

### **Space for Innovation**

-To be truly innovative, mechanical engineers need tools, equipment's, and space to realize their biggest ideas.

The Department of Mechanical Engineering provides cutting-edge facilities and well equipped labs for students to express their creativity, but these facilities also allow students to do so on their own .

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## **Vision**

**“We strive to be recognized as a leader in mechanical engineering education by producing skilled technical manpower which fulfills the challenging requirements of industry by ensuring latest technical education, professional skills & needed human values.”**

## **Mission**

**Enhance the teaching learning with improved modern techniques.  
Produce well-trained and enthusiastic mechanical engineers.  
Create a learning environment that enhances the potential of students.  
Strengthen the industry - institute interaction.  
Become an excellent training & knowledge giving center in mechanical engineering.**

## From HOD's Desk



The Department intends to provide practical industry based technical and professional education to the students. In addition to academics, the department strives for the holistic development of students by arranging various activities like workshops, seminars, industrial visits. Students are trained in various Industry related software's like CATIA, Creo-3.0, AutoCAD and The Mechanical Department also provides placements in reputed companies such as NRB Bearings, Bajaj, Bosch, Serum India, Siemens, Pasco Steels, Tata Motors, Greaves Cotton, Piaggio, Endurance, Perkins, etc, to take competitive advantage and for better job opportunities.

We have excellent laboratory facilities. Systematically designed curriculum, and dedicated faculty members make this Department a dynamic place to study. The Department is mainly supported by the Central Workshop facilities for providing hands-on training in the conventional machining, CNC Machines, Non traditional machine like LBM and other traditional trades like Smithy, Fitting, Forging, Welding, Machining, Foundry and Pattern Making.

Prof. Bhalekar B. D  
HOD  
Mechanical Engineering Dept.

## Editor's Message



It gives me an immense pleasure in presenting you with the first Issue of our Newsletter of Volume 2. It has been an interesting and busy semester for the department. This Newsletter focus on the achievements of faculties and students, Social aspects as well as responsibilities of the department. And leads to the way for fulfilling Vision and Mission.

Prof. Parbhane U.M  
Lecturer  
Mechanical Engineering Dept.

**Leadership is the capacity to translate Vision into reality**

- Werren Bennis

Mechanical Engineering Faculties



HOD  
Prof. Bhalekar B. D



Dean Academic  
Prof. Siddiqui J. A



Workshop Supt.  
Prof. Lahane U. S



Lecturer  
Prof. Lokavar V. L



Lecturer  
Prof. Nagre G. P



Lecturer  
Prof. Shingare R. P



Lecturer  
Prof. Parihar A. A



Lecturer  
Prof. Bankar N. D



Lecturer  
Prof. Khan A. H



Lecturer  
Prof. Ghule P. K



Lecturer  
Prof. Parbhane U. M



Lecturer  
Prof. Kakde D. V



Lecturer  
Prof. Kadam S. S

## Faculty Achievements

### “Heat Transfer Enhancement by Using NanoFluid”



**Prof. Kakde D. V.**

In this paper the experimental analysis of the thermal behaviour of the single phase flows through an automobile radiator. In advance technological development in automotive industries has increased the demand for high efficiency engines. A high efficiency engine is not only based on its performance but also for better fuel economy and less emission. One of the important elements in car cooling system is the radiator. Radiator plays an important role in heat exchange. In this paper the experimental analysis of the thermal behaviour of the single phase flows through an automobile radiator. The thermal performance of a radiator operated with Nano fluids is compared with a radiator using conventional coolant. In this study, effect of adding Al<sub>2</sub>O<sub>3</sub> nanoparticle as a base fluid in radiator will be investigated experimentally. Forced convective heat transfer of water and ethylene glycol based Nano fluid will be compared experimentally with water, water + ethylene glycol (60:40), water+ethylene glycol+ nanoparticles have been carried out. The experimental results show that Al<sub>2</sub>O<sub>3</sub> based coolant show better heat transfer as compared to other coolants. Nano fluids have the capacity to transfer heat more efficiently than conventional coolant like water. Due to high thermal conductivity, MWCNT is a better coolant amongst CuO and water.

