

## Editorial

*As the editor of Mechanical Department Newsletter, I would like to start by conveying my regard to Prof. Pravin L. Sarode (HOD, Mechanical), all the team members of editorial board and faculties who supported me for publishing this Annual Newsletter.*

*This newsletter highlights all the Departmental activities, achievements of students and faculty members, publications details, placement details etc.*

*I do hope that the newsletter encourages many more including students to use it as a platform to express their creativity.*

*- Prof. Sunil V. Yeole  
(Editor)*

## STUDENT ACHIEVEMENTS

### BAJA

The students of mechanical engineering department had been participated in M BAJA & E BAJA competition held at Pithampur, Indore sponsored by Mahindra & Mahindra from April 7, 2022 to April 10, 2022. E BAJA team has secured the AIR 5th and M BAJA secured AIR of 34th.

The students of mechanical engineering department had been also participated in Mega ATV competition held at Goa from May 10, 2022 to May 14, 2022. The team has secured 38th AIR.



**Snapshots of M BAJA & E BAJA**

### VISION

To achieve excellence in Mechanical engineering education with strong ethical values for serving the stakeholders.

### MISSION

- To provide state-of-the-art facilities to Achieve Excellence in Education.
- To take up various value added courses to enhance Placement Potential.
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- To instil Ethics, High moral values, and a lifelong learning mindset.



**Snap of Mega ATV Event**

## DEPARTMENTAL ACTIVITIES

### Guest Lecture

The Mechanical Engineering department has arranged a guest lecture of Mr. Deepak Singh (Lead Cyber Security, Wipro technologies) on topic "Choosing the Right Career" for SY and TY students. Students has interacted with him about the various career opportunities after the degree.

The department has arranged the guest lectures/Expert talk of various experts to boost the placement potential of students. Following table summarizes the expert talks conducted in academic year 2021-22.



**Mr. Deepak Singh addressing the students**

The department has arranged the guest lectures/Expert talk of various experts to boost the placement potential of students. Following table summarizes the expert talks conducted in academic year 2021-22.

The Mechanical Engineering department has also arranged ISKCON program address by Mr. Janakinath Das Presiden ISKCON Dhule to create positive thinking in the mind of students.

## FACULTY ACHIEVEMENTS

### Conference Publications

#### Prof. Kailas Dhanraj Deore-

- Use of phase change material to increase solar still productivity- A review.

#### Prof. Pradip Kailas Patil-

- Natural refrigerants and its application: a comprehensive review.

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**Prof. Kapil Ashokrao Saner**

- Effect of Heat Stress on Poultry Birds in Tropical Climate Conditions: A Review.

**Prof. Kiran Dinkar Chaudhari**

- Effects of Additives on Biodiesel Combustion Characteristics and Pollutant Formation.
- Prospects for Biodiesel Production in India.

**Prof. Juber Ahamad Khatik**

- Effects of Nanoparticles on the Thermal Performance of Solar Energy Applications- A Review.

**Prof. Pradip Darbarsing Jamadar-**

- Mechanical properties of Kevlar reinforced Epoxy composite with Copper Nano Powder.
- Overview on Fire Retardant of Jute Fibers and its Mechanical behaviour using Boric acid.

**Prof. Yogeshkumar Raghunath Pathak-**

- Recent Advances on the Effect of Nanofluids in Solar Thermal Energy: A Review.

**Prof. Bhushan Youvraj Patil-**

- Solar Absorption Refrigeration Systems Use Productive Thermal Storage PCMs: Review.
- A Study of Advancement of Phase Change Materials for Solar Absorption Refrigeration System.

**Dr. Rahul Dilip Sandhanshiv-**

- Design and Fabrication of an Adjustable Stirring and Degassing System for Synthesis of Metal Matrix Composite Material.

**Journal Publications**

**Prof. Pravin Laxmanrao Sarode**

- Evaluating Frontal Crash Test of Developed Vehicle Chassis Frame Structure to Identify Crashworthiness Through Scaled Model for Injury Reduction.

**Prof. Sunil Vasudeo Yeole**

- Analyze the Effect of Various Shapes of Riser Tubes on Flat Plate Solar Water Heater Efficiency.
- Performance Analysis of Flat Plate Solar Water Collector using Different Shapes of Riser Tubes: A Review.

**Dr. Rahul Dilip Sandhanshiv-**

- Synthesis and Characterization of Novel Nickel Coated Carbon Fibre Rod Reinforced Aluminium Metal Matrix Composite Material for Using in Automobile Application.
- Design and fabrication of an adjustable stirring and degassing system for synthesis of metal matrix composite material.

**Dr Hemant Krishnarao Wagh-**

- Recent Advances in Photovoltaic Cooling and Performance Improvement of the Integration of Phase Change Materials Based Systems: A Review.

**Prof. Kapil Ashokrao Saner**

- Mathematical Modeling of Ventilation System for Closed Poultry House in Tropical Climate Conditions.
- Heat Stress in Tropical Climates Has an Effect on Poultry Birds: A Review

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### Prof. Kiran Dinkar Chaudhari

- Effects of additives on Biodiesel combustion characteristics and pollutant formation.
- A Comprehensive Review on Performance Improvement of Diesel and Biodiesel fueled CI Engine using additives.

### Prof. Pandit Subhash Patil

- Effects of Nanoparticles on the Thermal Performance of Solar Energy Applications- -A Review.

### Dr. Nitin Girdhar Shinde

- Polymeric nanocomposite of PEEK and nickel incorporated ZnO: Synthesis, characterization and tribological behavior
- Surface Modification of Polymeric Nanocomposites of Poly Ether Ether Ketone and Zinc Oxide for Tribological Analysis in Automobile Applications.

