



GEAR UP

Half-Yearly News Letter

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Department of Mechanical Engineering

GEMS Polytechnic College, Aurangabad, Bihar

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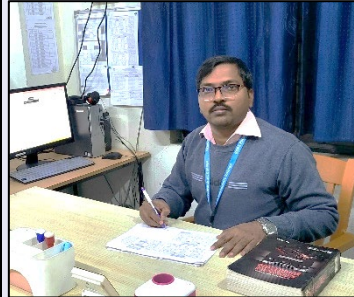
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From the Desk of the HOD



As we step into a new academic term, I am thrilled to extend my warmest greetings to all members of our Mechanical Engineering community. It is my pleasure to share a brief update on the

latest happenings in our department.

VISION OF THE DEPARTMENT

To empower the students in the field of Mechanical engineering by providing quality education and technical skills favorable for the development of the state and nation.

MISSION OF THE DEPARTMENT

The Department of Mechanical Engineering is committed, **M1:** To deliver fundamental and skill-based education in mechanical engineering through innovative practices in teaching and learning.

M2: To improve employability through Industrial interaction and collaboration.

M3: To inculcate ethical practices for social upliftment and to uphold human values.

PROGRAM EDUCATIONAL OBJECTIVES:

PEO1: To develop technically competitive diploma engineers in the challenging areas of design and manufacturing and its associated industries in the domain of mechanical engineering being involved.

PEO2: To motivate the diploma engineers to improve their academic career by involving in doing higher education and continuous learning.

PEO3: To Possess a professional attitude as an individual and as a team member with consideration for society, professional ethics and environmental factors.

PROGRAM SPECIFIC OUTCOMES:

PSO1: Ability to develop and implement innovative ideas in the area of product development with the help of modern CAD & 3D printing tools.

PSO2: Ability to achieve excellence in the domain of Computer Numerical Control (CNC) operations.

PSO3: Ability to achieve excellence in advanced manufacturing skills for various industrial sectors.

- **Achievements Worth Celebrating:** I am delighted to acknowledge the outstanding achievements of our faculty and students. Your dedication to excellence continues to elevate the reputation of our department. Let us celebrate these accomplishments as we work together toward even greater milestones.
- **Upcoming Events and Collaborations:** Exciting times lie ahead with numerous events, seminars, and industry collaborations in the pipeline. Stay tuned for announcements and make sure to participate actively. Your involvement is crucial in fostering a vibrant and collaborative academic environment.
- **Focus on Student Success:** To our students, I want to emphasize our dedication to your success. The department is here to support you in your academic journey. Make the most of the resources available, and don't hesitate to reach out if you need guidance or assistance.

In closing, I extend my gratitude to each member of our department for your hard work, enthusiasm, and commitment. Together, we will continue to advance the field of Mechanical Engineering and empower the next generation of engineers.

Embrace the Journey: Inspirational Quotes

- *"It always seems impossible until it's done."* - Nelson Mandela
- *"Don't watch the clock; do what it does. Keep going."* - Sam Levenson
- *"Believe you can, and you're halfway there."* - Theodore Roosevelt
- *"Strive not to be a success, but rather to be of value."* - Albert Einstein
- *"You are never too old to set another goal or to dream a new dream."* - C.S. Lewis
- *"The way to get started is to quit talking and begin doing."* - Walt Disney
- *"Success is stumbling from failure to failure with no loss of enthusiasm."* - Winston Churchill

Department Activities

Department Orientation Program:

Event Report:

- **Department Orientation Program**

On 15th December 2022, an orientation program was organized for the second and third-year students of the Mechanical Engineering Department at the seminar hall. The program aimed to provide an overview of the academic and



extracurricular activities, rules, and regulations of the department to the students.

The orientation program was successfully conducted, and the students found it informative and useful. The program helped the students to get familiarized with the academic and



extracurricular activities of the department and provided them with a clear understanding of the expectations and requirements for graduation. The faculty members and the support staff were appreciated for their efforts in

organizing the program, and the students were encouraged to make the most of the opportunities available in the department.

Event Details:

On 30th January 2023, a seminar was conducted on "Industry Expectations from Students" at our institution's Seminar Hall - 1105. The seminar was conducted by Mr. Vikash Kumar Singh, Customer Relation Manager of J.K. & Ravindra Automobiles, Aurangabad, Bihar.

The seminar was organized to provide insights into the expectations of the industry from the students. The resource person, Mr. Vikash Kumar Singh, shared his valuable insights and experience on the topic.