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### “Optimization of Sheet Metal Blanking Process Parameters for Aluminium by Using Taguchi Based GRA ”



**Prof. Parihar A. A**

Metal blanking is a widely used process in high volume production of sheet metal components. Blanking consists of a metal forming operation characterized by complete material separation. Low carbon steel is a very common material used in fabrication of sheet metal components. The experimental studies are conducted under varying sheet thickness, clearance and wear radius & Shear Angle. The Main Objectives is to present the development of a model to predict the shape of the cut side. The model investigates the effect of potential parameters influencing the blanking process their interactions. This helped in choosing the process leading parameters for two identical product manufactures from two different materials blanked with reasonable quality on the same Tool/Die. Optimization is one of the techniques used in manufacturing sector to arrive for the best manufacturing condition. This is an essential need of industries towards manufacturing of quality product at lower cost. In this work involved some computational issues on modeling blanking processes and investigates the effect of clearance between punch and die in the stress distribution during the penetration phase of cutting process and deformation during blanking process using FEA.

***A dream becomes a goal, when action is taken toward its achievement.***

## Faculty Training



**Prof. Udhav M. Parbhane & Prof. Kakde D. V** , Lecturer in Mechanical Engineering department MGM's Polytechnic Aurangabad Had participated in three days Training Program on **"Industry Training Program For Faculties"** Organised by MSBTE and Nasik Engineering Cluster. At Nasik. From 11 July to 13 July 2018.

Points Covered under the training were - Basic CNC Machines and G & M Codes, Rapid Prototyping, Introduction to Electric Discharge Machining, Modern Calibration centres and their Labs. Information about new courses in NEC Nasik and their scope.



**Prof. Siddiqui J. A & Prof. Bhalekar B. D** , Dean Academics & HOD of Mechanical Engineering department MGM's Polytechnic Aurangabad Had participated in Five days Training Program on **"Advances in Automotive Technology"** Organised by MSBTE and Government Polytechnic Aurangabad. At Aurangabad. From 14 January to 18 January 2019.

Points Covered under the training were - Overview of advances in Automobile Technology by Prof. Ganesh Dalvi, "Modern Transmission Technology in Mercedes Car by" by Mercedes Benz ADAM Center. CAD and Control Systems in Automobile Ind. By Ashish Bansod, Head 2-Stroke Engg,



Software & Doc. MAN Diesel.

BS4 Norms & OEM's Requirements in Automobile Industry by. Yogesh Dharurkar. MINDA Corp. & Changing Garage Practices By Mr. Raviraj Divekar, Divekar Auto, Aurangabad.



**Prof. Kadam S. S** Lecturer in Mechanical Engineering department MGM's Polytechnic Aurangabad Had participated in three days Training Program on **"Engine Testing instruments Dynamo "** Organised by MSBTE and SAJ Test Pune. At Pune. From 16 July to 18 July 2018.

Points Covered under the training were - Engine Testing and Instruments dynamo, Emissions Chassis Dynamometer, Facility Specifications- Cold Chamber, FEV Vehicle Development Center, Complete Calibration Development Programs, Climatic Testing,



**Prof. Lokavar V. L.** Lecturer in Mechanical Engineering department MGM's Polytechnic Aurangabad Had participated in three days Training Program on **"Introduction to Workshop Safety and personal safety, Introduction of Automobile and its Evolution."** Organised by MSBTE and TATA Motors Ltd. Pune At Pune From 23 July to 27 July 2018.

Points Covered under the training were - Pre-Test, Workshop safety and Personal Safety, Technological Advancement adopted in Indian Vehicles, Engine Theory 497 TCIC Engine, Engine Components, Inspection and measurement. Engine Management system and evolution change Euro I to V. Bosch Knowledge Center visit.



