ABES
Engineering College
Estd. 2000
College Code-032

# CRESCENT

## Department of Mechanical Engineering

2023-24 Odd Sem. |Volume 8, Issue I

## Message from Director

Crescent as the most enhancing aspect for team motivation and healthy work culture.

Since many ages every functional department always disseminates information though a medium which shows the downpour of relevant progress for a particular department. We always feel elated when we ring the bells of our achievements among our peers. Our institute has always levied huge stress on all the aspects of research for the growth of its employees in all the domains of life. Excelling in the field of research is yet another persuasion which has brought the magnificent results in the field of research publications, patent filing & publishing and industrial consultancy for our conglomerate.

Wishing more coming successful editions in this regard and all the very best for my ME team in achieving more heights.

**Prof. (Dr.) Sanjay Kr. Singh**

## Message from HOD

On behalf of all our faculty, staff and students, I present this newsletter "crescent" which shows our department prowess and enable us to further keep striving for the best. Crescent broadcasts the information of Mechanical Engineering and showcases the hidden talents of the students and staff. It encloses the activities such as FDP, conferences attended and paper published in International and National journals by faculty members and competitions won by the students and innovative projects carried out by them. I, take this opportunity to thank all the stakeholders for showing interest and continuous support. I extend my best wishes to all students in their chosen career path and I am sure the department will scale up to greater heights in the years to come and serve many more in the society.

**Dr. Ravi Shankar Raman**

## Message from Editor

It is with great pleasure that I reach out to you today to share the latest edition of our biannual newsletter. As the editor, I am honoured to present a compilation of the department's recent achievements, groundbreaking research, and upcoming opportunities.

Over the past six months, our department has been buzzing with activity and innovation. From the laboratories to the classrooms, our faculty, students, and staff have been diligently working towards advancing the field of mechanical engineering and tackling some of today's most pressing challenges.

In this issue, you will find a diverse range of articles highlighting the outstanding work being done within our department. From faculty spotlights to student showcases, each piece offers a glimpse into the breadth and depth of talent within our community. I encourage you to take the time to explore these stories and celebrate the accomplishments of your peers and colleagues.

As we look ahead to the remainder of the year, there are many exciting events and initiatives on the horizon. Whether it's our annual research symposium, industry networking events, or student design competitions, there are ample opportunities for engagement and collaboration. I urge you to mark your calendars and get involved in these activities to further enrich your experience within the department. I would also like to take this opportunity to extend my gratitude to everyone who has contributed to the newsletter. Your dedication to sharing knowledge and insights has been instrumental in making this publication possible. I am continually inspired by the passion and expertise of our community members, and I look forward to showcasing even more of your work in future editions. As we continue on our collective journey of discovery and innovation, let us remember the importance of collaboration, curiosity, and perseverance. Together, we have the power to shape the future of mechanical engineering and make a positive impact on society.

Thank you for your continued support and participation in our departmental endeavours. I wish you all continued success in your academic and professional pursuits.

Warm regards,

**Mayank Kushwaha**
Sr. Assistant Professor (ME)

## Vision

To create globally competent mechanical engineers capable of working in an interdisciplinary environment, contributing to society through innovation, entrepreneurship and leadership.

## Mission

M1: To provide excellent teaching learning environment.
M2: To create supportive surroundings for innovative research, and develop capabilities to analyze interdisciplinary engineering problems.
M3: To inculcate ethical values and leadership qualities to produce successful professionals.
M4: To promote Industry-Institute relationship.

## Program Educational Objectives (PEOs)

**PEO1:** To apply basic science and engineering knowledge, critical thinking across the disciplines, and emerging areas of Mechanical Engineering for higher studies, research, and employability and to handle the real-life problems.

**PEO2:** To inculcate communication skills, ethical conduct, and understand legal and cultural aspects to serve the society.

**PEO3:** To develop managerial skills, team spirit, leadership qualities, and engage in lifelong learning for a successful professional career.

**PEO4:** To strengthen their ability to adopt technological changes for developing innovative and sustainable solutions considering health, safety and environmental aspects.