### Prof. Pradip Kailas Patil-

- Enhancing refrigeration system efficiency by the use of nano refrigerants/nano lubricants: a comprehensive review.

## Patent

1. Prof. Kiran Dinkar Chaudhary, Prof. Sunil Vasudeo Yeole, Mr. Kapil Ashokrao Saner, Prof. Kailas Dhanraj Deore, Prof. Yogesh Raghunath Pathak, Prof. Pradip Kailas Patil
  - **Automated Incubator**
2. Prof. Pravin Laxmanrao Sarode
  - **IoT Enabled Evacuated Vacuum Tube Type Solar Dryer.**

3. Dr. Hemant Krishnarao Wagh and Prof. Juber Ahamad Khatik
  - **Experimental analysis of temperature distribution in pin fin, fin efficiency in natural and forced convection using MATLAB.**

4. Dr. Rahul Dilip Sandhanshiv

- **Effect of Ph Value on Electroless Nickel Plating for MS Plate and Carbon Fibre Rod.**

## Faculty Development Program

A Faculty Development Program (FDP) typically aims to enhance the knowledge, skills, and professional development of faculty members in educational institutions.

### Prof. Nilesh Mohan Shinde-

- Conceptual and Practical Knowledge Sharing and Training Sessions on Computational Fluid Dynamics.

### Prof. Sunil Vasudev Yeole-

- Automotive Engineering Systems.

### Prof. Pradip Kailas Patil-

- Recent Trends, Opportunities & Challenges in Tribology and Surface Coatings.

### Prof. Kapil Ashokrao Saner-

- Research Opportunities in Advanced Manufacturing Processes.
- Research Methodology

### Prof. Yogeshkumar Raghunath Pathak-

- Recent Advances and Application of IOT in Renewable Energy Technologies.

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**Prof. Anil Hiralal Kumbhar, Prof. Juber Ahamad Khatik, Prof. Nilesh Arun Patil, Prof. Pankaj Valmik Baviskar -**

- Research Methodology

**Dr. Rahul Dilip Sandhanshiv -**

- Research Methodology
- Advance Material Science and Engineering
- Advances in novel composite materials: fabrication, Analysis and optimization.
- Curriculum Development, Research and Publication Ethics.

### Books/Chapters Published

**Prof. Manoj Rajan Patil -**

- Title of chapter edited "Investigation on the Machining of Inconel-718 Using EDM" in the book Springer-Lecture Notes in Mechanical Engineering(e-ISSN978-981-16-3033-0)on Jul-2021

### Workshops Attended

**Prof. Pradip Kailas Patil -**

- Intellectual Property Rights & Patent Process
- Electric Vehicle

**Prof. Anil Hiralal Kumbhar -**

- Intellectual Property Rights & Patent Process

**Prof. Juber Ahamad Khatik -**

- NBA Awareness

### STUDY TOUR

The Mechanical Engineering department has conducted the study tour of SY BTech students at NMIMS College. The students learn about the latest industrial technology like 3 D printing.



### Demonstration of 3-D printing Technology

### PLACEMENT ACTIVITY

The goal of college placement is to connect students with prospective employers and facilitate the transition from academic life to professional careers. Dr.Pandit Subhash Patil is works as Mechanical Department Placement Coordinator. In 2021-22, T & P cell gave a very good opportunity to the students.

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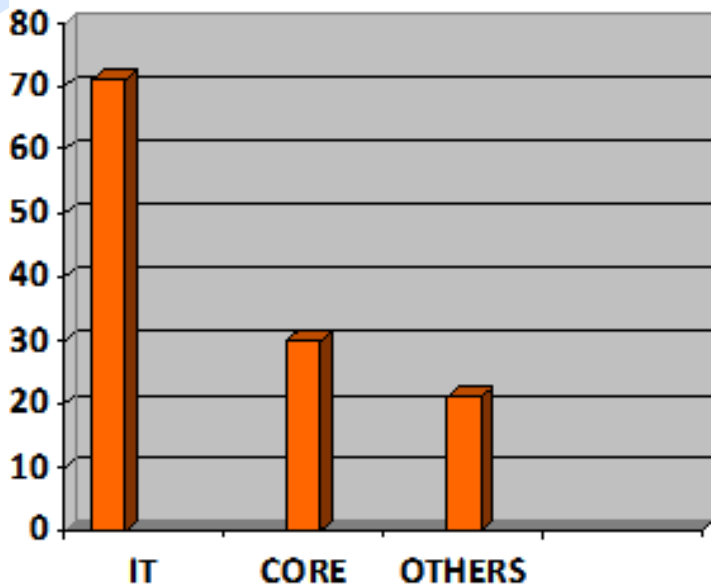
The department of Mechanical Engineering had got ample number of placements in 2021-22. The students has got total 122 offers in year 2021-22. Some of the students get multiple offers. Some of the students get multiple offers in different Companies like Wipro, Infosys, KPIT, TSS, Capgemini, Clover, DTDC, Paramatrix, TCS(Digital), etc.

This year students got maximum package of 7.5 LPA, average package of 3.5 LPA, and minimum package of 1.8 LPA.

**Editorial Board**

Sr. No.	Name	Designation
1	Prof. P. L. Sarode	Head of Mechanical Engineering Department
2	Prof. S. V. Yeole	Editor
3	Prof. Y. R. Pathak	Co-Editor
4	Pratik Mandge	Student In-charge
5	Aditi Vispute	Student Co-In-charge

• **2021-22**



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