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TULSIRAMJI GAIKWAD-PATIL
College of Engineering & Technology

(Approved by AICTE, New Delhi and Govt. of Maharashtra & Affiliated to MSBTE, Mumbai)



POLYTECHNIC

“YANTRIK”

DEPARTMENT OF MECHANICAL NEWSLETTER

2024-2025

ODD SEMESTER

OUTCOME BASED EDUCATION



GAIKWAD-PATIL
GROUP OF INSTITUTIONS

YOUR DREAM IS OUR MISSION

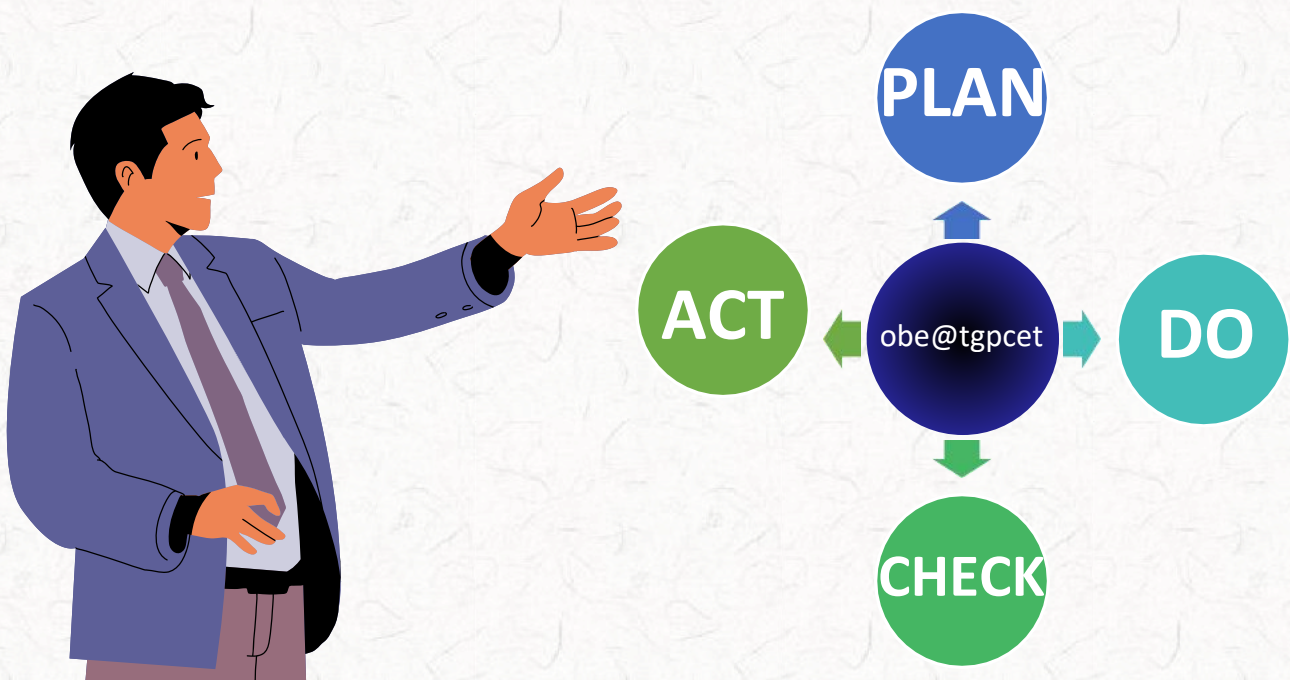
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"Design. Develop. Deliver The OBE Way!"

Shaping Learning with Purpose An OBE-Based Approach

This newsletter embraces the **Outcome-Based Education (OBE) framework**, highlighting the **Action, Do, Act** theme as a pathway to effective learning. In OBE, the first stage, **Action**, emphasizes setting clear goals and defining the outcomes that students are expected to achieve, ensuring every learning activity has direction and purpose. The second stage, **Do**, focuses on actively implementing these plans through hands-on projects, practical exercises, and collaborative experiences, allowing students to connect theory with real-world application. The final stage, **Act**, is about reflection, assessment, and continuous improvement, where students evaluate their performance, gather feedback, and refine their strategies to achieve better results. Integrating **Action, Do, Act** into education and even in newsletter content not only reinforces the principles of OBE but also inspires readers to approach learning in a goal-oriented, practical, and reflective manner. This framework enhances clarity, engagement, and measurable outcomes, making learning more meaningful, impact, and aligned with real-world skills.