The seminar began with an introduction of the resource person, who shared his journey and experience in the industry. He emphasized the importance of skills such as communication, teamwork, problem-solving, and adaptability in the industry. He also highlighted the need for students to be proactive and take the initiative in their learning and development.

Mr. Singh discussed the current trends in the industry and the skills required to succeed in it. He also shared his perspective on the importance of internships and other forms of practical exposure for students to gain industry-specific knowledge and experience.

The seminar on "Industry Expectations from Students" was informative and insightful, providing students



with valuable knowledge and perspectives on the expectations of the industry. Mr. Vikash Kumar Singh, the resource person, shared his experience and insights, which were useful for the students in shaping their career paths. We extend our gratitude to him for conducting the seminar and providing guidance to our students.

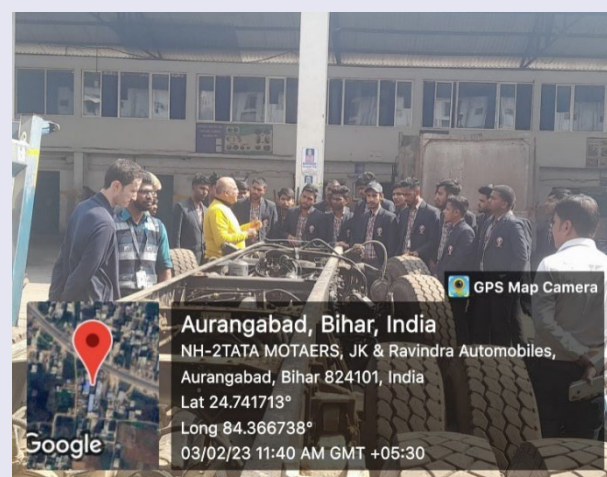
One-day Industrial Visit

- **Visit Details:**

On 3rd February 2023, an official industrial visit was organized for the 5th-semester students of Diploma in Mechanical Engineering at "JK & Ravindra Automobiles, Tata Motors" in Aurangabad, Bihar. The visit aimed to provide practical exposure to the students and to enhance their understanding of the automobile industry.

The industrial visit to JK & Ravindra Automobiles, Tata Motors in Aurangabad, Bihar was a great learning experience for the 5th-semester students of Diploma in Mechanical Engineering. The students were able to witness the various stages of the manufacturing process and gain practical exposure to the industry. The visit was informative and provided valuable insights into the functioning of the automobile industry. We extend our gratitude to the officials

of JK & Ravindra Automobiles for organizing the visit and providing the students with this valuable opportunity.



The students were given an opportunity to interact with the officials and ask any questions they had about the industry and the production process. The officials patiently answered all the queries and provided valuable insights into the industry.

Faculty Activities

- Mr. Arun Pandian P participated in the Faculty Development Program on "NBA Accreditation and Teaching and Learning in Engineering," conducted by NPTEL in collaboration with AICTE from January to April 2022. The program spanned 8 weeks, with sessions held for 5 days each week. This FDP provided valuable insights into NBA accreditation processes and enhanced teaching methodologies, contributing to Mr. Arun Pandian P's professional development.
- Mr. Titus R actively participated in the Faculty Development Program on "NBA Accreditation and Teaching and Learning in Engineering" organized by NPTEL in collaboration with AICTE. The program, spanning 8 weeks with sessions held five days per week, provided him with valuable insights into NBA accreditation processes and enhanced teaching methodologies.

Student Activities

Students actively engaged in industry internships gained practical insights, applied theoretical knowledge, and honed valuable professional skills, contributing to their holistic development and readiness for the workforce. The hands-on experience acquired during these internships fostered a deeper understanding of industry practices and enhanced the students' adaptability to real-world challenges.

S. No	Company Name & Location	No. of Students Attended	No. of Days
1	ANANYA AUTO AGENCY, Patna	4	12
2	ATUL SASARAM	1	16
3	CITY AUTOMOBILE, PATNA	1	17
4	J.K Ravindra TATA Motors, Aurangabad	17	17
5	JAI RAM MOTORS, Aurangabad	1	18
6	JANKI AUTO AGENC, BHABUA	1	16
7	KRN AUTOMOBILE, AURANGABAD	4	17
8	LUBREX ENTERPRISES, BOKARO	1	15
9	MAA AMBEY AUTOMOBILES	4	16
10	MAA VINDHYAWASHINI MOTORS, ROHTAS	1	15
11	MAHINDRA TRACTOR, Vaishali	1	16
12	NTPC, NAVINAGAR	2	30
13	SWARAJ TRACTOR, AURANGABAD	1	15
14	ASHUTOSH AUTO, Aurangabad	2	18
15	JAI MAA AUTOMOBILES, JAMSHEDPUR	1	15
16	KB MOTORS, BEGUSARAI	1	16
17	KESHAW AUTO, ROHTAS	1	16
18	M/S BHAN SEVA KENDRA, MOKAMA	1	16
19	M/s Deep Lakshmi Automobiles	1	16
20	M/s GURU MOTORS, ARA	1	20
21	NTPC Ltd, BARAUNI	2	30
22	TATA MOTORS, KURDAUN	1	15

National-Level Project Competitions:

Students are motivated to present their projects in prominent national-level project competitions, allowing them to gain recognition and learn from peers across the country.

