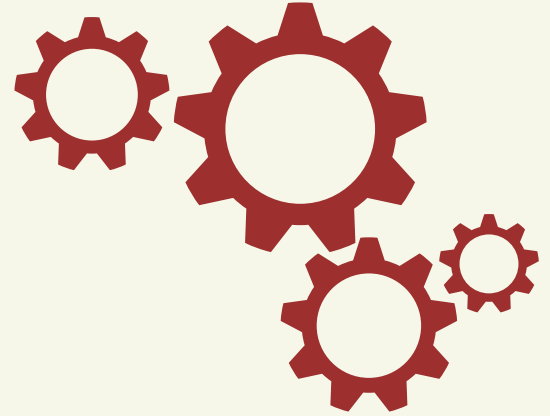


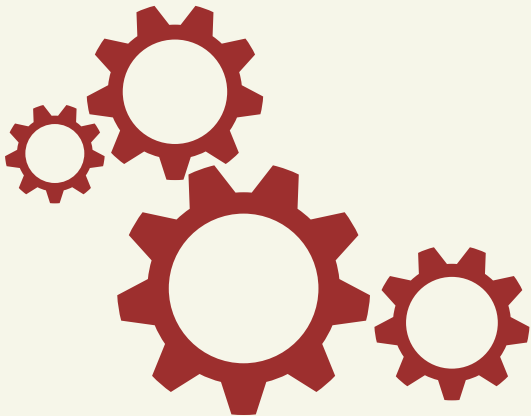


**VIVEKANAND EDUCATION
SOCIETY'S POLYTECHNIC
CHEMBUR, 400071**



MECHANZIA

2025 - 26



**DEPARTMENT OF MECHANICAL
ENGINEERING
VOLUME - 2**

NEWSLETTER

VOLUME 2

DEPARTMENT OF MECHANICAL ENGG

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About Department

- Established: Department of Mechanical Engineering started in 2018 with an intake of 60 students.
- Core Focus: Applies principles of physics, mathematics, and materials science to design, analyze, manufacture, and maintain mechanical systems.
- Field Overview: One of the oldest and broadest engineering disciplines, covering mechanics, thermodynamics, materials science, and structural analysis.
- Tools Used: CAD, CAM, and life cycle management for designing and analyzing systems like machinery, transport, robotics, and medical devices.
- Infrastructure: Advanced facilities and labs beyond the curriculum to provide a conducive learning environment.
- Continuous Learning: Engineers must stay updated with emerging trends and technologies in the industry. Learning is a lifelong process.

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Vision

- To produce mechanical engineers with technical competency driven by ethical values.

Mission

- To impart value based quality education thus enabling students to meet up with the demands of industry as well as society.
- To create technically expertise engineers with the desire for lifelong learning.
- To provide platform for overall personality development of students.

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Program Outcomes

- PO1-Basic And Discipline Specific Knowledge: Apply Knowledge Of Basic Mathematics, Science And Engineering Fundamentals And Engineering Specialization To Solve The Engineering Problems.
- PO2-Problem Analysis: Identify And Analyse Well-Defined Engineering Problems Using Codified Standard Methods.
- PO3-Design/ Development Of Solutions: Design Solutions For Well-Defined Technical Problems And Assist With The Design Of Systems Components Of Processes To Meet Specified Needs.
- PO4-Engineering Tools, Experimentation And Testing: Apply Modern Engineering Tools And Appropriate Technique To Conduct Standard Tests And Measurements.
- PO5-Engineering Practices For Society, Sustainability And Environment: Apply Appropriate Technology In Context Of Society, Sustainability, Environment And Ethical Practices.
- PO6-Project Management: Use Engineering Management Principles Individually, As A Team Member Or A Leader To Manage Projects And Effectively Communicate About Well-Defined Engineering Activities. "
- PO7-Life Long Learning: Ability To Analyse Individual Needs And Engage In Updating In The Context Of Technological Changes.

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PROGRAM EDUCATION OUTCOME

- PEO1:- Provide socially responsible, environment friendly solutions to Mechanical Engineering related broad based problems adapting professional ethics.
- PEO2:- Adapt state-of-art Mechanical Engineering broad based technologies to work in multi disciplinary work environment.
- PEO3:- Solve broad based problems individually and as a team member communicating effectively in the world of work

Program Specific Outcome

- PSO1:-Modern Software Usage: Use latest Mechanical Engineering related software for simple design, drafting, manufacturing, maintenance and documentation of mechanical engineering components and processes.
- PSO2:-Equipment and Instruments: Maintain equipment and instruments related to Mechanical Engineering.
- PSO3:-Mechanical Engineering Processes: Manage Mechanical engineering processes by selecting and scheduling relevant Equipment, subtracts, quality control techniques and operational parameters.

