

MECHAZINE

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Department of Mechanical Engineering

VARDHAMAN COLLEGE OF ENGINEERING
SHAMSHABAD, HYDERABAD - 501218

Vision

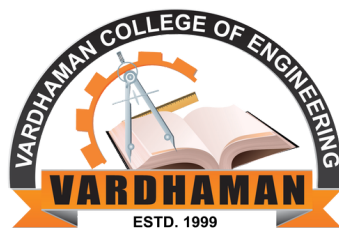
To be a pioneer institute and leader in engineering education to address societal needs through education and practice.

Mission

- To adopt innovative student centric learning methods.
- To enhance professional and entrepreneurial skills through industry institute interaction.
- To train the students to meet the dynamic needs of society.
- To promote research and continuing education.

Quality Policy

We at Vardhaman College of Engineering, endeavor to uphold excellence in all spheres by adopting the best practices in effort and effect.



VARDHAMAN COLLEGE OF ENGINEERING

SHAMSHABAD, HYDERABAD - 501218

Department of Mechanical Engineering

DEPARTMENT OF MECHANICAL ENGINEERING

Our Vision

To be a premier center for producing competent mechanical engineers to cater the ever changing industrial demands and societal needs.

Our Mission

To impart knowledge and skills in basic and applied areas of Mechanical Engineering through innovative learner-centric approach.

To associate with industries and research organizations for gaining real-time practical knowledge.

To facilitate continuous learning based on the dynamic needs of the society.

Program Educational Objectives (PEOs):

PEO1: Graduates make their way to the society with proper scientific and technical knowledge to identify, formulate and solve Mechanical Engineering problems.

PEO2: Graduates adapt to a rapidly changing environment in the areas of Mechanical Engineering and explore a possible profession in industry, academic, research and self-employment opportunities.

PEO3: Graduates excel in a career by their team-working ability and communicate effectively to complete the task with minimal resources.

PEO4: Graduates commit to professional and ethical practices encouraging diversity, continuous improvement, and lifelong learning.

Program Specific Outcomes (PSO's):

PSO1: Demonstrate knowledge in the area of design, analysis and fabrication of mechanical systems.

PSO2: Apply learned concepts and management skills to associate professionally in industry or as an entrepreneur.

CHAIRMAN'S MESSAGE

In today's era of technological transformation, institutions of higher learning must become more than just centers of instruction—they must emerge as ecosystems of thought, innovation, and societal relevance. It is in this spirit that I appreciate the efforts of the Department of Mechanical Engineering in curating MECHAZINE.

At Vardhaman College of Engineering, we have always envisioned education as a transformative journey. We believe in cultivating environments where knowledge is not just disseminated but discovered—where the classroom extends into labs, startups, communities, and beyond.

A department magazine is an intellectual footprint. It documents the evolution of minds, the trajectory of research, and the voices of students shaping their academic and professional journeys. It stands as a living archive of the department's contribution to engineering thought and practice.

To the faculty and students of Mechanical Engineering—your work is valued, your curiosity admired, and your contributions deeply respected. Let this publication not only record what has been done, but inspire what is yet to come.



DR T VIJENDAR REDDY
CHAIRMAN

PRINCIPAL'S MESSAGE

It gives me immense pride and pleasure to present this edition of MECHAZINE, the annual magazine of the Department of Mechanical Engineering at Vardhaman College of Engineering. This publication is more than a chronicle of departmental events—it is a vibrant canvas of ideas, innovation, and intellectual engagement, reflecting the collective journey of our students and faculty over the academic year 2024–25.

Mechanical Engineering continues to be the cornerstone of technological advancement. As the world embraces Industry 4.0, sustainable energy solutions, automation, and interdisciplinary design thinking, the role of mechanical engineers is more critical than ever. Our department has consistently risen to meet these challenges, instilling in students the technical acumen, ethical grounding, and creative problem-solving skills needed to thrive in a dynamically evolving landscape.

At Vardhaman, we believe in preparing students not just for careers, but for leadership in a complex and interconnected world. The Department of Mechanical Engineering, through its integrated approach to academic excellence, research initiatives, industry collaboration, and community engagement, exemplifies this vision.

DR J V R RAVEENDRA
PRINCIPAL



HOD'S MESSAGE

It is with great pride and enthusiasm that I pen this message for MECHAZINE 2024–25, the annual magazine of the Department of Mechanical Engineering. This edition is a mirror reflecting the collective intellect, creativity, and aspirations of our students and faculty. It embodies the spirit of engineering innovation, academic rigor, and a shared commitment to nation-building through technological excellence.

Mechanical engineering has always been at the heart of progress—from the earliest industrial revolutions to today's breakthroughs in automation, renewable energy, electric mobility, and smart manufacturing. At Vardhaman College of Engineering, our department continues to evolve by embracing these emerging paradigms while staying rooted in core engineering principles.

We have also made significant strides in integrating sustainability and digital tools into our curriculum, aligning with national missions such as Make in India, Skill India, and the Sustainable Development Goals (SDGs). Our faculty members continue to serve as mentors, researchers, and lifelong learners—constantly redefining pedagogy, content, and care.

What makes our department unique is not just our infrastructure or our accolades, but our culture—a culture that encourages questioning over conformity, action over apathy, and collaboration over competition. It is here that we nurture not just engineers, but thinkers, doers, and leaders of tomorrow.



DR P VENKATESHWAR REDDY
HOD, MECH

EDITOR'S MESSAGE

MECHAZINE stands as a reflection of the vibrant, multi-dimensional character of our department. This edition is not merely a compilation of academic milestones—it is a celebration of expression, diversity, and the many voices that shape the mechanical engineering community at Vardhaman College of Engineering.