## PROGRAMME OUTCOMES (POs)

**1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**3. Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**4. Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**5. Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**6. The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**7. Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**9. Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**11. Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**12. Life-long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

## PROGRAMME SPECIFIC OUTCOMES (PSOs)

Mechanical Engineering Program at ABESEC will be able to:

**PSO1:** Empower the students to apply their practical skills, knowledge in major streams such as thermal, design, manufacturing and industrial engineering.

**PSO2:** Prepare the students for building their career in different industries or pursue higher studies in mechanical engineering and make them able to handle interdisciplinary problems with values and professional ethics.

## PUBLICATION DETAILS

- **Abhishek Saxena**, Numerical and experimental thermal stress analyses of dissimilar GTA welded joints, International Journal on Interactive Design and Manufacturing (IJIDeM) 45170 1955-2505 https://doi.org/10.1007/s12008-023-01479-2
- **Abhishek Saxena**, Study and effect of GTAW parameters on mechanical properties of aluminium dissimilar welded joints: optimization technique, International Journal on Interactive Design and Manufacturing (IJIDeM) 45273 1955-2505 https://doi.org/10.1007/s12008-023-01683-0
- **Dr Abhishek Pandey,** Effect of Self-Healing by Dicyclopentadiene Microcapsules on Tensile and Fatigue Properties of Epoxy Composites, Materials 45131 1996-1944 doi.org/10.3390/ma16145191
- **Dr Pratishtha**, Effect of post weld heat treatments on microstructure and mechanical properties of dissimilar P92 steel-AISI 304H ASS A-TIG weld joint, Material Today: Proceedings 45168 2214-7853 https://doi.org/10.1016/j.matpr.2023.08.327
- **Dr Pratishtha**, Study on dislocation density, microstructure, and mechanical properties of P92 steel for different heat treatment conditions, Materials Science & Engineering Technology 45184 0933-5137 https://doi.org/10.1002/mawe.202100023
- **Dr Ravi Sharnkar Raman**, Optimization of friction stir processing parameters for improving structural and mechanical properties in in situ AA5083-H111/Al–Fe composites, Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science 45215 0954-4062 doi.org/10.1177/095440622312116
- **Dr. Naman Jain,** Enhancement of thermo-mechanical, creep-recovery, and anti-microbial properties in PVA-based biodegradable films through cross-linking with oxalic acid: implications for packaging application, Biomass Conversion and Biorefinery 45156 2190-6823 https://doi.org/10.1007/s13399-023-04748-y
- **Dr. Naman Jain,** A comparative study on the effect of reinforcing boron nitride/alumina in epoxy-based hybrid composite with Millettia pinnata leaf powder and glass sheets: Experimental fabrication, mechanical and micro-structural characterization, Hybrid Advances 451962773-207X https://doi.org/10.1016/j.hybadv.2023.100095
- **Manoj Kumar,** A Compherehive Study on Supply Chain Management Using Artificial Intelligence: An Indian Railway Perspective, Recent Advances in Intelligent Manufacturing, Lecture Notes in Mechanical Engineering 45133 2195-4356 https://doi.org/10.1007/978-981-99-1308-4_8
- **Manoj Kumar,** A Quantification of Supply Chain Management Factors Using Artificial Intelligence, Recent Advances in Intelligent Manufacturing, Lecture Notes in Mechanical Engineering 45133 2195-4356 https://doi.org/10.1007/978-981-99-1308-4_9
- **Manoj Kumar**, Design and modeling to identify a defective workpiece in manufacturing process: an industry 4.0 perspective, International Journal on Interactive Design and Manufacturing 45212 1955-2513 https://doi.org/10.1007/s12008-023-01544-w
- Manoj Kumar, Fatigue analysis of electro discharge machined Nitinol 60, INNOVATION AND EMERGING TECHNOLOGIES 45273 2737-5994 10.1142/S2737599423400091
- **Manoj Kumar**, Identifying the most significant parameter in stir casting process for optimizing the effect of nano reinforcement MWCNT on AA 7075-T651, INNOVATION AND EMERGING TECHNOLOGIES 45273 2737-5994 doi:10.1142/S2737599423400133
- **Manoj Kumar,** Modeling and analysis of multi-functional selfhealing material using Runge-Kutta Method for investigation of aircraft wing structure, ADVANCES IN MATERIALS AND PROCESSING TECHNOLOGIES 45208 2374-068X https://doi.org/10.1080/ 2374068X.2023.2264577
- **Manoj Kumar,** Optimization and analysis of machining performance for the milling process during milling of W-Al-Si-C alloy material, INNOVATION AND EMERGING TECHNOLOGIES 45236 2737-5994 doi:10.1142/S2737599423400066

