

NEWS LETTER
2023-24

GEAR-UP

An Annual Insight



“Scientists investigate that which already is; engineers create that which has never been.” – Albert Einstein

DEPARTMENT OF MECHANICAL ENGINEERING
SANJEEVAN ENGINEERING & TECHNOLOGY INSTITUTE



Our Inspirations...



Mr. P. R. Bhosale
Founder- Chairman
Holy-wood Academy, Kolhapur
(Sanjeevan Group)



Mr. N. R. Bhosale
Joint-Secretary
Holy-wood Academy, Kolhapur
(Sanjeevan Group)



Dr. Sanjeev N. Jain
Principal
Sanjeevan Engineering & Technology Institute, Panhala



From Editor Desk...



"Welcome to Gear-Up – The Voice of Mechanical Engineering!"

Dear Readers,

Mechanical Engineering is more than just gears and machines; it's about innovation, problem-solving, and shaping the future. From automobiles to aerospace, robotics to renewable energy, mechanical engineers drive progress in every industry.

In this edition of Gear-Up, we bring the latest updates, research, student activities, faculty achievements, and industry insights to keep you inspired. Stay tuned for exciting developments in the field of Mechanical Engineering.

- **Prof. Rahul Uday Urunkar**

Assistant Professor

Department of Mechanical Engineering

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Department Highlights

- Highly qualified & experienced faculty
- Interactive based learning
- Well-equipped labs & library
- Campus placements
- Competitive exam support
- Alumni in top universities in India and abroad to pursue their higher education
- Industry-Institute Interactions
- Hi-Tech class-rooms

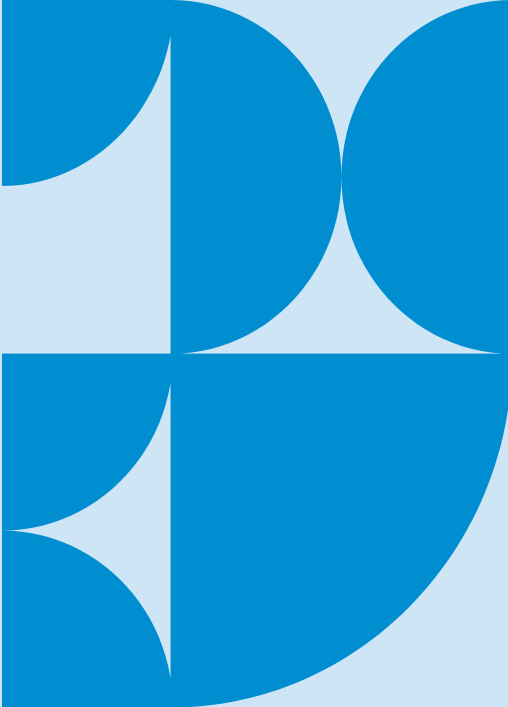


Dr. Vinayak H. Deokar
Head, Mech. Engg. Dept

-At SETI, we are committed to excellence in education, research, and industry collaboration.

-I encourage all of you to actively engage, innovate, and contribute to the future of Mechanical Engineering.

-Let's continue to engineer solutions, push boundaries, and drive progress together.



About Department...

The Department of Mechanical Engineering at Sanjeevan Engineering & Technology Institute, Panhala, is committed to excellence in technical education, research, and industry-oriented skill development. Established with the vision to nurture future-ready engineers, the department offers a comprehensive curriculum, well equipped laboratories, and hands-on learning experiences.

VISION

To educate and to transform individuals into competent and socially responsible professionals in Mechanical Engineering

MISSION

- Encourage individuals to pursue relevant knowledge in Mechanical Engineering.
- To provide sound technical inputs to develop professional skills.
- To create awareness amongst students about continuous learning and social ethics.

Our Focus Areas:

- ✓ **Innovative Teaching & Learning** – Blending theoretical knowledge with practical applications.
- ✓ **Industry Collaboration** – Bridging the gap between academia and real-world engineering.
- ✓ **Research & Development** – Encouraging students and faculty to engage in cutting-edge research.
- ✓ **Skill Enhancement** – Conducting workshops, industrial visits, and technical training programs.
- ✓ **Holistic Growth** – Promoting co-curricular and extracurricular activities for well-rounded development.