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Highlights of Departmental activities

Faculty Development and Certification Achievements

Faculty members of the Mechanical Engineering Department actively participated in various Faculty Development Programs (FDPs), certification courses, and workshops organized by reputed institutions across India, enhancing their academic and technical expertise.

Highlights

- Mr. Nitin Kale successfully completed the 12-week NPTEL course “Understanding Incubation and Entrepreneurship” conducted by Indian Institute of Technology Madras during Jan–Apr 2026.
-
- Mr. Prathamesh Kasar completed:
 - “Basics of CATIA V5” by Skill Lync
 - NPTEL course “Manufacturing Automation” by Indian Institute of Technology Kanpur.
- Mrs. Geetanjali Thakur attended the workshop on “Advancement and Sustainable Practices in Power Plant Engineering” organized by SPM Polytechnic.

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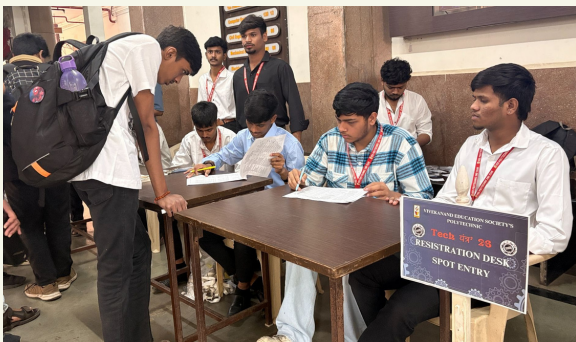
- Mr. Pranit Nigade completed the 12-week NPTEL course “Mechanics” conducted by Indian Institute of Technology Roorkee and also attended the workshop on sustainable practices in power plant engineering at SPM Polytechnic.
- Mr. Mangesh Bidkar participated in multiple FDPs and certification programs including:
 - “Industry 5.0” by Thakur Shyamnarayan Engineering College
 - “Emerging Trends and Innovations in Mechanical Engineering” at Agnel Polytechnic
 - “Creating Effective Learning Ecosystem Through Innovative Techno-Pedagogies in Light of NEP 2020” at Vidyalankar Polytechnic
 - NPTEL course “Metal Cutting and Machine Tools” by Indian Institute of Technology Kharagpur.
- Mr. Mahesh Zope attended:
 - “Internal and Institutional Growth” at VES Polytechnic
 - FDP on “Emerging Trends and Innovations in Mechanical Engineering” at Agnel Polytechnic, Vashi
 - NPTEL course “Metal Cutting and Machine Tools” by IIT Kharagpur.

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The **Department of Mechanical Engineering** at VES Polytechnic successfully conducted “**Tech Yantra 2026**”, a state-level technical event featuring “**Lathe War**” and “**Technical Quiz**” competitions on **4 February 2026**.



The event witnessed enthusiastic participation from students across various institutes and provided a platform to showcase technical skills, machining knowledge, and engineering excellence. The event was **organized in association with ISHRAE and ISTE**, making it a grand success.

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Student Articles

A creative platform where students can express their ideas, share tech knowledge, and present inspiring stories while enhancing their writing skills.



- **The Future of Mechanical Engineering in the Age of AI**
- **Role of Mechanical Engineers in Building Smart Cities**
- **Importance of Renewable Energy in Modern Engineering**
- **Electric Vehicles: Revolution in the Automobile Industry**
- **3D Printing: The Future of Mechanical Design**
- **Sustainable Engineering for a Better Future**

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The Future of Mechanical Engineering in the Age of AI

Mechanical Engineering is changing quickly because of Artificial Intelligence. In the future, machines and computers will work together to make industries smarter, faster, and safer. AI can help engineers design better products, find problems in machines, and reduce waste in factories. For example, smart robots can now do difficult and dangerous work with high accuracy.

Mechanical engineers will still be very important, but their work will become more advanced. Instead of only working with tools and machines, they will also use computer programs, data analysis, and automation systems. Engineers who learn AI, coding, and robotics will have more job opportunities in the future.

AI cannot fully replace mechanical engineers because human creativity, problem-solving, and decision-making are still necessary. Engineers are needed to develop new ideas, improve machines, and manage complex projects. Industries such as automobile, aerospace, energy, and manufacturing will continue to need skilled mechanical engineers.

The future of mechanical engineering is bright for students who are ready to learn new technologies. By combining mechanical skills with AI knowledge, engineers can build smarter machines and create a better future for society.