- **Manoj Kumar,** Optimization of Machining Parameters for Enhanced Performance of Glass-Fibre-Reinforced Plastic (GFRP) Composites Using Design of Experiments, sustainability 45153 2071-1050 https://doi.org/10.3390/su151612372
- **Manoj Kumar**, Process parameters and TiAlN coating impact on microwire-EDM of Ti6Al4V using PVD technique in biomedical application, INNOVATION AND EMERGING TECHNOLOGIES 45273 2737-5994 doi:10.1142/S2737599423400121
- **Manoj Kumar**, Using automation and machine learning to maximize tool use in turning centers for better surface finish, INNOVATION AND EMERGING TECHNOLOGIES 45146 2737-5994 https://doi.org/10.1142/S2737599423400030
- **Mohit Bansal**, Behavioural Study of Impact Energy, Manufacturing Engineering and Materials Science 45215 9781003367154 https://www.taylorfrancis.com/ chapters/edit/10.1201/9781003367154-23/behavioural-study-impact-energy-nidhi-bansal-garg-atul-garg-mohit-bansal-mohit-kakkar
- **Manoj Kumar,** Integrating intelligent machine vision techniques to advance precision manufacturing: a comprehensive survey in the context of mechatronics andbeyond, International Journal on Interactive Design and Manufacturing (IJIDeM) 45226 1955-2513 https://doi.org/10.1007/s12008-023-01635-8

## PATENT

| Applicant Name | Application No | Date of Publishing | Date of Filing | Inventers Name | Product Name | Status |
|---|---|---|---|---|---|---|
| Manoj Kumar | 393388-001 | 22-08-2023 | 22-08-2023 | 1. Manoj Kumar<br>2. Dr. Ruchika Sharma<br>3.Dr. Saumya Bansal<br>4.Tarushi Acharya<br>5.Dr. Ravindra Kumar | DUSTBIN WITH WASTE LIQUID DISCHARGE | Design Patent |

# MoU

## 1. ASSOmac Machines Limited:

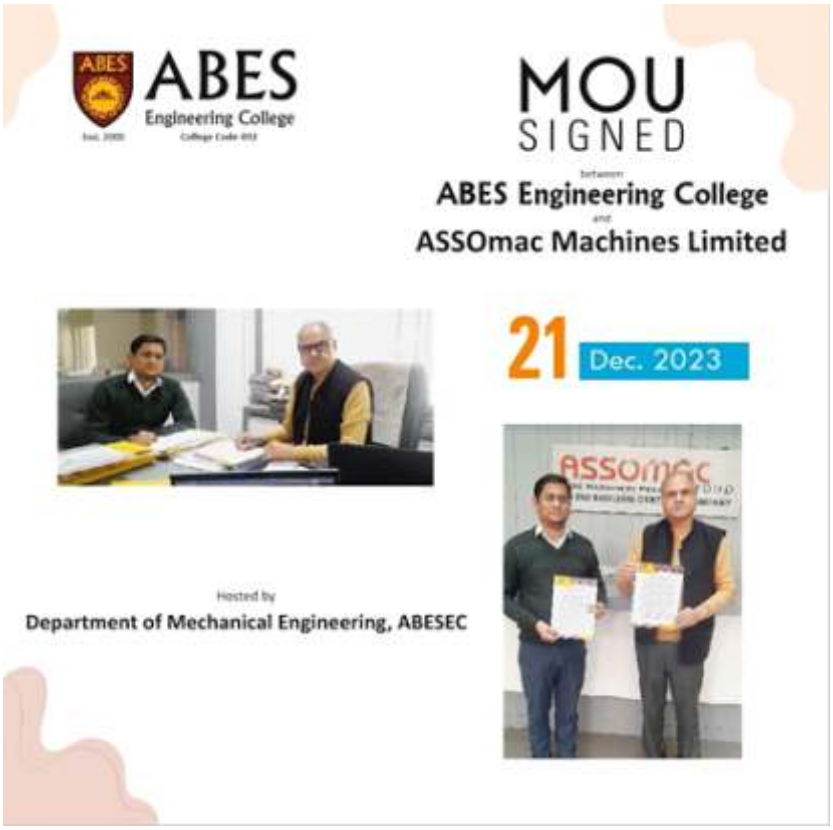
**Memorandum of Understanding (MoU)** has been signed between Department of Mechanical Engineering of ABES Engineering College, Ghaziabad, and **ASSOmac Machines Limited**, 26/2, South of G.T. Road Site No.1, B.S. Road Industrial Area, Ghaziabad-201001 (U.P.), India on 21-12-2023.