The department takes immense pride in producing skilled engineers, entrepreneurs, and researchers who contribute to various industries, academia, and technology-driven solutions. With a dedicated faculty team, modern infrastructure, and student-centric initiatives, the Mechanical Engineering Department continues to empower students for a successful future.



Faculty Engagement in FDPs, STTPs & Workshops

- Continuous learning and skill enhancement are at the heart of engineering excellence.
- Our faculty members actively participated in various FDPs, STTPs, and technical workshops to stay updated with the latest advancements in Mechanical Engineering.

Sr. No.	Name of the Faculty	Title of FDP/STTP/Workshop	Organizing Institute
1	Dr. Vinayak H. Deokar	Industry 4.0	Goshima and TATA Technologies
2	Dr. Gajanan C. Koli	Battery Management System for Electric Vehicles	Sinhgad college of Engineering, Pune
3		Outcome Based Education and Essential AI Tools for Teachers	Ramakrishna Mission Vivekananda Centenary College, Rahara, Kolkata
4		Hydrogen and Fuel Cell Technologies for Electric Vehicles	KIT's College of Engineering, Kolhapur
5	Dr Ajit A. Katkar	NAAC Assessment and Accreditation: Procedures and Processes	ACT Academy Tamil Nadu.
6		Writing an effective research article: tips and tricks	KLS VEDIT, Hlayal Karnataka
7		Management Development & Academic Leadership	ACT Academy Tamil Nadu.
8		Recent Trends in Mechanical Engineering and Industry 4.0	Sanjay Bhokare Group of Institutes, Miraj.
9		Industrial Instrumentation and Automation (IIA 2024)	Siemens Center of Excellence in collaboration with NIT Kurukshetra
10	Dr. Vinod V. Vanmore	NEP 2020 orientation and sensitization Programme	Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.

11	Prof. Rahul U. Urunkar	Adsorption for CO ₂ Capture, Green Refrigeration & Energy Storage	IIT Dhanbad
12		Employing Industrial Quality Management Systems for Quality Assurance in Outcome-Based Education (OBE)-2024	College of Engineering, Pandharpur
13	Prof. Sardar B. Deshmukh	Design of Experiment & Optimization	Ashokrao Mane Group of Institutions, Vathar
14		Recent Trends in Mechanical Engineering and Industry 4.0	Sanjay Bhokare Group of Institutes, Miraj
15	Prof. Dhananjay V. Patil	Hydrogen and Fuel Cell Technologies for Electric Vehicles	KIT college of engineering, Kolhapur
16	Prof. Praveen S. Atigre	8-day Face-to-Face UHV-II FDP	JSPM's Rajarshi Shahu College of Engineering, Pune
17		Inculcating Universal Human Values in Technical Education	All India Council for Technical Education (AICTE)
18	Prof. Amol S. Katkar	Curriculum Development aligned with NEP 2020	National Institute of Technical Teachers Training and Research, Chandigarh
19		Employing Industrial Quality Management Systems for Quality Assurance in Outcome-Based Education (OBE)-2024	College of Engineering, Pandharpur
20	Prof. Vikas D. Thorat	Recent Trends in Mechanical Engineering	Sanjay Bhokare Group of Institutes Miraj
21		Outcome Based Education and Application of Generative AI in Teaching and Research	Sri Padmavati Mahila Visvavidyalayam, Tirupati

- These programs enable our faculty to integrate advanced knowledge into teaching, mentor students effectively, and contribute to research and innovation.
- We encourage our faculty to keep learning, innovating, and leading the way in engineering excellence!



Research & Publications: Advancing Mechanical Engineering

At the **Department of Mechanical Engineering, SETI** our faculty members are actively engaged in **research, innovative studies, and impactful publications** that contribute to the advancement of mechanical engineering.

✚ **Dr. G. C. Koli & Dr. A. A. Katkar** authored the **book** "The Future of Solar Power", published by Scientific International Publishing House. This book explores the latest advancements, sustainability challenges, and future prospects in solar energy technology.

