Tech (ME) passing out **Batch 2022**, for getting placed at













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### Ishaan Bhasin

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### **Harshit Bal**

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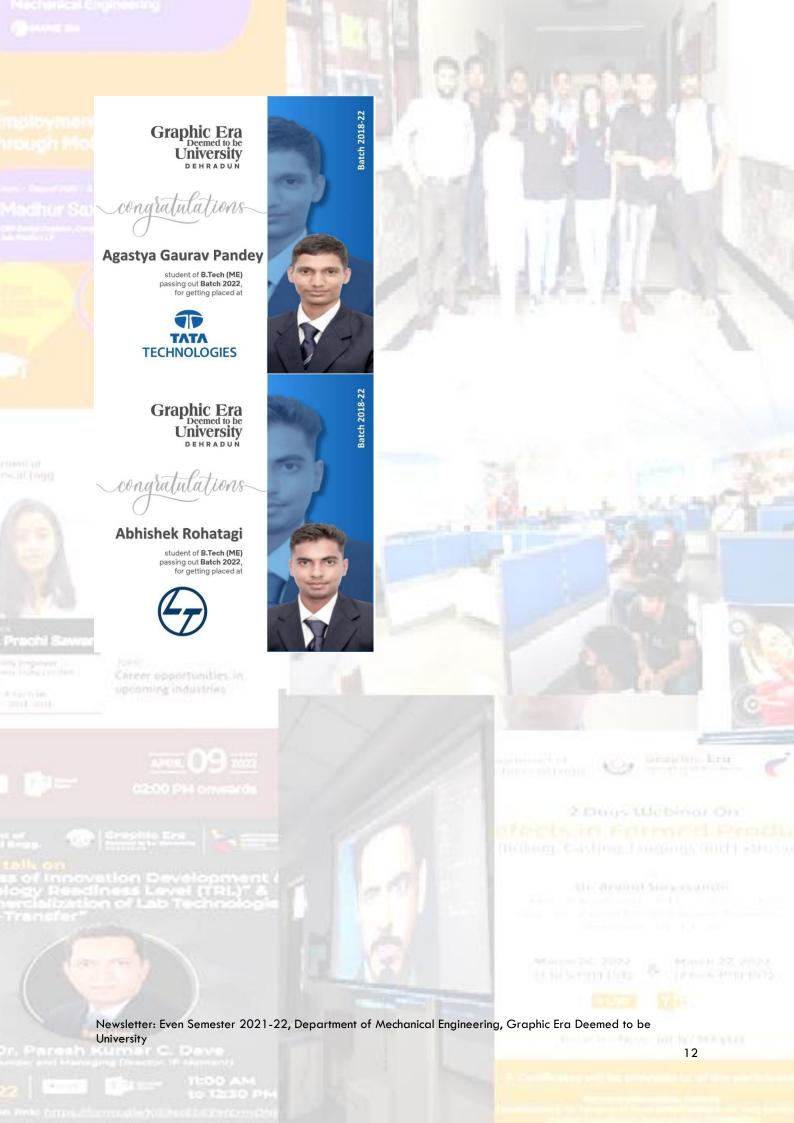












## Infrastructure and Facilities







- Industry collaborations: Partnerships with leading industries for joint research projects and internships.
- Innovation incubator: Dedicated space for students to develop and incubate their innovative ideas in any of our lab simulation labs can also be included.
- Advanced ML-AI based innovations, projects and skill development courses.
- Active clubs for robotics, racing, and innovation, annual technical festivals with competitions, workshops, and guest lectures, Regular industrial visits and tours to provide hands-on experience.



Advanced manufacturing facilities: 3D printing, CNC machining, and laser cutting facilities.

fluid dynamics.

- Mechanical workshop: Fully equipped workshop for hands-on training and project development.
- Research centers: Established research centers for renewable energy, robotics, and advanced manufacturing.





### **Startups and Mechepreneurs**



### Mr. Rajat Jain Founder and CEO of Sunfox India Pvt. Ltd.

A star boy as featured on Shark tank India with glorious "ALL 5 SHARKS DEAL". Sunfox is currently working on several health care issues.



### Mr. Yatharth Joshi Papertechy Team Pvt. Ltd

Having several records and creative achievements in the bucket, the startup is going to be the next big thing in the years to come

### Our Esteemed Alumni Success Stories and Contributions



Ms. Anumisha Pal BA Folding Cartons Quality Assurance Technician Waterloo, Ontario, Canada

The strong academic foundation and practical knowledge imparted at Graphic Era University played a crucial role in shaping my career. The department's focus on quality management and industrial training has greatly contributed to my success in the packaging industry in Canada



Mr. Intekhab Alam
Nine Yards
Business Development and
Quality Executive,
Nottingham, UK

Graphic Era University provided me with the technical and managerial expertise required to excel in the global market. The Mechanical Engineering Department's emphasis on innovation, business acumen, and industry collaboration has been instrumental in my professional growth in the UK.



Ms. Bhumika Rautela Strategic/ Project Purchchaser

Dauphin Human Design Group GmbH, Hersbruck, Germany

The practical exposure and industrial projects at Graphic Era University shaped my understanding of procurement strategies and supply chain management. The Mechanical Engineering Department's industry-oriented curriculum helped me establish a strong foundation in the field, enabling my success in Germany's competitive manufacturing industry.



Mr. Robin Tyagi Company: IKEA Designation: Sales Manager Location: Halifax, NS, Canada

From technical concepts to strategic problem-solving, my learning at Graphic Era University helped me transition seamlessly into the corporate world. The university's emphasis on leadership and communication skills gave me the confidence to thrive in a global retail giant like IKEA





## Life in the Campus

Capturing the spirit, energy, and memories that define our community.











**Clock-wise from top left:** Rhythms of Culture - Students showcasing a vibrant dance performance; Game On! – A perfect shot during a friendly campus cricket match; Colors of Joy - Holi celebrations bring the campus to life; Bhangra Beats – High-energy moves lighting up the stage; Star Power at Grafest – Bollywood icon Ayushmann Khurrana electrifies the crowd; Pedaling Through Campus -A scenic bicycle ride for a refreshing break; Strength & Discipline -Students in action during a martial arts training session; A Musical Spectacle – Bollywood sensation Arijit Singh performing at Grafest; Fitness Redefined - A state-of-the-art gymnasium for student well-being.





Founded by Prof. Kamal Ghanshala in 1997, Graphic Era (Deemed to be University) has grown immensely. As the Best University in Dehradun, we offer a high-quality education and a nurturing environment that encourages innovation, fosters critical thinking, and prepares you for the future. To offer a world-class education that focuses on cutting-edge technology, student professional development, critical thinking, and high-quality research. Graphic Era (Deemed to be University), India's premier university, has accomplished countless milestones in its illustrious history thanks to its academic rigor, continuously top-performing students and alumni, and a very strong and competent teaching faculty.

It has been proven beyond reasonable doubt that Graphic Era is among the top-notch universities in India as our University has featured in the Top 100 Universities of India, in the coveted National Institutional Ranking Framework established by the Government of India, for the past five years consecutively, with the rankings growing each year across varied domains.

Graphic Era (Deemed to be University) is located in the lovely and quiet city of Dehradun, tucked in a valley bounded by Rajaji National Park on one side and Clement Town Cantonment on the other. Graphic Era (Deemed to be University), the premier University in Uttakharand, prioritises overall student development.

### **Editor-in-Chief**

• Head of the Department, Mechanical Engineering

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