ASSOmac Machines Limited, a company incorporated under the laws of India, has its registered office at 26/2, South of G.T. Road Site No.1, B.S. Road Industrial Area, Ghaziabad-201001 (U.P.), India

The MoU was signed and delivered on behalf of ABES Engineering College by Dr. Ravi Shankar Raman, HoD-ME in the presence of Mr. Manoj Kumar (Assistant Professor) and Mr. Chetan Rajoria (Assistant Professor), with Mr. Nirmal Singh, Director of ASSOmac Machines Limited, Ghaziabad with note of happy gestures.

**The objectives of this Memorandum of Understanding are:**

1. To promote interaction between ABES Engineering College, Ghaziabad, and ASSOmac Machines Limited, Ghaziabad, in mutually beneficial areas.
2. To provide a platform for industrial visits for students and faculty and enhancing technical curriculum, upskilling of students.
3. To facilitate our students for undertaking academic projects at their plant location for projects of mutual interest.
4. To facilitate for inviting the concerned Industry Experts for Guest lectures, Students' Internships and Job Opportunities, and such mutual interaction areas.



## 2. Air Flow Private Ltd.

A MoU was made on the 11th day of July 2023
AMONGST:
(i) Department of Mechanical Engineering, ABES Engineering College, 19th KM Stone, NH-09, Ghaziabad, Uttar Pradesh, India, 201009

(ii) Air Flow Private Ltd., a company incorporated under the laws of India, has its registered office at J-90, Site-5, Kasna, Surajpur Industrial Area, UPSIDA, Gautam Buddha Nagar Uttar Pradesh, India - 201310.
(iii) Orbits - Strategic Consulting Initiative of ABES Engineering College

The parties here agreed on the following memorandum points:

- Collaboration for mutual benefit, to enhance the quality of the educational experience of students of the partner by offering online training and Internships.
- The Partner shall provide the requisite infrastructure, network, internet, access, local accommodation/food/transport to the trainers and any other facility required for the on-campus training.
- Trainings will be planned as per schedule mutually agreed upon by both the parties.
- The IPR of the product & services developed will be addressed separately in the techno commercial proposal on project & case basis.
- The techno-commercial proposal for any project will be shared separately and will be granted on mutual consent of the parties.

# RESEARCH GRANT

Our esteemed colleague, Mr. Mohit Bansal (Assistant Professor), from the Department of Mechanical Engineering, has achieved a significant milestone for ABES Engineering College by receiving a prestigious Undergraduate Program Equipment Grant (2023-24) of USD 19,830 from ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

The ASHRAE grant is a highly competitive recognition, and Mr. Bansal's accomplishment reflects the excellence and caliber of our faculty members.

ASHRAE ABES Student Branch

ABES

***Department of Mechanical Engineering, ASHRAE ABES EC Student Branch have received four funded Project Equipment Grant with USD $19830 (INR. 16,17,327) for the year 2023-24 by ASHRAE.***

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**Project Title:** Design and Development of Cascade Refrigeration Test rig
**Project Supervisor:** Mohit Bansal
**Student Participants:** Deepak Kr. Yadav, Ayush Bisht, Mithilesh Kumar Gupta, Ashu
**Amount Allocated:** **$ 4950**
**OUTCOMES:** The outcomes will include evaluating how well the system achieves and maintains the desired temperatures under different operating conditions.

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**Project Title:** Design and Development of Split Air Conditioning Test Rig
**Project Supervisor:** Mohit Bansal
**Student Participants:** Ashu, Kaushlendra Mishra, Deepak Kr. Yadav, Mayank Bisht, Mithilesh Kumar Gupta, Ayush Bisht, Deepak
**Amount Allocated:** **$ 4937**
**OUTCOMES:** The test rig will measure the cooling capacity of the split air conditioning system. This is the amount of heat that the system can remove from the indoor air in a given time and is usually measured in BTUs or kilowatts.