The magazine brings together technical articles and research features authored by both faculty and students, alongside a rich collection of creative works—poetry, short stories, essays, and art—in both Telugu and English. This blending of intellect and imagination illustrates that engineering education today is not limited to machines and materials but deeply connected with human insight, creativity, and cultural awareness.

We are also proud to include heartfelt contributions from our teaching and non-teaching staff, whose perspectives add warmth and authenticity to this issue. Special features on NSS, NCC, department events, and outreach activities further highlight the spirit of service, discipline, and community that defines our department.

As chief editor, I am grateful to each contributor who made this edition possible. Whether you are reading it for knowledge, reflection, or inspiration, I hope this magazine leaves you with a sense of pride in being part of a department that thrives on both rigor and heart.

Warm regards,

Mr. Srinivasa Reddy N

Chief Editor

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MR. K. ADITHYA

MR. K. NIKHILRAJ

MR. D. LAXMAN

Engineering a Sustainable Future: The Role of SDGs in Higher Education

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, present a shared global blueprint to address pressing challenges such as poverty, inequality, climate change, and quality education. With 17 goals and 169 indicators, the SDGs call upon all sectors—including education and engineering—to collaborate toward a more equitable, resilient, and sustainable future.

In academic institutions, particularly in engineering disciplines, the SDGs serve not just as a framework for societal contribution but as a guiding lens for innovation, teaching, research, and outreach. Whether it's designing renewable energy systems, developing sustainable materials, or engaging in community-based projects, engineers are inherently positioned to impact multiple SDGs.

At the Department of Mechanical Engineering, Vardhaman College of Engineering, various initiatives reflect these commitments:

Goal 1: No Poverty

Indicator 1.4.1: Proportion of population living in households with access to basic services. Through community service projects and affordable design innovations (e.g., low-cost tools and energy-efficient appliances), students are encouraged to develop frugal engineering solutions to uplift underprivileged communities.

Goal 3: Good Health and Well-being

Indicator 3.8.1: Coverage of essential health services. Collaborative projects such as ergonomic product designs, assistive devices, and mechanical models of biomedical devices contribute to improving healthcare access and delivery.

Goal 4: Quality Education

Indicator 4.3.1: Participation rate in technical and vocational education programs. Through hands-on projects, skill development labs, and inclusive learning, the department fosters equitable and high-quality education.

Goal 5: Gender Equality

Indicator 5.5.2: Proportion of women in managerial positions. The department promotes gender inclusion in STEM through mentorship, scholarships, and student leadership roles, encouraging more female students to participate in mechanical engineering.

Goal 6: Clean Water and Sanitation

Indicator 6.1.1: Proportion of population using safely managed drinking water services. Projects on water purification systems, pedal-operated water pumps, and rural plumbing design systems integrate engineering knowledge with SDG 6 goals.

Goal 7: Affordable and Clean Energy

Indicator 7.1.2: Proportion of population with primary reliance on clean energy. Projects focused on solar-powered systems and green energy reflect efforts in sustainable innovation.

Goal 8: Decent Work and Economic Growth

Indicator 8.6.1: Proportion of youth not in education, employment, or training. Entrepreneurship cells, internship partnerships, and industry certification programs equip students with employability skills, supporting youth economic empowerment.

Goal 9: Industry, Innovation, and Infrastructure

Indicator 9.5.1: Research and development expenditure as a proportion of GDP. Faculty and student publications, startups, and technical expos highlight a culture of applied R&D.

Goal 10: Reduced Inequalities

Indicator 10.2.1: Proportion of people living below 50% of median income. By deploying inclusive technologies for rural areas, and running rural innovation workshops, the department ensures that innovation benefits all, reducing socio-economic disparities.

Goal 11: Sustainable Cities and Communities

Indicator 11.6.1: Reduction of environmental impact in cities. Engineering solutions targeting waste reduction, efficient mobility, and community welfare align with this goal.

Goal 12: Responsible Consumption and Production

Indicator 12.5.1: National recycling rate, tons of material recycled. Fabrication workshops using recycled metals and plastics, and the adoption of circular design concepts in projects promote environmental stewardship in production.

Goal 13: Climate Action

Indicator 13.3.1: Integration of climate change measures into policies and curricula. Through awareness programs, climate-responsive design projects (like solar cookers and wind turbines), and carbon footprint auditing, the department aligns academic initiatives with climate action.

Goal 14: Life Below Water

Indicator 14.1.1: Index of coastal eutrophication and floating plastic debris density. While not coastal-based, the department contributes through awareness drives, modeling water flow systems to prevent runoff pollution, and innovation challenges on marine waste management.

Goal 15: Life on Land

Indicator 15.3.1: Proportion of land that is degraded over total land area. By promoting agro-tech innovations such as soil tilling equipment and irrigation support tools, mechanical engineering projects contribute to sustainable land management.

Goal 16: Peace, Justice and Strong Institutions

Indicator 16.7.1: Proportions of positions in institutions by age, sex, disability. Democratic student bodies, grievance redressal cells, and anti-ragging initiatives foster a safe, inclusive, and fair institutional environment.

Dr B Venkatesh
Professor, Mech

CYBERCRIMES

Traps, Tricks & How to Stay Safe – A Wake-Up Call for the Digital Generation

“The internet gave us speed, but not safety. It gave us connection, but not caution.”

In the ever-connected digital world, where we shop, learn, share, and socialize online, a silent enemy lurks—cybercrime. Once limited to hacking and data theft, it has now grown into a multi-headed menace, affecting individuals, students, businesses, and even governments.

Let’s break down what cybercrimes really are, how people are getting trapped, and most importantly, how you can stay safe in this digital jungle.

⚠️ What is Cyber Crime?