✚ **Dr. G. C. Koli** co-authored a **book chapter** titled "Emerging Nanomaterials for Advanced Technologies," published by the prestigious Taylor & Francis Publication, shedding light on cutting-edge nanomaterial applications in engineering and technology.

✚ **Dr. V. V. Vanmore** co-authored a **book chapter** titled "Machining of Titanium Alloys by Using Micro Abrasive Jet Machine: An Experimental Investigation," published by Routledge Taylor & Francis Group, CRC Press. This research provides valuable insights into precision machining techniques for high-performance materials.

✚ **Dr. V. V. Vanmore** successfully registered a **design patent** for an innovative "Micro Abrasive Jet Machine," contributing to advancements in precision machining and microfabrication techniques.

- ✚ **Prof. Rahul Uday Urunkar** has published a **high-impact research paper** titled "Performance Analysis of Sodium Alanate Hydride Reactor with Different Nanofluids" in the International Journal of Hydrogen Energy—one of the most prestigious and leading journals in the field of Hydrogen Energy.

This SCOPUS & SCI-indexed journal, published by Elsevier (ScienceDirect), is globally recognized for its contributions to hydrogen research and sustainable energy advancements.

- ✚ **Prof. Rahul Uday Urunkar** has contributed to the global research community by serving as a **Reviewer** for the prestigious International Journal of Applied Power Engineering (Scopus Indexed).

- ✚ **Prof. Rahul Uday Urunkar** has made a significant academic contribution by serving as a **Book Editor** for the esteemed publication "Futuristic Trends in Renewable & Sustainable Energy", published by IIP Series (Iterative International Publisher).

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- ✚ **Prof. D. V. Patil** presented a **poster at International Conference IC-NACMBM-2024**. Poster title- Chemical synthesis of SnO₂ nanoparticles for corrosion protection of 304 austenitic stainless steel.

- ✚ **Prof. D. V. Patil** has co-authored a **book chapter** titled "Thin Film Metal Oxide Nanocomposite: Synthesis to Innovative Applications via Chemical Route," published by Bentham Science Publishers. Explores advanced synthesis techniques for thin-film metal oxide nanocomposites.

These pioneering contributions not only enhance academic knowledge but also drive industry advancements, provide students with research exposure, and position our department at the forefront of engineering innovation.

Faculty Achievements & Professional Development

Our faculty members are continuously engaged in academic growth, skill enhancement, and industry collaborations. Here are some of their recent accomplishments:

❖ Academic Achievements

✚ **Prof. Rahul Uday Urunkar** successfully completed his Ph.D. from Shivaji University, Kolhapur, marking a significant milestone in his academic journey.



Honoring Prof. Rahul Urunkar on the successful completion of his Ph.D.



✚ **Prof. Sardar B. Deshmukh** has registered for a Ph.D. at Shivaji University, Kolhapur.

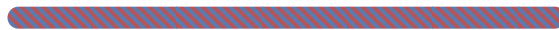
❖ Faculty Certifications

✚ **Dr. Vinayak H. Deokar** successfully completed the NPTEL course on Non-Conventional Energy Resources.

✚ **Prof. Sardar B. Deshmukh** completed an NPTEL course on IC Engines & Gas Turbines, enhancing his expertise in automotive and thermal sciences.

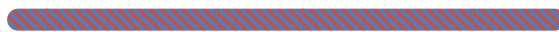
✚ **Prof. Praveen Shivaji Atigre** completed an NPTEL course on Inspection and Quality Control in Manufacturing, strengthening his knowledge in precision engineering.

✚ **Prof. Vikas D. Thorat** completed a Crash Course on Automotive Industrial Engineering from COURSERA and GCC-TBC English 30 certification from Maharashtra State Council of Examination, Pune.



❖ Industry Collaborations & MoUs

Prof. Praveen S. Atigre facilitated industry-academic partnerships by signing MoUs with Technomac Industries, Shirol MIDC, and Satyajeet Mechanisms, Gokul Shirgaon MIDC, Kolhapur.



❖ Academic Contributions & Knowledge Sharing

✚ **Dr. Vinayak H. Deokar** contributed to M.Tech Design Engineering syllabus setting for Dr. Babasaheb Ambedkar Technological University, Lonere.