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**Project Title:** Design and development of Vapor Absorption Refrigeration Test Rig for demonstration
**Project Supervisor:** Mohit Bansal
**Student Participants:** Ashu, Ankit, Deepak Kr. Yadav, Ayush Bisht, Mithilesh Kumar Gupta, Kaushlendra Mishra
**Amount Allocated:** **$ 4998**
**OUTCOMES:** To evaluate the performance and efficiency of vapor absorption refrigeration systems.

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**Project Title:** Vapour Compression Test Rig with Dedicated Sub Cooler Cycle
**Project Supervisor:** Mohit Bansal
**Student Participants:** Mithilesh Kumar Gupta, Kaushlendra Mishra
**Amount Allocated:** **$ 4975**
**OUTCOMES:** The measurable outcome will include evaluating the effectiveness of the dedicated sub-cooling cycle in lowering the refrigerant's temperature before it enters the expansion device. This will enhance the refrigeration cycle's overall efficiency.

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**Student Branch Advisor.**
**Mr. Mohit Bansal**

**Head of Department(ME)**
**Dr. R.S.Raman**

# FDP CONDUCTED

**1. ATAL FDP on Smart Manufacturing in Industry 4.0/5.0: Challenges & Opportunities**
**11th December 2023 - 16th December 2023**

Mechanical Engineering Department of ABESEC, has successfully organized the AICTE Training and Learning (ATAL) Faculty Development Program (FDP) on 'Smart Manufacturing in Industry 4.0/5.0: Challenges and Opportunities' from 11th December, 2023 to 16th December, 2023 in which around 84 participants registered for the event from different parts of the country.

**Speakers' Details**

1. Dr. Sagar Sarkar (Assistant Professor, IIT Delhi)
2. Dr. Ankit Gupta (Assistant Professor, Shiv Nadar University, Institute of Eminence)
3. Dr. Aniruddh Biswas (Director, Bhagwati Institute of Technology & Science, Ghaziabad)
4. Dr. Dharmendra Singh (Director, Sanskar Group of Education, Ghaziabad)
5. Mr. Mahendra Kumar Gupta (CEO, INIF Ghaziabad)
6. Dr. Gaurav Sharma (Assistant Professor, KIET Group of Institutions, Ghaziabad)
7. Dr. Pratishtha Sharma (Assistant Professor, ABES Engineering College, Ghaziabad)

The ATAL FDP program begins with the inauguration ceremony. For the inauguration ceremony we had Chief Guest Prof. Dr. Sagar Sarkar, Assistant Professor, IIT Delhi, Honorable Director ABESEC, Prof. (Dr.) Sanjay Kumar Singh, Honorable HOD-ME, Prof. (Dr.) Ravi Shankar Raman, ATAL FDP Co-coordinator, Dr. Pratishtha Sharma, Assistant Professor, ME Department, Faculties members, student coordinators and dedicated participants. The inauguration was initiated with the lightening of the lamp and paying gratitude to the Almighty. Further the event was followed by the inauguration speech by Director ABESEC, Prof. (Dr.) Sanjay Kumar Singh, which had not only motivated participants for actively contributing themselves for the FDP but also encouraged them to keep glowing the spirit of continuous learning through this FDP. Honorable HOD ME, Prof. (Dr.) Ravi Shankar Raman had also addressed the gathering and welcomed all the participants and organizing team members for this FDP program.




The objectives of the proposed ATAL Faculty Development Program (FDP) were;

1. To provide a comprehensive understanding of smart manufacturing and industry 4.0 in terms of needs, applications, challenges and various opportunities.
2. Application of smart manufacturing to improve the productivity and sustainability of a manufacturing industry.
3. To provide an insight of various tools, algorithms and techniques for efficient implementation of cyber physical systems (CPS), Internet of Things (IoT) and Artificial Intelligence (AI) in any manufacturing industry to improve its sustainability and effectiveness.
4. To enable the research scholars, academicians and industry persons for state-of-the-art collaborative research.