**Prof. Kadam S. S** Lecturer in Mechanical Engineering department MGM's Polytechnic Aurangabad Had participated in three days Training Program on **"Thermal Power Plant & its Components"** Organised by MSBTE and ADANI Power Mumbai. At Dahanu. From 04 Oct to 06 Oct 2018.

Points Covered under the training were - Introduction to Thermal Power Generation, Thermal Power Station and its Components, Site Seeing and Practical Visit to Power Station, Power Distribution and Procurement, Introduction to Boiler, Boiler Accessories and Mountings, Stages of Power Generation and Supply.

***"Education is not the Learning of the Focus, but the training of the mind to think"***

## Department Achievements

### “Inauguration of Bosch Training Centre ”



Inauguration of MGM's Polytechnic & Bosch Joint Certification Training Centre at MGM's Polytechnic ,By Mrs.Shweta Magazine Manager Training,



*“The achievements of an organization are the results of the combined efforts of each individual”*

# Students Achievements

## National and International Achievements of Students



Selected for higher education  
in Arizona university, USA

### Utkarsh Desarda

**University name** - Arizona State University, Tempe, AZ, USA. #1 University in US for innovation ahead of MIT, Harvard and Stanford.

\* **Specialization** - Materials Science Engineering

\* **Scholarship** - 35% - 10,000 \$

Utkarsh Desarda Student of MGM's Polytechnic(1501), Aurangabad Selected for Higher Education in Arizona University, USA



Selected ATLAS CORPO salary  
576275 / month in probation



### Saurabh Gulabrao Jaiwal

**Company Name:-** Atlas Copco

**Designation:-** Service Trainee

<b>Grade:-</b>	Training (12) Months	Probation (6 Months)
<b>Annual Salary:-</b>	2,88,989	6,91,530

Saurabh Jaiwal Student of MGM's Polytechnic(1501), Aurangabad Selected in ATLAS COPCO with salary 57627.5/month in Probation

## Result Winter-2018



**ABHISHEK DOIPHODE**  
92.78%(Third Year)



**SANKET DANVE**  
87.58%(Second Year)



**SHAIKH MOHAMMED YUNUS**  
88.29%(First Year)

## Lecture Talk /Workshop



Lecture Talk for Third Year students Conducted by Jay Walhe, Sir, from RSPL Solutions Mumbai, on Sap Dated—18 Januray 2019



Lecture Talk for Third Year students Conducted by Nizamuddin Shaikh, CIPET Training Institute Aurangabad, on CAD- CAM-CAE Dated—10 July 2018



A Two day Workshop on Personality Development for Third Year students Conducted by Sumit Udaygiri, 4C Training Centre , From 18-19<sup>th</sup> January 2019.

**“A Presentation is a chance to share, not an Oral exam”**



## Industrial Visits



Industrial Visit, Organised by department for Third Year Students, to Marathwada Auto-cluster (Centre of Excellence) MIDC Waluj, Aurangabad.



Industrial Visit, Organised by department for Third Year Students, to S.T. Central Workshop, MIDC Chikalhana, Aurangabad.



Industrial & Environmental Visit Organised by department for Second Year Students to Hydro Power Station, Jaikwadi Dam Paithan, Aurangabad.

“Sometimes Practicals are better than just listening”

## Social Activities



Grocery Goods Donation to Navjeevan Orphanage Home , Chikalthana Aurangabad, on the Occasion of 26<sup>th</sup> January by Departmental Staff and Students, Under Social Activity.



Tree Plantation Done at Bhise International Pvt. Ltd, MIDC Chakan, Pune, on 22<sup>nd</sup> August 2018, By Departmental Staff , Students, and Bhise sir, Under the Activity Social Work.



*“We make a Living by what we get, But we make a life by what we give”*

# Glimpses of Department



## Our Recruiters



JOHN DEERE

**LIEBHERR**  
Quality, Design and Innovation



**BOSCH**

**SERUM**



**NRB**  
BEARINGS



**NHK**  
NHK SPRING CO.,LTD.



**ENDURANCE**  
Complete Solutions