✚ **Dr. Vinod V. Vanmore** delivered an Expert Lecture on Micro Abrasive Jet Machining as part of the Manufacturing Processes-II course at Walchand College of Engineering, Sangli.

Student Development Programs

To enhance students' industry readiness and bridge the gap between academic curriculum and real-world industry requirements, the Department of Mechanical Engineering has initiated Student Development Programs (SDPs).

These programs equip students with essential technical skills, preparing them for future challenges in engineering and manufacturing.

✚ **Prof. A. N. Naik** conducted a SDP Introduction to Fusion 360 for Mechanical Engineering students from August 2023 to December 2023, offering hands-on experience in 3D modeling and design software used in modern engineering applications.

✚ **Prof. S. B. Deshmukh** led an SDP on Alternative Fuels for Final-Year students from March 2024 to May 2024, providing insights into sustainable energy sources and future fuel technologies.

✚ **Prof. V. D. Thorat** conducted an Advanced Excel Crash Course for Third-Year students from February 2024 to May 2024, strengthening their data analysis and engineering computation skills.

These SDPs ensure that students gain practical skills and stay updated with industry trends, preparing them for a successful engineering career.

Apart from this our four students have successfully completed the **NPTEL course** on "**IC Engines and Gas Turbines**" during January – April 2024.

Certified Students: Niranjay Jaywant Jadhav, Pranali Balasaheb Kumbhar,

Sunil Bhagawan Sawant and Siddhesh Sunil Shinde.

Parikramma 2K24: A Grand Technical Fest!



This year, the Department of Mechanical Engineering, in collaboration with the Department of Computer Science & Engineering, proudly hosted the Annual Technical Fest –

Parikramma 2K24.

Prof. Rahul Urunkar from Mechanical Department works as co-ordinator for this fest.



Project Competition
Inauguration



Project Evaluation
by Judges



Parikramaa 2k24
Core Team

A Platform for Innovation & Excellence!

Parikramaa 2K24 brought together budding engineers, innovators, and tech enthusiasts to showcase their skills, creativity, and problem-solving abilities through various technical competitions.

Industrial Visit: Bridging Academia & Industry

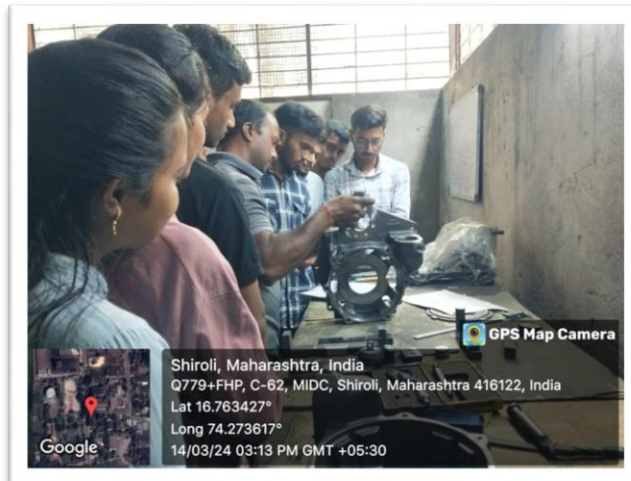
The Department of Mechanical Engineering strongly believes in experiential learning and regularly organizes industrial visits to expose students to real-world engineering applications, modern manufacturing processes, and industry best practices.



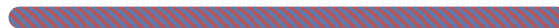
Technomac Industries,
Shiroli MIDC, Kolhapur



Safal Industries, Shiroli
MIDC, Kolhapur



Mayura Steels, Shirolī
MIDC, Kolhapur



Faculty visit to
Industry for
collaboration

Holistic Development Beyond Academics

At the Department of Mechanical Engineering, we believe in the all-round development of our students by encouraging participation in co-curricular and extracurricular activities.

Alongside academic excellence, our students actively engage in various events that nurture their leadership, teamwork, and social responsibility.

Such activities play a vital role in shaping well-rounded professionals who not only excel in engineering but also contribute to society.

- ❖ **Sports:** Our students showcase their athletic spirit by participating in inter-college and university-level sports competitions, excelling in events like football, kabbadi, volleyball, cricket, athletics, chess, carom, box football and more.



