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CRESCENT

Department of
Mechanical
Engineering

Jan. 2021 to Dec. 2021
Annual Newsletter



Message from Director (Officiating)



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

Since many ages every functional department always disseminates information through 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.



Prof. (Dr.) Vinod Kumar Saini

Message from Editor



Our prime focus in this edition is to develop a research fascinating department and to achieve the accolades in the upcoming cross-functional domains. Even envisaging the different leads in various academic fronts we are very happy that our seasoned students devoted their extra hours in competitive and consultancy projects. The in-campus training and projects methodology have made us exceptionally diligent towards endeavoring bright career prospects of our students. With a dedicated team of experienced faculty and staff members I am glad to witness and hence showing their extra-miles achievements through this edition

of Crescent. I hope all will like to read the same.

Mr. Pradeep Sharma
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)

I. 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.



Research Publication 2019-20

- Vipul Mishra (M.tech student, ME Department), Dr. Rahul Saini (Assistant Professor) and Mr.Naveen Kumar (Assistant Professor) published a research paper titled, "A review on superhydrophobic materials and coating techniques" in IOP Conference Series: Materials Science and Engineering in February 2021.
- ❖ Jaya Mishra (M.tech student, ME Department), Dr. Rahul Saini (Assistant Professor) and Mr. Naveen Kumar (Assistant Professor) published a research paper titled, "Review paper on removal of heavy metal ions from industrial waste water effluent" in IOP Conference Series: Materials Science and Engineering in February 2021.
- ❖ Dr. Rajendra Kumar Shukla (Professor and Head – ME Department) published a research paper titled," Assessment of barriers in lead time improvement: an exploratory study of electronics manufacturing companies in Himachal Pradesh (India)" in Int. J. Business and Systems Research, Vol. 15, No. 2, 2021 in March 2021.
- ❖ Dr. Rajendra Kumar Shukla (Professor and Head – ME Department) published a research paper titled, "Probabilistic and Fuzzy Models for Risk Analysis of Processing and Manufacturing System" in Advances in Industrial and Production Engineering, Lecture Notes in Mechanical Engineering in February 2021.
- ❖ Dr. Rajendra Kumar Shukla (Professor and Head – ME Department) published a research paper titled, "Analysis of Influential Enablers for Sustainable Smart Manufacturing in Indian Manufacturing Industries Using TOPSIS Approach" in Advances in Industrial and Production Engineering, Lecture Notes in Mechanical Engineering,in February 2021.
- ❖ Vipul Mishra (M.tech student, ME Department), Dr. Rahul Saini (Assistant Professor) and Mr. Naveen Kumar (Assistant Professor) published a research paper titled, "A Review on Applications of Superhydrophobic Coatings" in International Research Journal on Advanced Science Hub (IRJASH) in March 2021.
- ❖ Dr. Manish Saraswat (Associate Professor – ME Department) published a research paper titled," Exergy and energy analysis of 4-stroke single cylinder CI engine using Pongamia-ethanol-butanol fuel blends" in Journal of Physics:Conference Series in April 2021.
- ❖ Dr. Rajendra Kumar Shukla (Professor and Head – ME Department) published a research paper and chapter titled, "Analysis of Key Enablers of Sustainable Additive Manufacturing:A Case of Indian Automotive Company" in Advances in Interdisciplinary Engineering, Lecture Notes in Mechanical Engineering in April 2021.
- ❖ Jaya Mishra (M.tech student, ME Department), Dr. Rahul Saini (Assistant Professor) and Dr. Dharmendra Singh (Professor – ME Department) published a research paper titled," Review Paper on Removal of Heavy Metal Ions from Waste Water Using Adsorption Process" in International Research Journal of Engineering and Technology (IRJET) in May 2021.

FACULTY SEMINARS

- Dr. Dharmendra Singh (Professor – ME Department) delivered a talk on ,“ Introduction to Sustainable Product Design Process” in one week online AICTE-ISTE sponsored Induction/Refresher program on Sustainable Product Design and Manufacturing (Phase II) held online during April 15th to 21st,2021
- ❖ Dr. Dharmendra Singh (Professor – ME Department) delivered an expert talk as a speaker in a TEQIP - III sponsored five day national E-Workshop from 15th to 19th February 2021 on ,” Design and Manufacturing of Advanced Materials” organized by Department of Mechanical Engineering,National Institute ofTechnology Karnataka,Surathkal
- ❖ Dr.Rahul Saini had given Seminar on "Design Clinic for Design Expertise to MSMEs" at 03:45 PM in Departmental Library (3rd Floor Ramanujan Block) in September 2021



