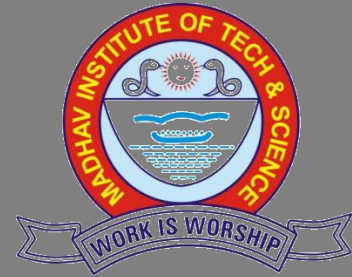


# E-Newsletter

## Department of Mechanical Engineering



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### Faculty Outreached

- Total 20 faculty members of the department attended a Faculty Induction Program on 'Advanced Pedagogy and Digital tools' at IIT Indore from June 24 – 28, 2019. This five-day FIP was sponsored by TEQIP-III.
- **Prof. N. S. Sikarwar and Prof. P.K. Nema** attended an STC on 'Clean energy Technologies' at IIT Guwahati from June 10 - 14, 2019.
- **Prof. Anand Kushwah** attended an STC on 'Nanotechnology, Development & Challenges' at NITTR Chandigarh from May 27-30, 2019.
- **Prof. Amit Soni** attended an STC on 'Mechanics of Composite in Engineering Application' at IIT Guwahati from May 21-25, 2019.
- **Prof. Dhruv Maggu** attended an STC on 'Advanced combustion modelling with computational fluid dynamics' at IIT Indore from Apr 08 -12, 2019.
- **Prof. Mayank Ahirwar** attended an STC on 'Robotics and Embedded system' at IIT Roorkee from Apr 02 -06, 2019.

#### Editorial Team

- Prof. Bhupendra Pandey
- Prof. Sayed Faiz Ahmad

## Industrial Visit

### Jamna Auto Industries Malanpur

Jamna Auto Industries is an Indian multinational suspension system automotive company headquartered in Delhi. It has a manufacturing unit at Malanpur near Gwalior. Total 18 students accompanied by a faculty member visited the plant on April 23, 2019. Students learned about parabolic and conventional spring plants. They were also introduced to processing of the materials like Stacking & sharing, parabolic rolling, heat treatments and surface preparation.

### Gayatri Auto

Total 32 students of B.Tech Mechanical Engineering IV Sem and two faculty members visited Gayatri Auto Industry on April 6, 2019. Session was started by the introduction about-



the industry and the type of elements produced like threaded bolts, piston heads etc. After giving this brief information the head of the workshop and his colleagues informed all the student about the different type of measuring tools and processes used. After that students were divided in groups and introduced to different operations performed on different machines like threading, rolling, thread rolling turning, facing, drilling and boring. we watch all the operations and different type of automatic lathe machines and tools cutting fluid. Workshop in-charge also with the students the present market scenario and demand criteria of different automobile elements.





## Summer Internship Programme

Department of Mechanical engineering organized summer internship programme with five different modules for first year under graduate students during 28th may-14th June, 2019 under the guidance of Dr. Amit Aherwar, Prof. Vaibhav Shivhare, Dr. Dharmendra Jain, Prof. Utkarsh Shrivastava, Prof. K.K. Yadav, Prof. Kaustubh Khot, Prof. Kapil, Prof. Shubham Shrivastava and Prof. Sumit Singh as faculty advisors. The main objective of this summer training is to expose students to the industrial environment, which cannot be simulated in the classroom and hence creating competent professionals in the industry; Provide possible opportunities to learn understand and sharpen the real time technical managerial skills required at the job. Students learn to apply the technical knowledge in real industrial situations and expose students to the engineer's responsibilities and ethics as well. Moreover, students familiarize with various materials, processes, products and their applications along with relevant aspects of quality control. This programme helps students to understand



-the psychology of the workers and their habits, attitudes and approach to problem solving; understand the social, economic and administrative considerations that influence the working environment of industrial organizations. Total more than 150 students were







## Modules offered by the department

1. Conventional machine
2. Dismantling & assembling of two-stroke & four-Stroke Engine
3. Repair and maintenance of a vehicle
4. Introduction to Auto CAD for Engineering Applications.

## Research Publications

- **P. Jayaswal, P. Agrawal** (2019) 'Fault investigation of Rolling Element Bearing using Soft Computing', Journal of Artificial Intelligence Research and Advances, vol. 6, page no. 8-22.
- **Pratesh Jayaswal, Pavan Agrawal** 'Fault investigation of rolling element bearing using adaptive neuro-fuzzy inference system' Journal of Emerging Technologies and Innovative Research, vol.6, page no. 599-603.
- **Pratesh Jayaswal, Arvind Singh Tomar** 'A review on the benefits of vibration monitoring and analysis' Journal of Emerging Technologies and Innovative Research vol. 6, page no. 610-617.
- **Pratesh Jayaswal, Pavan Agrawal** 'Selection of Best Classification Algorithm for Fault Diagnosis of Bearing using Vibration Signature Analysis' International Journal of Innovative Technology and Exploring Engineering vol. 8, page no. 538-546.
- **Pratesh Jayaswal, Pavan Agrawal** 'Diagnosis and Classifications of Bearing Faults Using Artificial Neural Network and Support Vector Machine' Journal of The Institution of Engineers (India): Series C, page no. 1-12.

## Projects approved under CRS

**AICTE in association with NPIU (TEQIP) invited research proposals under Collaborative Research Scheme (CRS) from young Faculty Members working in AICTE Approved Institutes. The department of Mechanical Engineering submitted seven proposals out of which four proposals have been approved with a total grant of Rs 66.72.000.**

## Patent

**Pratesh Jayaswal and Sunita Sharma (2019)**  
'A mobile phone charger with flexible phone stand'.

1. Performance Enhancement of Solar Distillation Systems using Nanoparticles. **Amount: Rs 12,90,000. Principal Investigator: Dr. Amrat K.Dhamneya**
2. Analysis and Control of Noise Pollution in Hospitals. **Amount: Rs 21,83,000. Principal Investigator: Dr. NareshK. Raghuvanshi**
3. Design and Development of Portable Gnathodynamometer. **Amount: Rs 14,64,000. Principal Investigator: Prof. Neeraj Mishra**
4. 3D Modelling & Finite Element Analysis of Bio structure from CT Scan & MRI Data. **Amount: Rs 17,35,000. Principal Investigator: Dr. Dharmendra Jain**