Zonal Football
– Winner



Team Member - Mr. Kiran Patil
Student of Mechanical Engg.



**Zonal Kabbadi
– Winner**



**Team Member - Miss. Amruta Patil
Student of Mechanical Engg.**

❖ **Cultural Events:** Students enthusiastically take part in annual cultural gatherings, technical fests, and talent showcases, promoting creativity and artistic expression.





❖ **NSS & Social Initiatives:**

✓ **Blood Donation Camps – A Noble Initiative**

On the occasion of the birthday celebration of our beloved **Chairman, Mr. P. R. Bhosale Sir**, a Blood Donation Camp was organized on March 13, 2024.

This initiative aimed to promote the spirit of community service and social responsibility among students and faculty members. A large number of donors enthusiastically participated in this noble cause, contributing to saving lives and supporting healthcare needs.



- ✓ **Tree Plantation Drives** – Contributing to environmental sustainability.



- ✓ **Forest Conservation Activities** – Promoting ecological balance and awareness.



- ✓ **Meri Mati Mera Desh Campaign** – Honoring the rich heritage and culture of our nation.



- ✓ **Community Service Projects** – Engaging in rural development and awareness programs.



❖ **Academic & Inspirational Celebrations –**

- ✓ **Engineers' Day Celebration** – Honoring engineering excellence and innovation.





- ✓ **Reading Inspiration Day** – Encouraging knowledge-sharing and literary awareness



- ✓ **Voting Awareness Campaigns** to promote civic responsibility among youth.



Alumni News

The Department of Mechanical Engineering takes pride in maintaining strong connections with its alumni, who continue to achieve remarkable success in various industries, research, and entrepreneurship.

Their visits and contributions serve as a source of inspiration for our students, bridging the gap between academia and industry.



Alumni Meet
at Pune



Alumni visit &
Guest Lecture

Alumni Progress

हर्षवर्धन जाधव यांची ऑस्टीन मारटीन कंपनीमध्ये अभियंतापदी निवड

सरबडे : कासारवाडा पाटणकर (ता.राधानगरी) येथील हर्षवर्धन धनंजय जाधव यांची इंग्लंड येथील ऑस्टीन मारटीन या १९९ वर्ष जुन्या असलेल्या रेसिंग कार बनवण्याच्या कंपनीमध्ये हॉटलाईन इंजिनियर म्हणून नियुक्ती झाली आहे. हर्षवर्धन जाधव यांनी गतवर्षी इंग्लंड येथील लिस्टन युनिव्हर्सिटी मधून मास्टर ऑफ एंडव्हान्स मेकॅनिकल इंजिनिअरिंग पूर्ण केले. त्यानंतर या कंपनीमध्ये



नियुक्ती झाली आहे. त्यांना भारतीय चलनानुसार वार्षिक ४९ लाख रुपये वेतन मिळणार आहे. त्याने संजीवनी इंजिनिअरिंग कॉलेजमधून मेकॅनिकल इंजिनियर ही पदवी प्राप्त केली. महालक्ष्मी अकॅडमी येथील प्रा. अमय केळकर यांचे सहकार्य लाभले. हर्षवर्धन हा राजकुमार जाधव व कृषी विभागाचे लेखाधिकारी धनंजय जाधव यांचे चिरंजीव आहेत.



"Engineering Excellence: The Road Ahead!"

As we conclude this edition of **Gear-Up**, we reflect on the limitless possibilities that lie ahead. **Mechanical Engineering** is constantly evolving, and it is the passion, creativity, and dedication of engineers like you that drive this evolution.

Let's continue to **innovate, collaborate, and push the boundaries of technology**. Stay connected with us for more updates, discussions, and opportunities.

Keep designing, keep building, and keep inspiring!

Stay tuned for our next issue!

**Department of Mechanical Engineering
Sanjeevan Engineering & Technology Institute
Panhala**

Be a part of the driving force behind
tomorrow's technology!

An engineer sees a problem not as an
obstacle, but as a challenge to be
solved

The beauty of Mechanical Engineering is that
it transforms dreams into reality

SANJEEVAN ENGINEERING & TECHNOLOGY INSTITUTE, PANHALA

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