VOL:8

Issue 3 2025

Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
DEEMED TO BE UNIVERSITY

University with Graded Autonomy Status

(An ISO 21001 : 2018 Certified Institution)

Periyar E.V.R. High Road, Maduravoyal, Chennai-95. Tamilnadu, India.

ACCREDITED WITH GRADE A+ NAAC

FACULTY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF MECHANICAL ENGINEERING

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HOD

DEAN

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Dr. M.G.R.
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FACULTY OF ENGINEERING & TECHNOLOGY
DEPARTMENT O FMECHANICALENGINEERING

VOL: 8 | VISION · MISSION · PEOs · POs · PSOs | ISSUE 3 – 2025

UNIVERSITY VISION & MISSION

VISION

To provide for contemporary knowledge delivery of global standards, excellence in knowledge creation in emerging areas and mutually rewarding university–societal interactions.

MISSION

To make the Institution a Resource Centre for Higher Level Teaching–Learning in Engineering, Medicine, Allied Health Sciences, Architecture, Management & Education — imparting technically qualified, practically competent human resources with entrepreneurial skills and ethical values for the benefit of Society and Nation.

DEPARTMENT VISION & MISSION

VISION

To nurture and motivate the upcoming Engineering graduates to become sustainable, punctilious Mechanical Engineers of the nation.

MISSION

- M1 Provide quality education through well-structured curricula supplemented with practical training and field visits to leading industries.
- M2 Build state-of-the-art research facilities to enable faculty and students to learn, disseminate knowledge and innovate in their applications.
- M3 Foster an entrepreneurial mindset and promote consultancy for holistic personality development of students.
- M4 Impart knowledge for sustainability and eco-friendly environment to achieve effective mechanical engineering solutions.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

PEO 1
Apply knowledge of basic science, engineering principles and interdisciplinary skills to solve real-time engineering problems, making a good impact on industry and society.

PEO 2
Pursue higher education, research, and continuous professional development to stay updated with evolving technologies.

PEO 3
Establish successful careers in industry, government, or entrepreneurship by demonstrating creative skills and managerial capabilities through professional practice.

PEO 4
Contribute to sustainable development by designing energy-efficient and environmentally friendly engineering solutions addressing societal challenges with innovation.

PROGRAM OUTCOMES (POS)

PO1 Engineering Knowledge
Applymathematics,science,computing and engineering fundamentals to solve complex problems.

PO2 Problem Analysis
Identify,formulateand analyze complex engineering problems with substantiated conclusions.

PO3 Design / Development
Designcreativesolutionsconsidering health, safety, net-zero carbon, society and environment.

PO4 Investigations
Conduct research-based investigations using design of experiments, modelling and data analysis.

PO5 Engineering Tools
Selectandapplymodern engineering and IT tools, recognising their limitations.

PO6 Engineer & World
Analysesocietalandenvironmental aspects: sustainability, economy, safety and legal framework.

PO7 Ethics
Applyethical principles, commit to professional ethics, human values, diversity and national laws.

PO8 Teamwork
Functioneffectively as individual, member or leader in diverse and multi-disciplinary teams.

PO9 Communication
Communicateeffectively; write reports and make presentations across cultural differences.

PO10 Project Management
Applyengineeringmanagement and economic decision-making in multidisciplinary environments.

PO11 Life-Long Learning
Prepareforindependent, life-long learning and critical thinking amidst technological change.

PROGRAMME SPECIFIC OUTCOMES (PSOS)

PSO 1
Ability to identify, analyze and solve engineering problems using fundamentals and advanced concepts in Design, Thermal and Manufacturing systems.

PSO 2
Ability to apply multidisciplinary knowledge in design and analysis principles for execution of automation in mechanical systems and processes.

PSO 3
Attain excellence in managerial tools and techniques for effective manufacturing and develop leadership skills with ethical practices.

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HOD-DESK

MESSAGE

by,
Dr.A.MANOJ BABU,
HOD/Mech Engg.

HOD message:

Greetings!

I am delighted that Dr. MGR University has provided us with the opportunity and vision to support the release of the Newsletter series throughout all quarters of each academic year. This platform serves as a valuable forum for connecting with all stakeholders and fostering a sense of community.