FDPs/STTPs/Workshops attended

- ❖ Mr. Shailendra Pratap Singh (Assistant Professor) participated in a STTP in collaboration with International Winter School, programme named, "Fluid Dynamics ,Heat Transfar and Applications" from 18th January 2021 to 29th January 2021 sponsored by TEQIP III organized by NIT Uttrakhand.
- ❖ Mr. Manabendra Saha (Assistant Professor) attended FDP titled, " Research Methodology" from 8th March 2021 to 12th March 2021 organised by NITTR Kolkata.
- ❖ Dr. Anuj Jain (Associate Professor) had Attended 14 Days online FDP on "a2z of NBA Accreditation Process" August 24th -September 09th, 2021 organized by Department of Electronics & Communication Engineering under the aegis of Internal Quality Assurance Cell (IQAC), Inderprastha Engineering College, Ghaziabad
- ❖ Mr. Pradeep Sharma (Sr. Assistant Professor) and Dr. Abhishek Pandey (Sr. Assistant Professor) attended Three Weeks Faculty Development Program (FDP) on 'Student Engagement, Future of Education, Design Thinking & Innovation' jointly organized by StrategyK Consilium Pvt. Ltd., Bengaluru and Dr. A.P.J. Abdul Kalam Technical University, Lucknow during 10th May 2021 to 31st May 2021.
- ❖ Mr. Pradeep Sharma (Sr. Assistant Professor) participated in AICTE Training And Learning (ATAL) Academy Online Elementary FDP on " Novel Materials" from 04/10/2021 to 08/10/2021 at AJAY KUMAR GARG ENGINEERING COLLEGE, GHAZIABAD.
- ❖ Mr. Pradeep Sharma (Sr. Assistant Professor) attended a two weeks online FDP on , " Electric Vehicles: Opportunities and Challenges" organized by the Department of Mechanical Engineering and department of electrical electronics and communication engineering from 16th August 2021 to 27th August 2021 at SHARDA UNIVERSITY (School of Engineering and Technology), Greater Noida.
- ❖ Mr. Pradeep Sharma (Sr. Assistant Professor) participated in a two weeks online FDP programme titled, " An insight into NBA Accreditation Program"

organized by Department of Electronics and Communication Engineering, ABES EC Ghaziabad from 6th December 2021 to 18th December 2021.

VALUEADDED PROGRAMME

- ❖ Mr. Anoop Pandey (Sr. Assistant Professor – ME Department) Organized Alumni Interaction on 30 September 2021 through COE-Automobile & ORRISH Consulting for II and III year Students.

PATENTS PUBLISHED

- ❖ Ms. Anurupa Goswami (B.Tech Student) , Mr. Pradeep Sharma (Sr. Assistant Professor – ME Department), Mr. Ajay Suri (Sr. Assistant Professor – ECE Department), Dr. Vinod Kumar Saini (Professor and Head – ME Department), Dr. Sanjay Kumar Singh (Director – ABES EC), published a patent titled," Self-assisting Health Care Equipment for detecting and measuring hemoglobin level and cause of papilledema" under Mechanical Engineering Field of Invention, application no. 202111047677, publication date (u/s 11A) 29/10/2021.

Technical Society Programme

Reinstallation of ABES Engineering College "Student Chapter of Delhi Chapter of ISHRAE" || 14th September 2021
An oath taking ceremony took place and oath was administered by Ms. Priyanka Jain to the new office bearer of the said student chapter duly elected. (i) President - Mr. Mayank Bisht (IVth year M.E.) (ii) President Elect - Mr. Shashwat Pratap Singh (IVth year M.E.) (iii) Secretary – Sonali Shaw (iv) Treasurer - Mr. Shehzan Ahmed Lone (IVth year M.E.) (v) CWC members -Saad Ameer, Sanchit Jain, Ajay Kumar Shakya, Mithilesh, Kaushlendra Mishra, Siddharth Sarkar, Ansh Bhardwaj

The program was coordinated by ABES ISHRAE student members under the guidance of faculty advisor Mr. Mohit Bansal, Mr. Shailendra Pratap Singh and Dr. Rahul Saini from Mechanical Engineering Department.

A very informative address was given by Mr. Priyank Shanker Garg who is the Joint Managing Director at Advance Valves. Priyank has a Masters in Computer Science from Stanford

University and a B.Tech (CS & Engg.) from IIT Delhi. He has shared his journey of joining IIT in 1993. He has emphasized on the integration of computational skills with the existing mechanical engineering subjects. He also said that in future we will need more mechanical engineers but applied in a new way. He has also shared the presence of ISHRAE and student chapters all over the country.

Eminent dignitaries of DCI (Delhi Chapter of ISHRAE) who graced the occasion, were Mr. Ashish Gupta, President Elect, Mr. Priyank Shanker Garg Secretary, Ms. Priyanka Jain Faculty Advisor & Student Chair, Mr. Vinod Seth (Educational Wing ISHRAE) Mr. Tapas Kushwaha, Executive Secretary and Ms. Purnima Sharma Asst Secretary.

The Reinstalation program was concluded with a vote of thanks given by Mr. Mohit Bansal.