Cybercrime refers to any illegal activity involving a computer, network, or digital device. [These crimes can](#)

- Steal your money
- Leak your private photos or data
- Track your activity
- Use your identity to scam others

[Some common types include:](#)

- Phishing – Fake emails/messages asking for passwords or OTPs
- Online Frauds – Scams via fake websites or job offers
- Cyberbullying – Online harassment or blackmail
- Identity Theft – Using your name or data to commit crimes
- Hacking & Ransomware – Stealing data and demanding ransom

How Do People Get Trapped?

“It only takes one click to be tricked.”

Here’s how cyber criminals bait their victims:

1. Emotional Traps

Messages like: “You’ve won ₹1,00,000!”

“Your bank account will be frozen unless...”

These play with fear or excitement, pushing users to click suspicious links.

2. Fake Job or Love Offers

Many students fall for fake job interview calls, internship scams, or "romance" profiles on social media that lead to blackmail.

3. Free Wi-Fi or Apps

Public Wi-Fi may look harmless, but cyber criminals can use it to steal your data.

Unverified apps or games can install spyware on your phone.

4. Social Media Oversharing

Posting phone numbers, locations, or personal photos can invite misuse or stalking.

● How to Stay Safe: Your Cyber Toolkit

- ✓ Think Before You Click – Don't open unknown links or attachments, even if sent by friends.
- ✓ Use Strong Passwords – Never reuse the same password. Use a combination of characters and change passwords regularly.
- ✓ Enable Two-Factor Authentication (2FA) – Always add that extra layer of security.
- ✓ Be Cautious with Public Wi-Fi – Avoid online banking or sharing personal data on public networks.
- ✓ Don't Overshare – Protect your identity by limiting personal information online.
- ✓ Install Trusted Antivirus Software – Keep devices protected from malware and spyware.
- ✓ Educate Yourself & Others – Share tips with friends and family to create a safe cyber culture.

Dr S Anath
Professor, Mech

The Unseen Engine: The Journey of a Mechanical Engineer

“Machines may move the world, but it’s the mind of a mechanical engineer that makes them move.”

In every revolution — from the thundering steam engines of the Industrial Era to the whisper-quiet AI-guided robots of today — there exists an invisible, persistent force: the hands and minds of mechanical engineers.

This is not just the story of a profession. It’s a saga of human imagination, discipline, resilience, and innovation. It’s a journey of people who see the world not just as it is, but as it could be. They transform bolts into breakthroughs, see elegance in gears, and blend physics with purpose to build tomorrow’s possibilities today.

Foundations Forged in Fire

The journey of mechanical engineering began not with blueprints or CAD software but with raw fire and forged metal.

In the 18th century, engineers like James Watt changed the course of history. The steam engine, once a crude contraption, became the beating heart of the Industrial Revolution. It powered locomotives, ships, and factories. It stitched the world together through transportation and productivity. And at its core, stood the mechanical engineer — no longer just a craftsman but a visionary.

What followed was a golden era of innovation. From George Stephenson's railways to Karl Benz's internal combustion engine, the mechanical engineer became the architect of civilization. Every time society needed to leap forward, it was a mechanical engineer who drew the blueprint and tightened the bolts.

Even in the 20th century, as the world turned digital, mechanical engineers remained essential. In fact, they became the bridge between the physical and the digital — understanding how to make machines think, move, and adapt.

Not Just Machines — Movements

Fast forward to the 21st century. Mechanical engineering is no longer just about machines; it is about movements — social, technological, ecological.

We find their work in places often invisible to the public eye. In electric vehicles that hum through city streets. In wind turbines that sway against the desert winds. In surgical robots with movements so precise they could stitch a grape. In space rovers sending back photos from Martian soil.

These engineers are also behind life-changing innovations — designing low-cost ventilators during health crises, building prosthetic limbs with 3D printers, and developing sustainable energy solutions that protect the planet.

Their scope of impact today stretches across climate action, healthcare, agriculture, infrastructure, disaster management, and even arts and fashion.

Mechanical engineers are solving complex, interdisciplinary problems that don't come with standard solutions — ones that require deep thought, collaboration, and a mindset that blends engineering precision with humanitarian intent.

The Modern Engineer: Multidisciplinary and Mission-Driven

Gone are the days when mechanical engineering students learned design with just pencils and T-squares.

Today, they learn using:

- Digital twins to simulate machine performance before they're ever built
- AI algorithms to optimize product design
- Cloud-based manufacturing tools for collaborative innovation across continents
- Sustainable Design Software that factors in carbon footprint as much as structural stress

Modern engineering education emphasizes project-based learning, entrepreneurship, and social impact. At many institutions, students build working prototypes before they even graduate. They participate in hackathons, startup incubators, and global challenges aimed at addressing UN Sustainable Development Goals (SDGs).

They're not just engineers — they're changemakers.

Universities are now placing renewed focus on embedding real-world problems into curricula. Students are encouraged to:

- Develop solar-powered water purifiers for rural communities
- Build affordable farming tools to boost smallholder productivity
- Create autonomous robots for garbage segregation
- Design energy-efficient stoves to reduce indoor pollution in underprivileged areas

Each of these projects blends mechanical design with empathy, proving once again that engineering at its heart is a service profession.

The Campus Crucible

Every mechanical engineer has stories forged not just in labs and classrooms but in the crucible of campus life.

Ask any graduating student, and you'll hear tales of:

- All-nighters before design reviews
- The rush of seeing a first prototype come to life
- Teams that became families
- Mentors who became guides for life
- Workshops that smelled of grease, felt like second homes, and echoed with the clang of creation

You'll hear of failures too — of gears that didn't mesh, engines that refused to start, and 3D prints that curled up at the edges.

But those failures were never the end. They were lessons in resilience — in iteration, patience, and growth.

Students learned that engineering isn't about getting it right the first time. It's about the courage to keep trying, the discipline to go back to the drawing board, and the humility to learn from every mistake.