**Topics covered:**

- Advances in Manufacturing
- Smart Manufacturing
- Additive manufacturing
- Technology enabled opportunities and challenges.
- Digital transformation in Manufacturing
- Product Life Cycle Management
- Hands on practice on 3D printer, CNC machines and laser engraving machine etc.

**Activities and Project:**

- Every session was followed by research article discussion.
- Hands on practical training sessions.
- Industrial visit.

## 2. AutoCAD

Department of Mechanical Engineering at ABES Engineering College, Ghaziabad organized a 5 days Faculty Development Program on "AutoCAD" from 04/09/2023 to 08/09/2023 for Faculty and staff members.

Faculty Development Program (FDP) benefitted us to enhance the knowledge, skills, and professional competence.

**Objective of this FDP**

- Enhancing Proficiency
- Upgrading Skills
- Curriculum Integration
- Interactive Teaching
- Project-Based Learning
- Industry Alignment
- Multidisciplinary Integration
- Technology Integration
- Professional Development
- Promoting Innovation

**Expected Outcomes:**

The outcome of this faculty development program on AutoCAD is to equip educators with the skills, knowledge, and resources needed to effectively teach students how to use this powerful design software in practical and meaningful ways that align with educational and industry standards.

**Resource person: Dr. R.S. Raman**

Target Audience: Faculty and Staff members

Convener: Dr. R.S. Raman, Head-ME Coordinator: Mr. Chetan Rajoria, Assistant Professor

Co-coordinators: Mr. Dinesh Patharia, Mr. Harish Kumar Singh.

# WEBINAR / GUEST LECTURE

## 1. Lean Six Sigma

Department of Mechanical Engineering organized a one-hour introductory webinar on "Lean Six Sigma" for the students and faculty members of all stream.

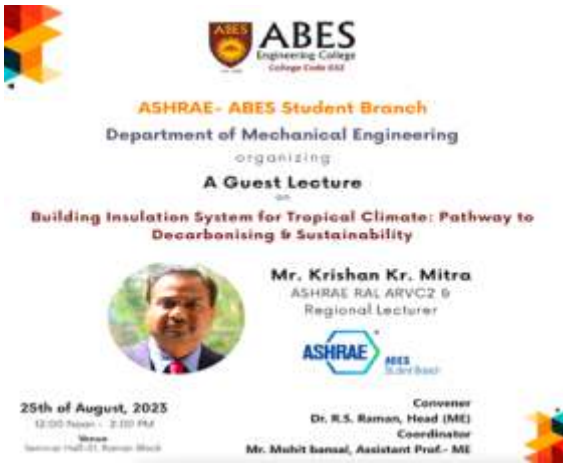
**Aim:** The aim of this workshop is to make aware our students and faculty about valuable insights into Lean Six Sigma principles and methodologies.

**Objective:** Lean Six Sigma is a powerful methodology that focuses on improving process efficiency, reducing waste, and enhancing overall quality. Whether you are a professional looking to enhance your skills or someone interested in learning about process improvement, this workshop is designed to benefit all levels of experience. The goal of this workshop is to assess our students and educate them about the current trends and tools used in sectors that might make them employable.

**Webinar Outcome:** Awareness about the importance and significance of lean six sigma certification in today's competitive industrial scenario in core and service industries.


## 2. Building Insulation System for Tropical Climate: Pathway to Decarbonising & Sustainability

Department of Mechanical Engineering, ASHRAE ABES Student Branch, organized a guest lecture on "Building Insulation System for Tropical Climate: Pathway to Decarbonising & Sustainability" on 25 August 2023 from 12:00 noon to 02:00 PM for students of Mechanical Engineering.




**Outcomes:**

- Building Insulation System Importance of Decarbonising in HVAC&R

Resource Person:

**Mr. Krishan Kumar Mitra**

ASHRAE RALARVC2 & Regional Lecturer

President in Lloyd Insulations (India) Limited & CEO of Eastern India Operations stationed at Kolkata.

Convener: Dr. Ravi Shankar Raman, HoD-ME

Coordinator: Mr. Mohit Bansal (Assistant Professor) | SBA-ASHRAE ABES Student Branch

# WORKSHOP ORGANIZED

**TITLE OF WORKSHOP: DRONES DESIGN, DEVELOPMENT AND PILOTING**
**SPONSORED BY: MEITY, GOVT. OF INDIA UNDER TIDE 2.0 PROGRAMME**

Department of Mechanical Engineering with Orbits and INIF organized a one-week Hands on Based Workshop on " Drones Design, Development and Piloting" for students, professionals and start-up aspirants from - 18th September to 23rd September, 2023. This workshop was financially supported by MeitY, GoI.