Vision that Inspires, Mission that Empowers"

Vision of Institute

To emerge as a learning Center of Excellence in the
National Ethos in Diploma in Engineering.

Mission of Institute

M1: To elevate the standards of students through ethical practices.

M1: To elevate the standards of students through ethical practices.

M3: To ascertain holistic development of the students and staff members by inculcating knowledge and profession as work practices.

Vision that Inspires, Mission that Empowers"

VISION OF DEPARTMENT

To be a premier center for producing competent Mechanical Engineers to cater the ever-changing industrial demands and societal needs.

Mission of Department

M1. To provide a better environment to the students and faculty members, creating an ambience conducive for excellence in Mechanical Engineering education.

M2. To strengthen industry-institute interaction to meet the challenges of industry and society.

M3. To impart quality technical education to inculcate moral values, professional ethics, and entrepreneurial qualities.

The Pillar of Innovation

About TGPCET

Tulsiramji Gaikwad Patil College of Engineering and Technology (TGPCET) second shift Polytechnic was established in the year 2013 by VidarbhaBahu-uddeshiya Shikshan Sanstha(VBSS), a registered society. It is self- financed Private Polytechnic, which is affiliated to Maharashtra State Board of Technical Education (MSBTE).Mumbai and is approved by All India Council for Technical Education, New Delhi.

ABOUT DEPARTMENT

*“The Dynamic Realm of Mechanical Engineering:
Where Innovation Meets Precision”*

The Department of Mechanical Engineering stands as a cornerstone of technological evolution — a discipline that merges creativity with scientific rigor to shape the machinery of modern civilization. Often referred to as the “mother branch” of engineering, Mechanical Engineering transcends traditional boundaries, empowering students to design, analyze, and innovate systems that define human progress.

From Foundation to Specialization:

Programme Educational Objectives

PEO1: Provide socially responsible, environment friendly solution to mechanical engineering related broad-base problem adopting professional ethics.

PEO 2: Adapt state of the art, mechanical engineering broad-based technologies to work in multi-disciplinary work environment.

PEO 3: Solve broad-based problems individually and as team member communicating effectively in the world of work.

Programme Specific Outcomes

PSO 1: Modern Software Usage: Use latest mechanical related software for simple design, drafting, manufacturing, maintenance and documentation of mechanical components and processes.

PSO 2: Maintenance and selection of machines, equipment, instruments: Maintain and select appropriate machine, equipment and instrument in field of Mechanical Engineering.

PSO 3: Manage Mechanical Process: Manage the mechanical process by selection and scheduling right type of machinery, equipment, substrates, quality control techniques, operational parameters and software for a particular mechanical process or job for economy of operations.

From Foundation to Specialization:

Programme Outcome

- **Basic and Discipline specific knowledge:** Apply the knowledge of basic mathematics, science, engineering fundamentals, and an engineering specialization to solve the engineering problems.
- **Problem analysis:** Identify and analysis well-defined engineering problems using codified standard methods.
- **Design/ development of solutions:** Design solution for well-defined technical problems and assist with the design of system components or processes to meet specified needs.
- **Engineering tools, experimentation and testing:** Apply modern engineering tools and appropriate technique to conduct standard tests and measurements.
- **Engineering practices for society, sustainability and environment:** Apply appropriate technology in context of society, sustainability, environment and ethical practices.
- **Project Management:** Use engineering management principles individually, as a team member or a leader to manage project effectively communicate about well defined engineering activities.
- **Life-long Learning:** Ability to analysis individual needs and engage in updating in the context of technological changes.

A Vision in Motion

Message from the DEAN



Dr. Aasif Baig

Dean Polytechnic

Warm greetings to all readers, faculty members, and aspiring engineers!