Dr K Deepak
Professor, Mech



K. Adhitya - 22881A0312



M. Praneetha Reddy - 24881A0315



S Megesh Chavan - 21881A0323



J Rishith Kumar - 23881A0306

MOTHER — THE FIRST ENGINEER

She built my world with gentle hands, no
 blueprint laid in sight,
 A steady force that shaped my dreams, from
 dawn till fading light.
 Like circuits flowing life through steel, her
 love connects each part,
 A timeless algorithm written deep inside my
 heart.
 Though no machine can match her touch, no
 gadget replicate,
 Her care designs the very soul, beyond what
 tech can create.
 In every challenge that I face, her strength
 remains my guide,
 The master engineer of life,
 forever by my side.

Dr K Uma Reddy
Assistant Professor, Mech

THE FARMER'S HANDS — TRUE ENGINEERS

Before machines could carve the earth,
 before engines roared,
 The farmer's hands shaped every furrow,
 his sweat the soil's reward.
 He reads the sky, the wind, the rain,
 a scientist of land,
 His heart beats with the pulse of crops,
 his wisdom finely planned.
 Though tech now aids his ancient craft with
 drones and sensors bright,
 No machine can match the love that guides his
 seed's first flight.
 In every harvest lies the truth — that nature
 and man combine,
 The farmer is the truest engineer, by earth and
 stars aligned.

L K Radhika - 22885A0311

**MACHINES — THE HEARTBEAT OF
PROGRESS**

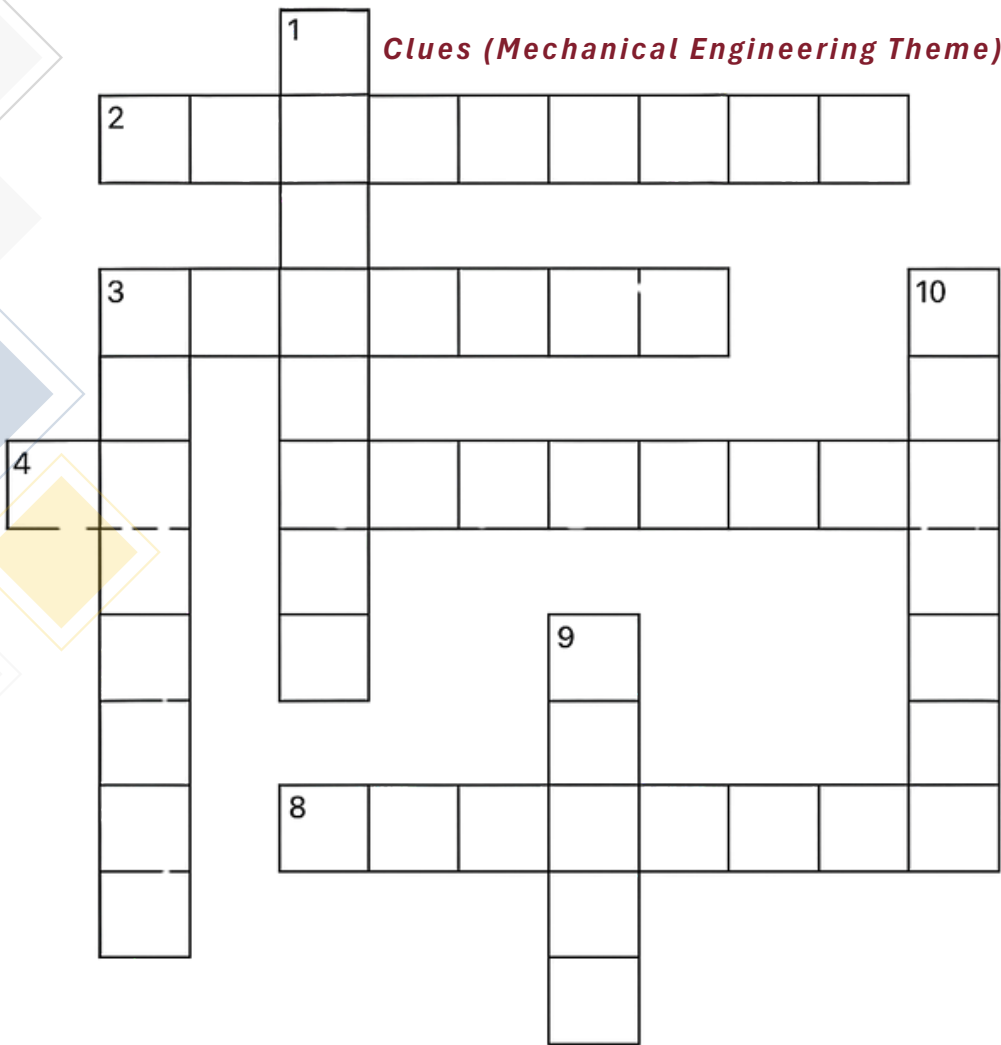
Metal muscles move and hum,
 like veins of pulsing light,
 They echo man's relentless will through day
 and darkest night.
 From gears that turn the wheels of time,
 to engines' steady roar,
 Machines extend our reach and dreams,
 forever seeking more.
 Yet in their dance of steel and steam,
 there lies a deeper art —
 The harmony of mind and hand,
 where science meets the heart.
 For every bolt and circuit laid,
 a vision lives inside,
 The heartbeat of our progress,
 where human hopes reside.

S. Anjani Sree - 23881A0321

3D PRINTING — LAYERS OF THE FUTURE

From thin threads melted into form,
 a new world takes its shape,
 No longer bound by molds or rules,
 imagination's escape.
 Layer by layer, dreams emerge,
 solid yet delicate,
 Bridging thought and matter in a dance of
 innovate.
 A chair, a heart, a tiny part —
 all born from digital art,
 Transforming how we build and heal,
 a masterpiece to start.
 In every filament, a promise whispered soft
 and clear —
 The future's built one layer at a time,
 with vision bright and near.