COMPETITIVE PROJECTS

ELECTRIC SOLAR VEHICLE CHAMPIONSHIP 2021

The students under the Department of Mechanical Engineering had participated in the Electric Solar Vehicle Championship 2021 (ESVC-2021), season 8.0; "Asia's Biggest Solar Car Event" organized by Imperial Society of Innovative Engineers (ISIEINDIA) from 24th December 2021 to 28th December 2021 at Chandigarh Group of Colleges, Jhanjheri, Mohali, Punjab. Our team (TEAM JYOTISHMAAN 5.0) comprised of 17 Final Year students from Mechanical Engineering, Electronics and Communication Engineering & Electrical and Electronics Engineering branches, who had participated in this event. Apart from this, The students' mentors included were :-

1. Mr. Ankit Chaudhary || Btech ME pass-out Student (Batch 2016 - 2020)
2. Mr. Kartikey Sharma || Btech ME pass-out Student (Batch 2016 - 2020)
3. Mr. Tushar Sharma || Btech ME pass-out Student (Batch 2016 - 2020)

The team underwent many events and successfully cleared through the final endurance round.

The team also won a cash prize of Rs. 10,000 (Future Award).

The Drivers, Captains and other members of the students team were :-

1. Saad Ameer || Btech ME (Final Year) || Driver & Body-Works Department
2. Aditya Kumar Vaish || Btech EN (Final Year) || Driver & Vice-Captain
3. Dhar Dhar Yadav || Btech ME (2017-2021) || Captain
4. Aryan Dwivedi || Btech ME (2017-2021) || Technical Head
5. Satyam Kaushik || Btech ECE (Final Year) || Team Manager
6. Shashwat Pratap Singh || Btech ME (Final Year) || B-Plan Head
7. Anurupa Goswami || Btech ECE (Final Year) || Innovation Head
8. Rishabh Mittal || Btech ME (Final Year) || Braking Head
9. Ayush Kumar Singh || Btech ME (Final Year) || Design Head
10. Vishant Balyan || Btech ME (Final Year) || Inventory Manager
11. Ayush Sharma || Btech ECE (Final Year) || Innovation department
12. Kirti Vardhan Singh || Btech ECE (Final Year) || Innovation department
13. Vibhuti Singh || Btech ECE (Final Year) || Innovation and Autonomous department
14. Mhd. Hisaam || Btech EN (Final Year) || Electrical Department
15. Myank Bisht || Btech ME (Final Year) || Mechanical Department
16. Bulbul Singh || Btech EN (Final Year) || Electrical Department
17. Tapan Rajput || Btech ECE (Final Year) || Electronics Department

The event was guided and team was accompanied by Faculty Advisor Mr. Pradeep Sharma (Senior Assistant Professor, Mechanical Engineering Department) and under the leadership of Prof (Dr.) Vinod Kumar Saini (Head of Department, Mechanical Engineering)

The ME Department & Team Jyotishmaan extends thanks to respected authorities and all the direct/indirect supporters for the successful conduction of the event with special thanks to HOD (EN) and HOD (ECE).



LAURELS OF MECHANICAL ENGINEERING DEPARTMENT

TEAM JYOTISHMAAN (ESVC-2021)



Mentors

Students' Mentors	ME Batch
Mr. Ankit Chaudhary	2016-20
Mr. Kartikey Sharma	
Mr. Tushar Sharma	
Student Team Managers	
Ms. Anurupa Goswami	
Mr. Satyam Kaushik	

B.Tech.
ECE
Final Yr.



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

24th-28th
December 2021

AIR 5th Rank
Delhi/NCR
1st Rank

Venue
Chandigarh Group of Colleges,
Mohali, Punjab



Drivers



Solar Car



TEAM received award at Venue CGC, Punjab

Dhar Dhar Yadav | Captain

B.Tech ME (2017-2021)

Aditya Kumar Vaish

Driver & Vice-Captain

B.Tech EN (Final Year)

Saad Ameer | Driver

B.Tech ME (Final Year)

Mr. Pradeep Sharma

Faculty Advisor

Sr. Assistant Professor, ME, ABESEC

Prof (Dr.) Vinod Kumar Saini

Project Mentor

Head, ME, ABESEC

Congratulations Academic Toppers



TUREEN GUPTA
UNIVERSITY RANK 7
(MECHANICAL GROUP)
CGPA 9.07
1-DIV HONS



SURAJ GIRI
CGPA 8.60
1-DIV HONS



AAYUSH SRIVASTAVA
CGPA 8.64
1-DIV HONS

ME Batch : 2017-21

Our Patrons

Chief Patron

Sh. Neeraj Goel
President

Patrons

Sh. Sachin Kumar Goel
Vice President

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

Chairman, Publication

Prof. (Dr.) Vinod Kumar Saini
Head, ME Dept.
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Pradeep Sharma
Sr. Assistant Professor (ME)

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