On 25th February 2023, a National Level Science



Exhibition was organized by Sityog Institute of



Technology in Aurangabad, Bihar. The winning project,

"Design and Development of a rover using Theo Johnson Mechanism," led by team members Md Amish, Satyam Kumar, and Suriya Mani from Mechanical and Electrical Engineering disciplines, secured the 1st prize with a cash award of Rs. 11,000.

Participation in BCST - Student Project Programmes:

Students are actively encouraged to participate in the Bihar Council on Science and Technology (BCST) - Student Project Programmes. These platforms provide opportunities for networking, exposure, and recognition at the state level.

1. "Design & Fabrication of Mini Abrasive Vertical Belt Grinding Machine" by Vishal Ranjan, Sidharth Kumar Vishwakarma, Sudhakar Kumar, Azam Hussain, guided by Mr. Eli Yashraj Singh.
2. "Design & Fabrication of Paddy Dryer Machine" by Rakesh Tiwary, Aman Kumar, Chitranshu Kumar Yadav, Ramesh Kumar, guided by Mr. Nitish Chandra.
3. "Design & Fabrication of Electric Hybrid Vehicle" by Akash Kumar, Ranjan Kumar, Ravi Singh, Amarjeet Raj, guided by Mr. Titus.R.
4. "Design & Fabrication of V8 Solenoid Engine" by Sameer Sagar, Rajneesh Kumar, Durgesh Nandan, and Santhosh Kumar Nanda, guided by Mr. Vimal Raj.

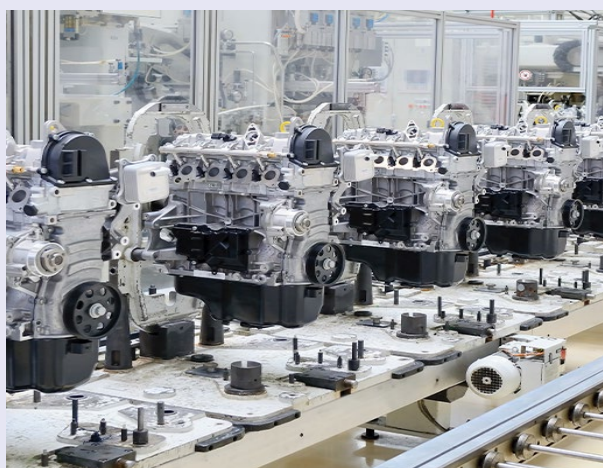
The Impact of Technology on Mechanical Engineering:

Technology has enabled mechanical engineers to develop more efficient and effective solutions to complex problems. With advances in technology, new materials, and innovative ideas, mechanical engineers are set to make a big impact in the future. Here are some of the technologies that are changing the industry.

- Automation
- 3D printing
- Robotics
- Artificial intelligence
- Nanotechnology
- Computer-Aided Engineering
- Internet of Things

Automation:

Automation can free up the engineer's mind by automatically doing repeated and mundane tasks and enables engineers to put their minds to creative and cognitively demanding tasks.



- I. Automation has the potential to,
 - Reduce costs
 - Improve efficiency
 - Increase safety
- II. It is being used to automate tasks like,
 - Welding
 - Machining
 - Assembling
- III. Automated systems can now perform some complex tasks, including
 - Basic Designing
 - Simple fabrication of components

Automated systems can be programmed to use less energy and resources than manual labour. For example,

Automated assembly machines do the job of picking, packing and disposing of without any involvement of human labour.

Editorial Board

Editorial Role	Responsible Persons
Chief Editors	Mr. Anil Kolli, Head of the Department / Mech. Mr. Arun Pandian, Sr. Lecturer / Mech
Faculty Advisors	Class Advisors of 1st, 2nd & 3rd year of study
Student Editors	1 student from 1st, 2nd & 3rd year of study
Student Writer / Contributor	Students from 1st, 2nd & 3rd year of study
Design and Layout Specialist	Mr. Max Mark, Lecturer / Mech

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