I am especially pleased to see our department releasing the Newsletter for the period of July 2025 to September 2025. Wishing for many more successful editions ahead and an enriching reading experience for all!

Vol:8 ISSUE 3- 2025

DEAN-DESK

MESSAGE

by,
Dr.K.RAJAN,
Dean of the Mechanical Engineering

Dean of the Mechanical Engineering

The Newsletter serves as a mirror, reflecting the vibrant activities and achievements of the department. It provides a platform where students from all walks of life can have their voices heard in an inclusive space that embraces and encourages diverse thoughts and perspectives.

I am pleased to see our department releasing its Third Quarter Newsletter for 2025. May it successfully fulfil its purpose of informing, inspiring, and connecting our community. Wishing everyone an engaging and insightful read!

MESSAGE

Message:

It gives us immense pleasure to be an integral part of this Newsletter—a powerful communication platform designed to meet the needs of the time. It serves as a bridge, delivering key messages about significant events, achievements, and milestones to all concerned.

Beyond being an information channel, the Newsletter fosters a strong sense of belonging among faculty, alumni, and students. Life does not offer rewinds, only flashbacks, and our talented alumni possess a wealth of experience and skills to share with current students through insightful talks and newsletters.

We believe our efforts will be truly meaningful when, after reading these articles, you feel inspired and motivated to contribute even more to future editions. Let's continue this journey of knowledge sharing, collaboration, and growth together!

EDITORIAL BOARD

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ACTION CORNER

SNIPPETS FROM PALS AND OUR UNIVERSITY

July 2025- Sep 2025			
DATE	**EVENT TITLE**	**SPEAKERS**	**EVENT COORDINATE**
6 July, 2025	Interdisciplinary Lecture on Smart Systems and IoT: Enabling Intelligent Machines in Mechanical Engineering	N. Lakshminarayanan, Assistant Professor, Department of Electronics & Communication Engineering Dr.M.G.R Educational & Research Institute.	
6 August, 2025	Professional Society Talk on Engineering Professionalism and Growth	S Rajasekaran, Managing Director, Infant Engineers Private Limited	
13 August, 2025	Subject Lecture on Strategic Process Planning	J.JAYASEELAN, Professor, Dr.M.G.R Educational & Research Institute	
18 September, 2025	YANTRAM'25 " Fusion of Mechanics and Innovation"	Viswa R. Sinjiv, Associate Vice President, Carborundum India Limited	

PALS: JULY

EVENT : Three-Day Online Faculty Development Program (FDP) on "THEWORLD OF STEEL: PROPERTIES, PROCESSES & PRODUCTS"

SPEAKER: Dr. D. Ravichandar (Industrial & Educational Consultant, Former CEO – JSW Salem Works)

DATE : 28.07.2025 to 30.07.2025

VENUE : Online via Zoom

Acomprehensive three-day onlineFacultyDevelopmentProgram(FDP) titled "The World of Steel: Properties, Processes & Products" was conducted under the PALS initiative to enrich the knowledge of faculty, researchers, and industry professionals
in mechanical, metallurgical, and manufacturing fields. The sessions were led by Dr. D. Ravichandar, a highly respected consultant with over 43 years of steel industry experience. The program focused heavily on core industry areas, including inteufacturing.

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ARTICLES CORNER

Automation and Industry 4.0:

Are We Ready for the Smart Factory?

by,
Mr. Andrew Nallayan,
Asst. Professor/ Mech Engineering.

In a world increasingly defined by environmental challenges—climate change, resource depletion, and pollution—the word *sustainability* has become more than just a trend; it's a necessity. For engineers, particularly in the mechanical and industrial fields, sustainability represents a new design philosophy that extends far beyond traditional ideas of efficiency.

For decades, engineering success has been measured by how efficiently a system performs—how much fuel a car saves, how much energy a machine consumes, or how quickly a process operates. While efficiency is essential, it alone cannot ensure sustainability. Designing for sustainability means adopting a broader, more responsible approach—one that balances performance, environmental impact, social responsibility, and long-term resilience.

1. From Efficiency to Sustainability

Efficiency aims to do *more with less*—less energy, fewer materials, and reduced costs. But sustainability looks deeper, questioning every stage of a product's life cycle. For example:

- How were the raw materials sourced?
- Can the product be disassembled and recycled?
- What happens to it when it reaches the end of its life?
- What are its social and ecological impacts?