Dr S Navya Sree
Assistant Professor, Mech



Clues (Mechanical Engineering Theme)

- 1. TORQUE
- 2. THERMAL
- 3. ENGINE
- 4. REACTION
- 5. KELVIN
- 6. AUTOCAD
- 8. FRICTION
- 9. COUPLER
- 10. HOIST

V Nithin - 22881A0322

Horizontal Clues

- 1A: Study of heat and energy.
- 6A: Converts fuel into mechanical motion.
- 8A: Opposes motion between surfaces.
- 10A: A rotating component in a machine.

Vertical Clues

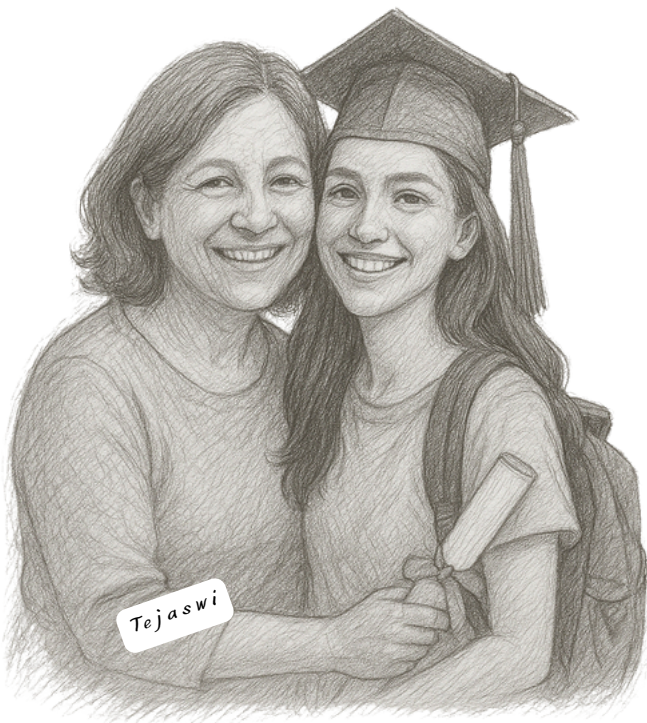
- 1A: Twisting force.
- 2B: Related to temperature.
- 3C: Autodesk CAD software.
- 4D: Discipline of designing machines.
- 9F: Symbol for universal gas constant.



M Praneetha Reddy - 24881A0315



P Rishika - 24881A0320



L Tejaswi - 21881A0312



P Rishika - 24881A0320

1. ASME – AMERICAN SOCIETY OF MECHANICAL ENGINEERS

"The Idea That Crossed Oceans"

Anika had always tinkered with gadgets at home. But in her third year, she joined ASME- Student Chapter and submitted a paper on biomimetic cooling fins to their international student competition. To her surprise, she got shortlisted—for a final round in the USA. With ASME's travel grant and mentorship, she presented her idea to experts from NASA and GE. 🌐 That one opportunity turned into a summer internship at a research lab in Texas.

💡 ASME didn't just sharpen her ideas—it amplified her voice to a global level.

Importance:

- International journals
- Student design competitions
- Global mobility (IMECE conferences, fellowships)

2. SAEINDIA – SOCIETY OF AUTOMOTIVE ENGINEERS INDIA

"The Girl Who Built a Car Before Getting a License"

When Priya joined engineering, she couldn't even start a bike. But after enrolling in SAEINDIA and joining her college's Baja Team, she learned how to design, fabricate, and test an off-road vehicle. She led the transmission subsystem and presented her work to judges from Mahindra and Tata.

After college? She landed a job at Mercedes-Benz R&D India—not because of a CGPA, but because she had already built a car from scratch.

Importance:

- Formula, Baja, Go-Kart, and Aero design events develop core mechanical and vehicle dynamics skills
- Industry exposure through mentorship and reviews from companies like Maruti, Ashok Leyland, Tata, and Bosch
- Soft skills, teamwork, and project documentation prepare students for real-world engineering challenges
- Builds hands-on experience in design simulation, manufacturing, testing, and cost analysis

3. *ISHRAE – Indian Society of Heating, Refrigeration, and Air Conditioning Engineers*

"Cooler Than the Classroom"

Rahul hated thermodynamics—until he joined ISHRAE. At his first student chapter meet, he helped install sensors in a smart classroom to track CO₂ levels and optimize airflow. It was part of an ISHRAE Smart Building Competition.

Six months later, his team presented their solution at ACREX India Expo, rubbing shoulders with real HVAC professionals. The best part? An internship at Voltas Ltd. followed.

Importance:

Skill-building in HVAC and green buildings

Industry mentorship

ACREX and student design competitions

Pathway to niche careers in environmental engineering

4. **ISTE – Indian Society for Technical Education**

"More Than Just Marks"

Sneha was an average student—good at theory, but afraid of speaking up. That changed when she joined the ISTE Student Chapter on her campus. Her first activity? Hosting a technical quiz for juniors.

Within a year, she was coordinating national-level paper presentations, attending leadership camps, and even representing her college at the ISTE Annual Student Convention. Along the way, she learned how to organize, lead, and innovate—not just in academics but in real-world scenarios.

Importance:

Fosters leadership, communication, and project management skills

Encourages technical paper writing and publishing

Connects students with interdisciplinary peers and technical educators nationwide

Boosts confidence and visibility through tech events, talks, and workshops

Mr. S. Naresh Kumar
Assistant Professor, Mech

Not Just a Member—A Movement

How Professional Society Memberships Shaped My Journey to Global Education

By J Vamshidhar Reddy – 22885A0308

Topper 2025, Mechanical Engineering | Vardhaman College of Engineering

A Journey That Started with One Step

I joined ISTE—not knowing then that this small decision would change my entire academic trajectory. What began as volunteering for a tech quiz eventually led me to anchor events, publish papers, and develop the confidence to present ideas to national audiences.