VAISHNAVI BHURAN

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Role of Mechanical Engineers in Building Smart Cities

As cities continue to grow, the need for smart and sustainable urban development is increasing. Mechanical Engineering plays an important role in building smart cities by improving transportation, energy systems, water supply, and environmental management. Mechanical engineers help create technologies that make city life safer, cleaner, and more comfortable.

One major area where mechanical engineers contribute is transportation. They help design electric vehicles, metro trains, and smart traffic systems that reduce fuel consumption and air pollution. These systems improve travel efficiency and reduce traffic problems in busy cities.

Mechanical engineers also work on energy-efficient buildings. They design heating, ventilation, and air-conditioning systems that save energy and maintain comfortable indoor conditions. In addition, they support renewable energy projects such as solar and wind power systems, which help reduce dependence on fossil fuels.

Another important contribution is in waste and water management. Mechanical engineers develop recycling systems, water treatment plants, pumps, and pipelines that ensure proper sanitation and clean water supply. Smart sensors and automated technologies are also used to monitor city services and improve their performance.

By working with civil engineers, architects, and technology experts, mechanical engineers help build modern infrastructure for smart cities. Their innovative ideas and technical skills are essential for creating sustainable cities and improving the quality of life for future generations.

DHRUV BHOLE

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Importance of Renewable Energy in Modern Engineering

Renewable Energy has become very important in modern engineering because it helps meet the growing energy demand while protecting the environment. Renewable energy sources such as solar, wind, hydro, and biomass provide clean and sustainable power. Engineers play a major role in developing technologies that use these energy sources efficiently.

One of the main advantages of renewable energy is the reduction of pollution and greenhouse gas emissions. Traditional energy sources like coal and oil cause environmental damage and contribute to climate change. Renewable energy helps create a cleaner and healthier environment for future generations.

Modern engineers design and improve renewable energy systems such as solar panels, wind turbines, and energy storage devices. These technologies help produce electricity with lower environmental impact. Engineers also work on smart grids and energy-efficient systems to improve the distribution and use of power.

Renewable energy is also important for economic growth and energy security. It reduces dependence on limited fossil fuels and creates new job opportunities in engineering, manufacturing, and maintenance. Many countries are investing heavily in clean energy projects to support sustainable development.

In conclusion, renewable energy is essential in modern engineering because it supports environmental protection, energy efficiency, and sustainable growth. Engineers will continue to play a key role in developing innovative solutions for a cleaner and greener future.

Akshada phadtare

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Electric Vehicles: Revolution in the Automobile Industry

Electric Vehicles are creating a major revolution in the automobile industry. Unlike traditional vehicles that run on petrol or diesel, electric vehicles use electricity stored in batteries. They are becoming popular because they are environmentally friendly, energy-efficient, and cost-effective.

One of the main advantages of electric vehicles is that they produce very little pollution. Conventional vehicles release harmful gases that increase air pollution and contribute to global warming. Electric vehicles help reduce carbon emissions and support a cleaner environment. Governments around the world are encouraging the use of electric vehicles through subsidies and charging infrastructure.

Electric vehicles also reduce dependence on fossil fuels. Since fuel prices are rising and natural resources are limited, electric vehicles provide a sustainable alternative for transportation. In addition, they have lower maintenance costs because they contain fewer moving parts compared to traditional engines.

The automobile industry is rapidly changing because of advancements in battery technology, charging systems, and smart features. Many companies are investing heavily in electric vehicle production and research. Engineers are working to improve battery life, charging speed, and vehicle performance.

Although challenges such as charging stations and battery costs still exist, the future of electric vehicles looks promising. They are transforming transportation and helping create a greener and more sustainable future for society and the automobile industry.

ROHIT SOMVANSHI

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3D Printing: The Future of Mechanical Design

3D Printing is becoming one of the most important technologies in modern mechanical design. It is a process of creating three-dimensional objects by adding material layer by layer using computer-controlled machines. This technology is changing the way products are designed, developed, and manufactured.

One major advantage of 3D printing is that it allows engineers to create complex designs easily. Traditional manufacturing methods often require expensive tools and long production times, but 3D printing can quickly produce parts with high accuracy. Engineers can also test prototypes faster and make design improvements in less time.

3D printing helps reduce material waste because only the required amount of material is used during production. This makes the process more cost-effective and environmentally friendly. It is widely used in industries such as automobile, aerospace, healthcare, and manufacturing.

Mechanical engineers use 3D printing to design lightweight and strong components. It also allows customization of products according to customer needs. For example, medical implants and machine parts can be specially designed for individual requirements.