It gives me great pleasure to present this edition of our **Automotive Engineering Newsletter**, published by the **Department of Mechanical Engineering**, centered on the theme **“Sustainable Mobility and Smart Mechanics: Driving the Future of Automotive Engineering.”** This theme reflects our collective vision of shaping a future where technology, sustainability, and innovation come together to redefine the world of mobility. The automotive industry today is witnessing a historic transformation. The global shift toward **electric vehicles, intelligent systems, and sustainable technologies** has opened new avenues for mechanical engineers to lead with creativity and responsibility. From developing **energy-efficient power- trains** to integrating **AI-based automation**, mechanical engineering continues to form the backbone of every innovation in the automotive sector.

Our department has always encouraged students to align their learning with emerging trends. Through research projects, industry collaborations, and hands-on technical training, we ensure that our students gain the skills and vision necessary to become global engineers of the future. The integration of Outcome-Based Education (OBE) further strengthens our commitment to providing quality education that leads to measurable, real-world outcomes.

This newsletter captures the spirit of progress within our department showcasing achievements, innovations, and initiatives that embody the theme of sustainable mobility and smart mechanics. It is a reflection of our continuous effort to promote academic excellence, professional growth, and responsible engineering.

As we move forward, I urge our students and faculty to continue embracing innovation and sustainability as guiding principles. Together, let us engineer intelligent mobility solutions that not only drive the industry forward but also protect and preserve our planet for generations to come.

MESSAGE : *“Engineering the Future — Driving Innovation, Powering Sustainability.”*

Leading the Drive

Words from The HoD



Dr. Niteen Kakde

HoD, Mechanical Department

Warm greetings to all readers, faculty members, and budding engineers!

It gives me immense pleasure to present this edition of our **Automotive Engineering Newsletter**, published by the Department of Mechanical Engineering, based on the theme “**Sustainable Mobility and Smart Mechanics: Driving the Future of Automotive Engineering**”. This theme holds a special place in my heart, as my recent academic journey abroad gave me a new perspective one that made me rethink how India can adopt and accelerate its path toward sustainable and intelligent mobility solutions. Across the globe, nations are rapidly embracing green mobility, electric vehicles (EVs), automation, and smart manufacturing systems. Witnessing these transformations abroad reinforced my belief that India has immense potential to lead in the field of sustainable automotive innovation if we combine our engineering expertise with futuristic vision.

Our department has always strive to cultivate this vision among students. Through Outcome-Based Education (OBE), hands-on learning, and research-driven initiatives, we aim to empower young engineers to think critically, design creatively, and innovate sustainably. Every project, workshop, and seminar conducted under this theme encourages students to explore the intersection of mechanics, automation, and environmental responsibility.

This newsletter reflects the collective effort of our students and faculty, highlighting achievements, ideas, and innovations that define the essence of future mobility. It also serves as a reminder that the world of automotive engineering is not just about machines it's about creating a smarter, cleaner, and better future for humanity. As we continue this journey, I encourage every student to dream beyond limits, to innovate with purpose, and to take pride in engineering solutions that drive India toward global leadership in sustainable mobility.

MESSAGE : *“From Vision to Innovation , Engineering India’s Sustainable Future.”*

Editorial Board



Dr. Niteen Kakade
Editorial Chief

Faculty Co-ordinator



MR. KUNAL KUMAR SINGH



MR. YOGESH RAMTEKE

Student Co-ordinator



MR. JATIN HATGHARE



MR. UMESH BOPACHE



MS. YAMINI YELNE

Personality Development: A Step Toward Professional Excellence

Questionnaire

FAQ 1. Why Personality Development is required in government sector as well as IT Sector?

FAQ 2. What is Personality Development?

FAQ 3. When we conduct session of personality development?

FAQ 4. How we build up our confidence?

Students Entails Collection



Dr. Niteen Kakade
Editorial Chief

Personality development sessions play a vital role as

They students for both professional and personal success. These sessions help students understand their strengths and weaknesses, build self-confidence, and develop effective communication and leadership skills. By participating in such sessions, students learn how to present themselves confidently during interviews, group discussions, and workplace interactions. Moreover, personality sessions encourage teamwork, positive thinking, emotional intelligence, and adaptability qualities that are essential in today's competitive world. They also help in reducing stage fear, improving body language, and promoting self-discipline. Conducting personality development sessions in college ensures that students are not only academically strong but also possess the interpersonal and social skills needed to excel in their careers and become well-rounded individuals.