2nd Year – Building Skills with SAEINDIA

I became part of our college's SAE Baja team. We didn't just build an off-road vehicle—we built teamwork, discipline, and design thinking. I led the drivetrain subsystem, learned how to justify costs, and presented our work to professionals from Mahindra and Tata. That project became a highlight on my Statement of Purpose (SOP) for my Master's applications.

3rd Year – Impacting Sustainability with ISHRAE

In my third year, through ISHRAE, I connected with HVAC mentors, attended ACREX, and secured a summer internship at Voltas Ltd.

Understanding Standards Through ASTM Membership

Real-world engineering isn't just about making—it's about making it safe and standardized. With ASTM Student Membership, I accessed international standards for testing materials, which helped me refine my final-year project and align it with global quality benchmarks.

4th Year – Going Global with Professional Memberships

By the time I reached my final year, I was fully prepared to step onto the global academic stage and pursue higher studies. Joining international professional bodies like ASME proved to be a pivotal decision. The project I undertook—guided jointly by a professional society mentor and my faculty advisor—became a cornerstone of my academic portfolio. It not only strengthened the technical depth of my work but also added credibility to my Letter of Recommendation (LOR).

Sustainable Development Goals

4. DECENT
3. GENDER
2. RESPONSIBLE
5. INNOVATION
3. EQUALITY
1. SUSTAINABLE

P. Praneeth Babu - 22885A0313

Horizontal Clues:

- 2. Use and production pattern that is eco-friendly and efficient (Goal 12)
- 3. Ensuring equal access and opportunities for all genders (Goal 5)
- 4. Promoting employment and economic growth (Goal 8)

Vertical Clues:

- 1. Development that meets present needs without compromising future generations (Goal 13 & overall SDG principle)
- 3. Achieve gender _____; eliminate discrimination (Goal 5 keyword)
- 5. Key driver of industry and infrastructure advancement (Goal 9)

Yoga & Health Fitness: The Harmony of Body, Mind, and Breath





— A Journey from Motion to Emotion, from Sweat to Serenity

"Yoga is not just exercise, it's the art of awareness on the canvas of body, mind, and soul." — Amit Ray

In an era dominated by screens, deadlines, hustle culture, and lifestyle-related ailments, health and mental peace have taken a back seat. But India, the land that gifted the world the science of Yoga, offers us an ancient yet ever-relevant answer. Yoga is not just a morning ritual or a trendy Instagram post — it's a science of wellbeing, a philosophy of life, and a discipline of balance. It integrates physical strength, mental clarity, emotional stability, and spiritual energy into one.

The Meaning of True Fitness

Modern fitness often emphasizes muscle gain, calorie burn, and cardio hours. But holistic fitness — as defined in yogic terms — is not just about the body. It includes:

-  Mental Fitness — clarity, focus, calmness
-  Emotional Fitness — stress management, resilience
-  Breath Control — better oxygenation, immunity
-  Spiritual Well-being — contentment, mindfulness, presence

And yoga offers practices to support each one.

Why Yoga? Unique Benefits Over Other Fitness Forms

Unlike high-intensity workouts, yoga is sustainable, adaptable, and age-neutral. Whether you're a school student or a 60-year-old, yoga gives you tools tailored to your body.

- ◆ Improves flexibility & joint health
- ◆ Boosts immunity and digestion
- ◆ Balances hormones and metabolism
- ◆ Improves sleep and reduces anxiety
- ◆ Sharpens concentration and memory
- ◆ Builds posture — especially critical for students & professionals

Yoga in Student Life: A Silent Superpower

With increasing exam pressure, device addiction, and disturbed sleep cycles, students often suffer silently. Here's how yoga becomes a support system:

1. Morning Sun Salutations (Surya Namaskar)

Combines stretching, breathing, and grounding

Boosts energy and mood for the day

2. Pranayama (Breathing Techniques)

Anulom-Vilom and Bhramari calm the nerves and enhance lung function

Perfect for stress during exams

3. Meditation and Mindfulness

10 minutes of silence daily can improve memory, focus, and emotional control

Real-Life Example: The Engineer Who Found Balance

Rohit, a mechanical engineering graduate, used to start his day with rush and end with fatigue. During final year stress, he began practicing yoga every morning — 20 minutes only. Over time, not only did his back pain vanish, but he also reported better sleep, deeper focus during lab work, and improved emotional balance during group projects.

🌸 Modern Yoga: Blending Tradition with Technology

YouTube Channels: Yoga With Adriene, Art of Living, Sadhguru

Apps: Daily Yoga, Down Dog, Prana Breath

Virtual Workshops: Offered by AYUSH Ministry, NSS, Fit India Movement

🧠 Fitness Beyond the Mat: Lifestyle Tips Inspired by Yogic Living

Eat Satvik (clean & light) — food impacts mind

Sleep early, rise early — aligns with natural rhythms

Unplug Daily — take digital breaks

Gratitude Practice — end your day reflecting on the good

Laugh! — joy is the highest form of inner health

Mr. B Dhanraj

Assistant Professor, Mech

FATHER — THE SILENT ARCHITECT

With calloused hands, he molds the day, like
iron forged in flame,

His quiet strength a blueprint etched in every
silent frame.

No words needed to build my hope; his actions
speak so loud,

He is the bridge, the scaffold strong, beneath
life's shifting cloud.

Through every trial and twist of fate, his steady
hand prevails,

An unseen force behind my wings that help me
ride the gales.

A craftsman of my future's path, without a loud
acclaim,

My father is the silent architect, the builder of
my name.

P Vishnu Priya - 24881A0318

INNOVATION — THE FLAME THAT NEVER DIES

In every mind a spark ignites, a flame that
softly glows,

Ideas take flight like fireflies where no one
else yet goes.

