

Department of Mechanical Engineering



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Department's Vision and Mission

Vision

- **To be the center of excellence that nurtures technologically competent and industry ready mechanical technicians having high values and national concern.**

Mission

- To impart technical education using productive learning resources to develop intellectual competency and life long learning attitude.
- To adopt well coordinated state of art tools and technology to develop technical, ethical and eco-friendly skills.
- To provide advanced practical tools to solve broad based problems and develop motor skills.

HOD's Desk



Greetings from the Head of Department

It gives me immense pleasure to extend a warm welcome to all the readers of this magazine. This publication is a testament to the creativity, dedication, and talent of our students and faculty, reflecting the vibrant spirit of our department. Through these pages, we aim to showcase a blend of academic achievements, innovative ideas, and extracurricular endeavors that define the essence of our community. I encourage all our students to continue striving for excellence and contributing to this platform, which serves as a mirror of your hard work and aspirations. Thank you for your support, and I hope this edition inspires and informs you. Happy reading!



Departmental Events



Project exhibition is conducted on **03/06/2022**. Total 46 students had participated. HOD of Mechanical Dept had inaugurated the program. Inaugural speech had given by Mrs. K.H. Jadhav given the speech on project and its impact on engineering carrier. The students of the final year participated in this event. For this event **Mr. Ganesh Bobade** worked as examiner and given innovative suggestions to each and every group. Students benefited by feedback given from faculty and students for improvement.





EXPERT LECTURES

The Department hosted an insightful expert lecture on **Entrepreneurship Development Skills and Solid Waste Management..** Delivered by **Mr. Vikram suryawanshi** the lecture emphasized the potential of turning waste management into sustainable business opportunities, highlighting essential skills and success stories in the field.



The Department organized an expert lecture on **Employment Opportunities** to guide students in navigating today's competitive job market. **Mr Dadasaheb Patil** a renowned professional in [Field/Industry], shared valuable insights into emerging career trends, essential skills for success, and strategies for securing rewarding job opportunities.

An expert lecture on **Refrigeration Systems in Dairy Plants**, focusing on the critical role of refrigeration technology in ensuring product quality and operational efficiency. Delivered by **Shri S.G. Mane**, a specialist in dairy technology, the session covered the principles, advancements, and applications of refrigeration in the dairy industry



Poster By Mr. Sanskar Karav



Rangoli By Ms Shinde Pranjal Mahesh



Top Placements in 2022 Pass out



Name :-Manish Tavdarkar,
Company :-ACC Pvt Ltd
Package:-1.96 lac/annum



Name :- Aarya Prabhakar Thorat
Company:-Cummins India Ltd
Package:-1.68 lac/annum



Name:-Rahul Sukhadev Gondhali
Company:-John Deere Ltd, Pune
Package:- 1.66lac/annum



Technical Articles by Students

Hydrogen as Fuel

Hydrogen as Fuel: A Brief Overview

In the pursuit of sustainable energy solutions, hydrogen has emerged as a promising alternative to fossil fuels. Known for its abundance and high energy density, hydrogen is increasingly being recognized as a potential cornerstone in the transition to a low-carbon economy. This brief article highlights the key aspects of hydrogen as a fuel, its applications, and the challenges associated with its adoption.

1. What is Hydrogen Fuel? Hydrogen fuel refers to the use of hydrogen gas (H_2) as a carrier of energy. When used in fuel cells or combusted, hydrogen produces energy with water as the primary byproduct, making it an environmentally friendly option. The process involves splitting water molecules through electrolysis or extracting hydrogen from natural gas, biomass, or other sources.

2. Applications of Hydrogen Fuel Hydrogen's versatility makes it suitable for various applications, including:

Transportation: Fuel cell electric vehicles (FCEVs) powered by hydrogen offer a zero-emission alternative to traditional internal combustion engines.

Energy Storage: Hydrogen can store surplus electricity generated from renewable sources, such as wind or solar, for later use.

Industrial Use: Hydrogen is already used in industries like steel production, refining, and ammonia synthesis, with potential for expansion in green manufacturing.

Power Generation: Hydrogen-powered turbines and fuel cells can complement existing energy systems, enhancing reliability and reducing carbon footprints.

3. Benefits of Hydrogen Fuel

Environmental Impact: Hydrogen produces no greenhouse gases during its use.

Energy Security: Hydrogen can be produced domestically, reducing reliance on imported fuels.

Scalability: Hydrogen's potential to integrate with renewable energy sources ensures its role in decarbonizing multiple sectors.

4. Challenges in Hydrogen Adoption Despite its promise, hydrogen faces several barriers:

Production Costs: Current hydrogen production methods are energy-intensive and costly, particularly for green hydrogen produced via electrolysis.

Infrastructure: A lack of widespread hydrogen refueling stations and distribution networks limits its accessibility.

Storage and Transportation: Hydrogen's low density poses challenges for efficient storage and long-distance transport.

Safety Concerns: Although hydrogen is generally safe, its flammability requires careful handling and robust safety measures.

5. The Road Ahead Efforts to address these challenges are underway, driven by governments, industries, and research institutions. Investments in hydrogen infrastructure, advancements in production technologies, and supportive policies are critical to realizing its potential. Initiatives like the European Union's Hydrogen Strategy and Japan's focus on a hydrogen society exemplify global momentum toward adopting hydrogen as a key energy solution.

Conclusion Hydrogen fuel holds significant promise as a clean, versatile, and sustainable energy source. While challenges remain, continued innovation and collaboration can pave the way for its widespread adoption. As the world strives for net-zero emissions, hydrogen is set to play an integral role in shaping a sustainable energy future.

Mr. More Shreyash Kiran

TY Mech



Social Article Water Management

Water Management: Protecting Our Precious Resource

Water management is about using water wisely and ensuring everyone has enough. It is important because water is essential for drinking, farming, and keeping nature healthy. This article explains simple ways to manage water and why it matters.

1. Why Water Management Matters Water is needed for many things. Good water management helps to:

Save Water: Make sure there is enough water for everyone.

Avoid Shortages: Stop overuse and prepare for droughts.

Keep Nature Healthy: Protect rivers, lakes, and wildlife.

Handle Weather Changes: Get ready for floods and dry periods caused by climate change.

2. Easy Ways to Manage Water

Use Less Water: Fix leaks, turn off taps, and use water-saving tools.

Collect Rainwater: Store rain for later use at home or on farms.

Clean Dirty Water: Recycle water to use it again safely.

Plan Smartly: Use water wisely in homes, farms, and factories.

Build Better Systems: Create reservoirs and better irrigation for farms.

3. Problems to Solve

Growing Cities: More people mean more water is needed.

Pollution: Factories and farms sometimes make water dirty.

Unequal Access: Some people have less water than others.

Changing Weather: Rainfall is becoming less predictable.

4. New Ideas and Technology Technology is helping us manage water better:

Smart Farming: Use sensors to water crops only when needed.

Watch Water Levels: Use satellites to track water supplies.

Clean Water Tech: Use special filters to make water safe.

Smart Planning: Use computers to decide how to share water.

5. Everyone Can Help Communities play a big role in saving water. Learning how to save water and being part of local decisions can make a big difference.

Conclusion Water management helps people and nature thrive. By saving water, using smart tools, and working together, we can make sure there is enough clean water for everyone, now and in the future.

Mr. Gaurav Sambhaji Jadhav

SY Mech