**Objectives:**

The objectives of this workshop on Drone technology- design, development and piloting includes:

1. Understanding the basics of Drone technology: The workshop aims to provide participants with an understanding of the basics of Drone technology, including the history of drones, different types of drones, and their applications.
2. Design and development of Drones: The workshop focuses on the design and development of drones, including topics such as drone kinematics, dynamics, control systems, sensors, actuators, and programming.
3. Hands-on training: The workshop aims to provide hands-on training to participants in the design, development, and programming of drones. This may involve using simulation software, drone models, kits, etc.
4. Preparing for Safety Considerations: The workshop aims to emphasize the importance of safety considerations in the design and operation of drones. This may include topics such as risk assessments, safety standards, and safety features of drones.
5. Understanding the Future Trends and Challenges: The workshop aims to discuss the future trends and challenges in drone technology, including topics such as artificial intelligence, machine learning, and collaborative techniques.

**Outcomes:**

On completion of the program, participants will be able to:

1. Identify & select different types of Drones and illustrate Fundamentals of Flight (Aerodynamics).
2. Interpret DGCA Safety Regulations & observe safety guidelines, ATC procedures & Radio Telephony, Weather and meteorology as a Drone Pilot in flying a Drone.
3. Identify & select different Airframes & Propellers in drone flying.
4. Explain & apply knowledge of Power systems viz. Electric motors, Batteries, Chargers, Connectors etc. in drone flying.
5. Identify & select various Controllers like Electronic Speed Controllers (ESC), Transmitters, Receivers & flight Controllers for Drones.
6. Plan & estimate different payload considerations like Cameras, Gimbals & other payloads and make use of them in drone flying/maintenance.


RAKESH KUMAR

# FAREWELL PARTY

*Ravaangi:* The farewell program for final year students has been conducted on 3rd July, 2023. The program was commenced at 01:00 PM with a lunch at Mezzanine floor, Raman Block. The distinguished guests proceed to the Auditorium, Raman Block to join the main event. The program was initiated at 02:30 PM with lightning of the lamp and Saraswati vandana through ME faculty members. The program includes Poetry, Dance Performance, Singing performance, Games and various rounds of Mr. Farewell event, speech of students & faculty members in succession.

**Later the felicitation of all title winners was done. The Title winners at the event were as follows:**

Mr. Evening : Prashant Singh

Mr. All Rounder: Pushkar Bhatt

Mr. Khiladi : Himanshu Giri

Mr. Techy : Preet Chaudhary

Mr. Academic Ace: Mithilesh Kumar Gupta

Mr. Fitness Freak : Tejasw Tomar

Mr. Well Groomed: Sumit Kumar Sharma

Mr. Bade Dil Wala: Siddhant Panwar

Mr. Influencer: Anuj Sharma

Mr. Handsome: Sresth Bhardwaj

Mr. Hasmukh: Rajat Kumar Sharma

Mr. Entertaining: Sudhanshu Kashyap

Mr. Funny: Sanskar Bhardwaj

Mr. Rule Breaker: Rishabh Kushwaha

At last, the results of the contest were announced and all final year students were presented with a Memento as a token of Love and respect by 3rd year students.

***Mr. Farewell: Siddhant Singh***




# STUDENTS' ACHIEVEMENTS

**1. Electrathon 2023: Team Spokeer**

team SPOKEER has secured "Overall Winner" in Electrathon 2023 an on-ground event organized by Lloyd Institute of Engineering and Technology (LIET), Greater Noida from 15th to 21st June, 2023 at their campus.

**Event Description:** Lloyd Institute of Engineering and Technology in collaboration with ARC Global has hosted the first-ever electric mobility focused event in Greater Noida with a theme "Sustainable and Economically viable E-cycle Development".

**Objective of the Event:** The purpose of Electrathon is to evaluate the student's understanding of the concepts of workable ideas, prototype construction, and delivering solution to the problem statement and to stimulate student creativity and support them on to greater achievements in the fields of technology.