A product may be efficient in operation yet unsustainable in its production. For instance, an energy-efficient electronic device might still harm the environment if it relies on rare earth metals mined under poor labor conditions or if it contributes to electronic waste after a short lifespan. True sustainability demands that engineers consider *the entire system*—not just operational performance.

2. Lifecycle Thinking and the Circular Economy

Modern sustainable design embraces the concept of Life Cycle Assessment (LCA), a method of analysing a product's total environmental footprint—from raw material extraction to disposal. This approach helps identify stages where improvements can make the greatest impact.
In parallel, the circular economy model promotes reuse, repair, and recycling over the traditional "take-make-dispose" linear system. For mechanical engineers, this could mean:

- Designing machines with modular components that are easy to replace or upgrade.
- Choosing materials that can be recycled without quality loss.
- Encouraging product return and remanufacturing systems to minimize waste.

The circular economy challenges engineers to think creatively—how can a design minimize waste and maximize value over multiple lifecycles?

3. Materials, Manufacturing, and Innovation

Material selection lies at the heart of sustainable design. The use of lightweight composites, biodegradable polymers, and recycled metals can drastically reduce a product's carbon footprint. Additionally, green manufacturing technologies—such as additive manufacturing (3D printing), precision machining, and energy-efficient production lines—are transforming industries by reducing waste and emissions.

Mechanical engineers are also exploring biomimicry, where designs take inspiration from nature. For example, self-cleaning surfaces inspired by lotus leaves or aerodynamic structures modeled after bird wings demonstrate how sustainability and innovation can go hand in hand.

4. Integrating Renewable Energy Systems

Energy is another pillar of sustainability. Mechanical engineers play a pivotal role in developing renewable energy systems such as solar collectors, wind turbines, and hydro-mechanical systems. Beyond generation, engineers also work on energy storage solutions, smart grids, and energy recovery systems in manufacturing plants.

Designs that incorporate renewable energy not only reduce dependence on fossil fuels but also help industries achieve net-zero carbon emissions—a major goal in the coming decades.

5. The Human and Ethical Dimension

True sustainability is not purely technical—it's also social and ethical. Engineers must consider the well-being of communities, workers, and consumers affected by their designs. Ethical sourcing of materials, fair labour practices, and product safety are integral to responsible engineering. The Sustainable Development Goals (SDGs) set by the United Nations serve as a global framework, urging engineers to align innovation with environmental stewardship and human welfare.

6. Education and the Role of Future Engineers

Colleges and universities are the breeding grounds for sustainable innovation. By integrating sustainability into the curriculum, educational institutions are preparing students to think critically and act responsibly.

Mechanical engineering students, for example, can explore:

- Projects on energy-efficient systems and green building technologies.
- Research on biodegradable materials and recyclable product design.
- Internships in industries focused on renewable energy and sustainable manufacturing.

Beyond academics, student-led initiatives such as eco clubs, solar vehicle teams, and recycling campaigns are inspiring examples of how young engineers are already driving change.

7. The Future of Sustainable Design

The future of engineering design lies in integration—combining technology, ecology, and human values into one cohesive vision. Emerging trends such as AI-driven optimization, digital twins, and smart materials are enabling engineers to simulate, test, and improve sustainability outcomes before physical production even begins.

However, technology alone cannot solve our environmental challenges. The mindset of engineers must evolve. Every design decision—no matter how small—has a ripple effect on the planet. When engineers design with sustainability at the core, they contribute not only to innovation but also to the survival and prosperity of future generations.

Conclusion

Designing for sustainability goes far beyond increasing efficiency; it's about reimagining the role of engineering in society. It challenges us to create systems that are *efficient, ethical, adaptable,* and *enduring*. As future engineers, we hold the power to design a world where technology and nature coexist in harmony.

"Efficiency is doing things right. Sustainability is doing the right things—rightly."