Failures fuel the journey's course, persistence
lights the way,

Innovation's endless dance, turning night into
day.

No patent seals the magic's end, nor
boundaries hold its speed,

It grows where curious hearts dare plant a
daring seed.

For in the realm of possibility, the future's
born anew —

And engineers keep crafting dreams that
change the old for new.

J Sai Vikas - 22881A0310

SUSTAINABLE ENGINEERING — A PROMISE TO TOMORROW

We build with care, not just with steel, but
conscience in our hands,

Designing systems that will last across the
shifting sands.

Energy from sun and wind, not fire's choking
breath,

Engineering paths that guard the earth,
preserving life from death.

Each bolt and beam, a pledge we make to
balance, not consume,

To craft a world where future blooms, beyond this
fragile gloom.

Sustainability's not just words, but actions bold
and wise,

The legacy of engineers, beneath the endless
skies.

B Siddharth Naik - 21881A0324

THE POWER OF TEAMWORK — NUTS AND BOLTS TOGETHER

A single bolt cannot hold a frame, nor a gear
alone can spin,

But joined together, forces merge — that's
where the strength begins.

In labs and workshops, hands align to craft and
innovate,

Each role essential in the dance that engineers
create.

Collaboration builds the bridge from concept to
design,

A symphony of talents where each star can
shine.

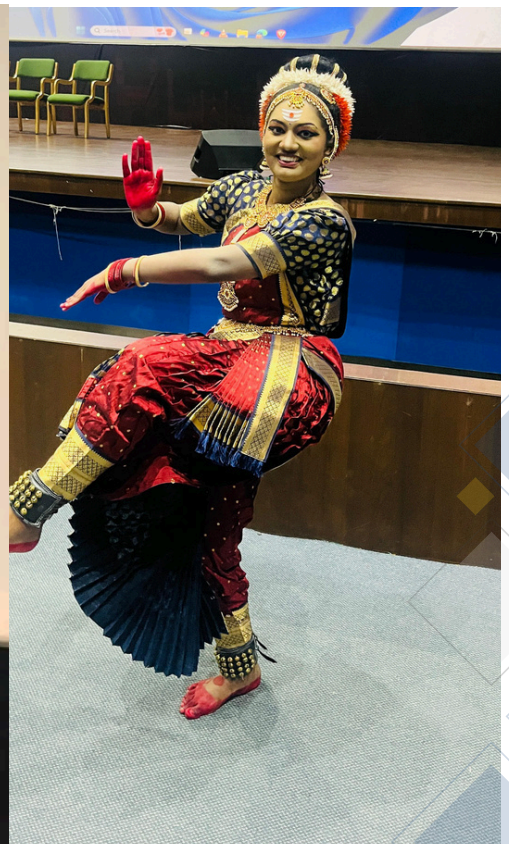
No mind too small, no voice unheard, in
teamwork's endless song,

Together forging futures bright, where all can
belong.

M Siddharth Reddy - 23885A0312



NIKHIL RAJ - 22881A0314



s Anajni Sree - 23881A0321

The Measure of a Man

In a peaceful village nestled between two hills, there lived an old farmer named Raghav. He owned a small patch of land and earned just enough to support his family. Though he was not wealthy, he was known far and wide for his honesty and kindness.

Every morning, before heading to the fields, Raghav would visit the temple and offer a small handful of rice to the poor who sat outside. “Even a grain given with love can fill an empty stomach,” he would say with a smile.

One year, the rains failed. Crops withered, the wells dried up, and hunger spread across the village. Traders from the nearby city came to buy land from the desperate farmers, offering them quick money. Many villagers agreed, hoping to survive the year with the money. The traders approached Raghav too. “Sell your land,” they said, “We’ll give you ten times its worth. You can live in comfort.” Raghav replied with a calm smile, “This land has fed not only my family but also the hungry. It may be dry now, but it has never let me down. I cannot trade loyalty for luxury.”

Surprised and annoyed, the traders tried to lure his sons instead. But Raghav’s values had deeply influenced his children too. They stood by their father.

As months passed, a miracle happened — unexpected rains poured over the land, filling the dried lakes and soaking the soil. Raghav’s fields flourished again, and the villagers who had sold their land regretted their decisions. Some even came to Raghav for help — and he welcomed them with open arms, sharing his harvest without a second thought.

Moral of the Story:

True wealth is not measured in money, but in character.

In a world that constantly tests our values, it is the strength to stand by what is right that defines us. Like Raghav, let us choose kindness over greed, integrity over temptation, and humanity over wealth.

No Pollution / Environmental Awareness

In a small village by the banks of River Saras, children once played joyfully, elders walked by the water for peace, and the women fetched crystal-clear water in clay pots. The river was not just a water source — it was the soul of the village, flowing like a melody through their daily lives.

But as the years passed, things changed.

The village grew. With it came plastic bags, wrappers, and untreated waste that began to flow into the river. Factories were built nearby. Gradually, the once-pristine waters turned grey, and fish began to die. The river's gentle hum was replaced by the harsh sound of machines and waste disposal trucks. Only one man, a retired schoolteacher named Hari Prasad, raised his voice. "If we kill the river, we kill ourselves," he warned. But no one listened.

One day, a severe drought hit the region. The only source of water was the river — now too toxic to drink. People panicked. Thirst became fear. Only then did they realize the truth in Hari Prasad's words.

The villagers gathered, ashamed and broken. With bare hands and heavy hearts, they began the journey of healing. They cleaned the riverbanks, planted trees, banned plastic, and educated their children. It took years — years of hard work, patience, and unity — but life slowly returned to the river. Birds flew back, fish danced in the water, and the sound of children's laughter once again echoed along the banks.

The river, like a forgiving mother, embraced her people once more.