MR. KUNAL KUMAR SINGH

Personality development is an essential aspect of an individual's growth and success.

It helps in shaping one's character, behavior, attitude, and communication skills, which play a vital role in personal and professional life. Through personality development, individuals gain self-confidence, learn to express themselves effectively, and develop a positive outlook toward challenges. It enhances emotional intelligence, allowing people to understand and manage their emotions as well as empathize with others. In today's competitive world, academic excellence alone is not sufficient — employers and society value individuals who demonstrate leadership, adaptability, and strong interpersonal skills. Hence, personality development not only refines one's overall appearance and attitude but also fosters discipline, self-motivation, and continuous self-improvement, leading to holistic growth and long-term success.

From Teaching to Transformation The OBE Way of Learning

Personality Development Session Organize by Department

Title: “Career Opportunity in Govt. Sector”

27th September 2025

The Department of Mechanical Engineering has organized a Personality Development lecture on “*Career Opportunity in Govt. Sector*” on **September 27, 2024**. The session was delivered by **Mr. Sumedh Jaiswal**, Branch Head, **Dnyanjyoti Education, Nagpur**. The lecture aimed to provide students with insights into various government career options, eligibility criteria, and preparation strategies. Mr. Sumedh Jaiswal delivered an informative and motivational session, highlighting the scope of government jobs in various departments such as banking, railways, defence, and civil services. This lecture aims to provide students with comprehensive insights into the wide range of career opportunities available in the government sector. It covers various government departments, public services, and organizations where stable and prestigious jobs are offered, such as civil services, banking, defence, railways, public sector units, and more. The session highlights the eligibility criteria, selection processes, and preparation strategies needed to succeed in government job exams.

The department expresses sincere thanks to **Mr. Sumedh Jaiswal** for sharing his expertise and insights. Special appreciation is extended to **Mr. Rajat Gajbhiye**, Program Coordinator, for organizing the session effectively.

Glimpses



PD Session Reflections

Exploring careers in the government sector has always been a topic of great interest among students, and recent feedback from our students highlights their enthusiasm and insights. Many students expressed that government jobs offer stability, opportunities for public service, and a chance to make a meaningful impact on society. They appreciated learning about various career paths, including administrative services, public sector roles, and specialized government programs. Several students noted that the guidance provided during the session helped them understand the skills, preparation strategies, and dedication required to succeed in these careers. Overall, the feedback reflects a growing awareness and motivation among students to pursue careers that contribute not only to personal growth but also to the development of the nation.

"Your Voice, Our Growth"

The recent personality development session was extremely helpful and insightful for me. I learned practical skills such as effective communication, time management, and building self-confidence, which, I believe will benefit me both academically and professionally.

- Sahil Raghunath Khandagale
Enrollment no-24318000626

The interactive activities and discussions helped me understand my strengths and areas for improvement, while also motivating me to set personal goals. Overall, the session has given me a clearer perspective on personal growth and encouraged me to adopt positive habits that will enhance my overall personality.

-Nagaswaroop Subbarayadu Poturi
Enrollment no- 24318000582

"Your Voice, Our Growth"

Outcome-Based Education has completely changed the way I look at learning. Earlier, I focused only on completing the syllabus and securing marks. But now, through the OBE approach, I understand the importance of achieving specific outcomes like applying concepts, analyzing problems, and designing real-world solutions. Activities such as mini-projects and case studies helped me connect theory with practice. I have and teamwork skills, and I now take responsibility for my own learning. OBE made me realize that education is not about remembering facts but about building lifelong skills.

-Akhil Falkan Kujur
Enrollment no- 23318000583

The OBE framework has encouraged me to become an active learner rather than a passive listener. Through outcome mapping, I could clearly see how each subject contributes to my overall professional growth. My teachers guided us using rubrics and feedback, which helped me identify my strengths and areas to improve. Participating in technical events and projects made me confident about solving real engineering problems. This approach helped me think critically, work effectively in teams, and understand how every learning outcome shapes my career readiness.