Although the technology still faces challenges such as high equipment cost and limited material options, its future is very bright. As technology continues to improve, 3D printing will play a major role in the future of mechanical design and modern manufacturing industries.

RIDWIK PAWAR

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Sustainable Engineering for a Better Future

Sustainable Engineering is an important approach in modern development that focuses on protecting the environment while meeting human needs. It aims to design and develop systems, products, and technologies that use natural resources efficiently and reduce environmental damage. Sustainable engineering helps create a better future for both present and future generations.

One major goal of sustainable engineering is to reduce pollution and waste. Engineers develop energy-efficient machines, eco-friendly buildings, and renewable energy systems such as solar and wind power. These technologies help conserve natural resources and reduce dependence on fossil fuels.

Sustainable engineering also plays a key role in water conservation and waste management. Engineers design recycling systems, water treatment plants, and smart irrigation methods that help save water and maintain cleanliness in cities and industries. In transportation, sustainable engineering supports the development of electric vehicles and fuel-efficient systems that reduce harmful emissions.

Another important aspect is the use of environmentally friendly materials in construction and manufacturing. Engineers focus on creating durable products that consume less energy and produce less waste during production.

By combining innovation, technology, and environmental responsibility, sustainable engineering improves the quality of life and supports economic growth. In conclusion, sustainable engineering is essential for building a cleaner, safer, and healthier world for future generations.

VINIT JADHAV

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Departmental Spotlights

Saumil Sachin Tharwal Shines at VESP

Saumil Sachin Tharwal, a Diploma Mechanical Engineering student at VESP, has earned recognition for his outstanding achievements in academics, leadership, and extracurricular activities.

He served as the General Secretary in Sphurti 2025 the college sports event, and represented VESP in several **technical paper presentation competitions, winning prizes at** Fr. Agnel, SSJP, Geeta Tatkare, and GP Pen events between 2025 and 2026.

He also represented the **Mechanical Engineering Department Student Council of Railways at a seminar in Pune on diesel locomotive conversion**. Along with technical excellence, Saumil completed a Mountaineering Certification from SVIM with an A Grade and secured First Prize in a college debate competition. His achievements continue to bring pride to VESP and inspire fellow students.



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Final Year Students Bring Glory with State-Level Project Victories

Final year students Sahil Mhatre, Jay Gurnani, Hardik Gawas, Aryan Bhingardev, and Vedant Mishra brought pride to their institution by securing First Prize in the **MSBTE Sponsored Project Competition** held at Vartak Polytechnic, winning a cash prize of ₹1 lakh for their innovative project and outstanding presentation.

The team further added another achievement by winning **First Prize in the State-Level Project Competition** organized at Pillai HOC College of Engineering and Technology.

Their remarkable success highlights technical excellence, teamwork, and innovation, bringing recognition and pride to the institution.



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Student Entrepreneur & Young Investor Spotlight

Taran Kavampalli (17) promotes a shift from short-term stock trading to long-term fundamental investing among young investors.

Began exploring the stock market in 6th standard and started investing through a guardian-operated account in 10th grade.

Learned investment principles through guidance from his father, a corporate finance professional, and extensive reading on business valuation and investing.

Advocates the philosophy: “Buy businesses, not just stocks.”

Announced the launch of his upcoming book:

THE DEEP EQUITY MANUAL

Shifting from Ticker Trading to Fundamental Investing

The book aims to help young investors understand:

Fundamental Analysis

Business Valuation

Long-term Wealth Creation

Smart Investing Mindset

Encourages students to move beyond speculative trading and focus on building sustainable financial knowledge and discipline.

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ACADEMIC TOPPERS

Odd Semester 2025-26



FIRST YEAR TOPPERS

Department of Mechanical Engineering



HASIJA HRIDAY I.
88.47 %



AMESUR NAITIK P.
83.53 %



GHAWRE PARTH S.
83.29 %



SECOND YEAR TOPPERS

Department of Mechanical Engineering



AYAN KHAN
90 %



DIVESH D. KALBHATE
86.44 %



VAISHNAVI K. BHURAN
85.22 %



THIRD YEAR TOPPERS

Department of Mechanical Engineering



SOMVANSHI ROHIT N.
91.53%



SHRUNGARPURE PRANAV R.
90.35%

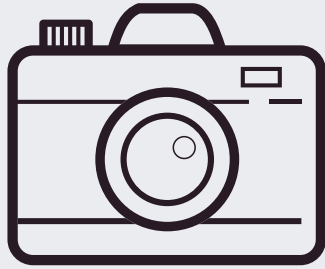


THARWAL SAUMIL S.
88.71%

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Editor



PRATHAMESH KASAR