Moral of the Story:

"Nature gives us life — and it is our duty to protect it. Polluting the environment is like digging our own grave. Let's keep our air, water, and land clean, not just for us, but for generations to come. A healed river can heal a village. A conscious step today can preserve tomorrow. When we live in harmony with nature, we don't just survive — we thrive."

Healthy Life / Fitness Awareness

In the heart of a bustling city, lived Rita — a brilliant software engineer, always ahead of deadlines and deadlines always ahead of her. Her day began with checking emails and ended with skipped meals, fast food deliveries, and endless screen time. Exercise was something she postponed with the excuse, “There’s always tomorrow.” But tomorrow never came.

One day, at the age of just 35, Rita fainted at work. Her colleagues rushed her to the hospital. The doctor, after reviewing her reports, looked concerned. “High blood pressure, elevated sugar levels, no physical activity — your body is sending you a warning,” he said. Rita was shocked. She had everything: a thriving career, latest gadgets, and comfort — but she had lost her most valuable asset — her health.

That day changed everything. Rita realized success was meaningless if she didn’t have the energy or wellness to enjoy it. She didn’t make drastic changes overnight. Instead, she took small steps: morning walks before work, replacing junk food with fruits, practicing yoga every weekend, drinking water instead of sugary drinks, and shutting down her laptop an hour earlier each night. These tiny efforts, done consistently, transformed her life.

A year later, Rita felt like a new person — lighter, more energetic, more joyful. She had not only regained her health but also a sense of balance and purpose. She often shared her journey with friends, saying, “I didn’t get a second life — I just learned to live my first one better.”

The transformation wasn’t about looking perfect or being gym-obsessed. It was about valuing the only place she truly lived in — her body.

Moral of the Story:

“Health is the real wealth. No matter how busy life gets, your well-being must come first. A healthy body fuels a sharp mind, a calm soul, and a happy life. Make time for your health today — because your future depends on it. You only get one body — care for it, nourish it, and it will carry you farther than success ever will.”

The Light in the Lantern – The Power of Learning (Education Awareness)

In a quiet tribal hamlet nestled deep within the forested hills, lived young Sita — a bright-eyed girl with a fierce determination to learn. Her home had no electricity, no bookshelves, and no luxuries. Her parents worked hard to earn a living, and education was seen as a dream too far to reach. But Sita believed otherwise. Every evening, she would walk two kilometers barefoot, through thorny paths and muddy trails, just to sit under an old banyan tree — the village’s only evening school, lit by lanterns and fueled by hope.

One evening, dark clouds rolled in, and heavy rains flooded the forest paths. Most children stayed home. But not Sita. Soaked and shivering, she arrived at the class, her notebook clutched tightly to her chest. The teacher, surprised and concerned, asked, “Why risk so much for a lesson?”

With quiet conviction, Sita replied, “Because every word I learn becomes a step toward a better life.”

That sentence stayed with everyone.

Years passed. Sita’s efforts bore fruit. She won scholarships, studied hard, and became a doctor. But she never forgot her roots. She returned to her village — no longer the little girl under the banyan tree, but a woman of purpose. She built a school with proper classrooms and lights, a small health center, and a library. She ensured that no child would ever have to walk in darkness again — neither on the road nor in life.

Moral of the Story:

Education is the most powerful tool for change. It opens minds, builds futures, and transforms entire communities. Like a lantern in the dark, knowledge guides the way — even through the toughest paths. When we empower a child with learning, we don’t just change their life — we light up the lives of generations to come.

What is the NPTEL Exam?

The NPTEL exam is conducted for students who enroll in various online courses offered through the SWAYAM platform. These courses range from engineering, science, management, and humanities to interdisciplinary topics.

Duration: 4, 8, or 12 weeks

Mode: Online video lectures + assignments

Final Exam: Conducted in a proctored, offline mode at designated centers.

To earn an NPTEL certificate, students must:

Submit assignments regularly (with a weightage of 25%)

Appear in the final offline exam (with a weightage of 75%)

Secure an overall passing score (typically 40% or more)

What is a domain certification in NPTEL?

A domain certification is a unique offering by NPTEL that allows a student to specialize in a specific field by completing a series of curated NPTEL courses related to that domain.

Key Features:

Typically requires completing 5 to 7 courses from a recommended list

Each course must be cleared with certification

Once all courses are completed, a Domain Certificate is issued by NPTEL

Examples of Domains: Manufacturing Process Technology / Structural Engineering
Cybersecurity / Programming and Software Engineering / Entrepreneurship and Innovation

Levels of Certification in NPTEL

NPTEL awards different levels of certification based on performance:

Certificate Type Score Range Remarks

Elite + Gold ≥ 90% Top-tier recognition

Elite + Silver 75% - 89% High-level achievement

Elite Certificate 60% - 74% Good performance

Successfully Completed 40% - 59% Basic passing level

No Certificate < 40% Did not meet minimum criteria

T Karthikeya - 23885A0320

Gold Medalist & Top 1%

NSS: Social Service for a Sustainable Planet

The National Service Scheme (NSS), operating under the Ministry of Youth Affairs & Sports, channels student energy into constructive service.

Yoga & Wellness Initiatives:

Mass International Day of Yoga (IDY) celebrations

Yoga camps in villages, tribal regions, and schools

Mental wellness awareness weeks with guided meditation and breathing sessions

Promoting digital detoxing and early morning routines through workshops

NCC: Discipline with Responsibility for the Environment

The National Cadet Corps (NCC), under the Ministry of Defence, trains youth in leadership and national integration.

Yoga in NCC Routine:

Daily warm-ups often include Surya Namaskar and Pranayama

NCC cadets actively participate in mass yoga demonstrations

Yoga improves endurance, calmness, and alertness, essential for training

Camps include sessions on Ayurveda, Yogic Diet, and Stress Control