**Details of the Event:** Our team SPOKEER have participated in Electrathon 2023 which includes several activities such as presentations on Business plan, Design evaluation and Innovation along with on ground activities such as Acceleration test, Skid pad test, Maneuverability test, Endurance test, Brake test and Technical inspection. This competition involves participation from various institutes such as AKGEC, Ghaziabad; Sharda University; IILM University; LIET, Greater Noida; etc.

Team Members:

- Dhanesh Kumar Goel (ME 1st Year): Team Leader, Design & Innovation domain
- Mohd. Sahil (ME 1st Year): Cycle Rider & Technical domain
- Shikhar Pandey (ME 1st Year): Technical domain
- Sahaj Kapoor (ME 2nd Year): B-plan & Technical domain
- Rohit Singh (ME 2nd Year): Design & Innovation domain
- Aryan Malik (ME 2nd Year): B-plan & Technical domain

**Faculty Coordinators:** Mr. Manish Mangal & Mr. Ankur Dixit (Assistant Professors, ME)

**Mentors:**

Dr. R.S. Raman, HoD-ME

Mr. Rahul Khanna, Research Engineer, Orbits

Mr. Shivam Gupta, Student, ME 4th Year

Mr. Anoop Pandey, In-charge, Orbits

Mr. Dinesh Patharia, AWS-ME


***Winning Prize: Rs. 10,000 cash prize along with Electrathon 2023 trophy and certificates.***




## FACULTY AWARDS

**Research excellence award to Mr. Manoj Kumar, Dr. Naman Jain and Mr. Mohit Bansal for their exemplary research work in the academic session 2022-23.**

# PLACEMENT READINESS ACTIVITIES

## 1. SMS Group


## 2. JTEKT

# MECHNOPHILA (MINDS IN MOTION)

Department of mechanical engineering inaugurated its departmental club at ABES EC on December 22, 2024. The club aims to foster a collaborative and engaging environment where members can deepen their understanding of mechanical engineering concepts, network with industry professionals, and participate in hands-on projects.

**Objectives:**

The primary objectives of the Mechanical Engineering Club are as follows:

- Academic Enrichment: Organizing workshops, seminars, and guest lectures to complement the academic curriculum and provide additional insights into the field.
- Skill Development: Conducting practical sessions on CAD modelling, prototyping, project management, etc. to enhance our members hands-on skills and to increase awareness of new technologies.
- Networking Opportunities: Arranging industry visits, career talks, and networking events to connect our members with professionals and potential employers.
- Project Collaboration: Encouraging collaborative projects among members, providing practical experience in applying theoretical knowledge.

**Activities:**

- Technical Workshops: Regular workshops covering topics such as Finite Element Analysis, CFD, Robotics, and Thermodynamics.
- Guest Lectures: Inviting industry professionals and alumni to share insights into the latest trends, innovations, and career opportunities in mechanical engineering.
- Project Showcases: Providing a platform for members to showcase their projects, fostering innovation and recognition within the department.
- Networking Events: Hosting networking sessions, career fairs, and internship programs to connect our members with potential employers and mentors.
- Non – Technical Events: Hosting events like sports tournament, cultural events, debates, etc. for the overall development of the students.

# LAURELS OF

## MECHANICAL ENGINEERING DEPARTMENT

## TEAM JYOTISHMAAN (ESVC-2021)

**Mentors**

Students' Mentors
Mr. Ankit Chaudhary
Mr. Kartikey Sharma
Mr. Tushar Sharma
(ME Batch 2016-20)

Student Team Managers
Ms. Anurupa Goswami
Mr. Satyam Kaushik
(B.Tech. ECE Final Yr.)

24th-28th December 2021


Vice President, Director & HOD (ME), ABESEC with the TEAM

AIR 5th Rank

Delhi/NCR 1st Rank

TEAM received award at Venue CGC, Punjab

Venue
Chandigarh Group of Colleges, Mohali, Punjab

Drivers


Solar Car

## Our Patrons

**Chief Patron**
**Sh. Neeraj Goel**
President

**Patrons**

**Sh. Sachin Kumar Goel**
Vice President

**Prof. (Dr.) Sanjay Kr. Singh**
Director (Officiating)

**Chairman, Publication**
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