- Gurav Radhyeshyam Madan
Enrollment no- 23318000589

Awareness Today, Change Tomorrow

Mechanical Engineering: A Field Poised for Future Growth

Mechanical Engineering has long been regarded as the cornerstone of technological innovation, bridging the realms of theory, design, and practical application. Today, as industries rapidly evolve through automation, artificial intelligence, and sustainable technologies, the scope of Mechanical Engineering is not only enduring but expanding. Educational frameworks like Outcome-Based Education (OBE) are equipping students with practical skills and competencies aligned with industrial requirements, ensuring that graduates are not only knowledgeable but also employable and adaptable. Skills in computational modeling, simulation, additive manufacturing, and mechatronics are opening doors to careers in high-tech fields previously considered niche. Globalization and technological convergence are driving cross-disciplinary opportunities. Mechanical engineers today collaborate closely with software engineers, material scientists, and automation specialists, expanding their role beyond conventional machinery and manufacturing to areas like biomedical devices, aerospace, and smart infrastructure. In conclusion, the trajectory of Mechanical Engineering is clearly on the rise. As technology evolves and industries demand innovation, mechanical engineers remain at the forefront of progress. With the right skill-set, practical exposure, and adaptability, graduates in this field can look forward to a future rich with opportunities, challenges, and the satisfaction of shaping the world.

MECHANICAL ENGINEERING: A FIELD POISED FOR FUTURE GROWTH



Journey from Learner to Creator

Title: The Song of Engineering

From sparks of thought to structures tall, Engineering shapes the world for all. Machines that hum, bridges that soar, Dreams take form, and ideas explore. With gears that turn and engines that fly, We reach for stars beyond the sky. Blueprints drawn with careful hand, Transforming earth, sea, and land. Strength in steel, wisdom in design, Precision and math in perfect line. From circuits small to rockets grand, Engineers craft with heart and hand. Problem meets solution, challenge greets skill, Innovation flows with iron will. For every bolt and beam that's true, The world grows better, thanks to you.

AKHIL FALKAN KUJUR
Enrollment no- 23318000583



Created By
AUDI R8 3D Model

SAHIL RAGHUNATH KHANDAGALE

Enrollment no-24318000626

SPECIFICATIONS	
Geometry	
Polygons	0
Vertices	0
Textures	Yes •
Materials	Yes •
Rigged	No •
Animated	No •
3D Printable Ready	No •
Game Ready (low poly)	No •
UV Mapped	Yes •
Unwrapped UVs	Overlapping
FORMATS & FILES	
 Collada, Blender, FBX (.dae, .blend, .fbx) gw4c6lw7or28-AudiR8.rar	
TAGS	
audi r8 sport car vehicles	

OUR OUTSTANDING PERFORMERS

First Year, Even Semester



**NAGASWAROOP
SUBBARAYUDU POTURI**

Enrollment no: 24318000582
Percentage: 76.67%



**SAHIL RAGHUNATH
KHANDAGALE**

Enrollment no: 24318000626
Percentage: 69.33%

Second Year, Even Semester



**AKHIL FALKAN
KUJUR**

Enrollment no: 23318000583
Percentage: 82.33%



**JATIN ARJUN
HATGHARE**

Enrollment no: 23318000590
Percentage: 75.89%

Third Year, Even Semester



**UMESH MANOHARM
BOPCHE**

Enrollment no: 2216830157
Percentage: 84.11%



**HIMANSHU HARERAM
YADAV**

Enrollment no: 23318000749
Percentage: 84.44%

“EVERY SUCCESS BEGINS WITH SUPPORT - THANK YOU!”

This newsletter reflects the collective efforts and achievements of our department. We extend our gratitude to all contributors, students, and faculty members for their constant support and dedication. Let us continue to strive for excellence in every endeavor.

Together, we continue to build a future powered by knowledge, creativity, and determination. Stay inspired, stay curious, and keep engineering success!

- Editorial Team

Thank You