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Bridging the Gap Between Academia and Industry Needs

BY: MR.R.T.Chander, Asst Professor, Mech Engineering

In the modern world of rapid technological transformation, industries are evolving faster than ever before. Automation, digitalization, and innovation are reshaping the way businesses operate. Amidst this dynamic landscape, one critical question continues to arise: **Are our graduates ready for the real world?**

The bridge between academia and industry has long been a subject of discussion, particularly in engineering education. While colleges focus on imparting theoretical knowledge and conceptual understanding, industries often demand professionals who can apply that knowledge practically — to solve real-world problems efficiently and creatively. This gap, though not new, has widened in recent years due to the exponential pace of technological advancement.

The Academic-Industry Divide

Traditionally, academic curricula are designed to provide students with a strong foundation in fundamentals. However, many of these syllabi have not evolved at the same pace as industrial needs. The result? A mismatch between what students learn in classrooms and what industries expect on the job.

For instance, while a mechanical engineering student might spend semesters studying thermodynamics and machine design, industries today also look for proficiency in computer-aided design (CAD), additive manufacturing, robotics, and data-driven decision-making. Similarly, electronics and computer science industries seek graduates skilled in AI, IoT, cloud computing, and cybersecurity — areas that are often introduced only briefly in undergraduate programs.

Furthermore, the lack of real-world exposure during academic years often limits students' understanding of how theoretical principles are applied in professional settings. The absence of internships, live projects, and industry mentors adds to this gap.

Why Bridging the Gap Matters

The consequences of this divide are multifaceted. Graduates often face challenges in adapting to corporate environments, and industries must invest significant time and resources in training fresh recruits. This not only delays productivity but also creates frustration among new employees who feel unprepared.

For institutions, a widening gap between education and employability impacts their reputation and placement statistics. On a national level, it affects the country's overall innovation capability and global competitiveness. Bridging this gap is therefore not merely an educational reform — it is an **economic necessity**.

Collaboration: The Way Forward

To create a seamless transition from classroom to career, academia and industry must work hand-in-hand. Collaboration can take many forms:

- **Internships and Industrial Training:** These provide students with exposure to professional work environments, tools, and practices. Even short-term internships can make a lasting impact on understanding workplace dynamics.
- **Industry-Sponsored Projects:** Collaborative projects allow students to work on real-life challenges faced by companies. This helps develop technical, analytical, and teamwork skills.
- **Guest Lectures and Workshops:** Experts from industries can share practical insights, discuss case studies, and introduce students to current trends and challenges.
- **Curriculum Co-Design:** Industry professionals can be involved in revising syllabi to ensure courses remain relevant to present-day technologies and requirements.

By incorporating such measures, educational institutions can create a more holistic learning experience that prepares students to contribute effectively from day one of their careers.

Skill Development and Lifelong Learning

In the 21st century, learning doesn't end with graduation. The industry values professionals who continuously upgrade their skills. Colleges can nurture this culture by encouraging **continuous learning** through certifications, online courses, technical clubs, and research initiatives.

Soft skills — communication, teamwork, leadership, and problem-solving — are equally important. While technical expertise opens doors, interpersonal and managerial skills determine how far one can go in their career. Engineering programs that integrate teamwork-based projects, presentations, and innovation challenges can help students build these crucial competencies.

Integrating Emerging Technologies into Education

To keep pace with Industry 4.0, academia must integrate new-age technologies into their curriculum. Topics like Artificial Intelligence, Data Science, Internet of Things (IoT), Robotics, and Sustainable Design are now core to almost every engineering field.

In mechanical engineering, for example, simulation tools, digital twins, and smart manufacturing systems are revolutionizing traditional processes. Similarly, electrical and electronics engineers must now understand renewable energy systems, embedded technologies, and automation tools. Introducing students to such emerging areas early in their education ensures they remain relevant in the ever-changing industrial landscape.

The Role of Faculty and Institutions

Faculty members act as the bridge between knowledge and application. To effectively guide students, educators must stay updated with industrial practices through faculty development programs, industrial visits, and collaborative research projects. Institutions can also establish **Industry–Institute Interaction Cells (IIICs)** or **Centres of Excellence** to foster ongoing engagement with corporate partners.

Moreover, creating an ecosystem that promotes innovation — through incubation centres, student start-ups, and hackathons — can encourage

Conclusion: Building the Workforce of Tomorrow

The goal of education is not merely to earn degrees but to develop thinkers, innovators, and problem-solvers. Bridging the gap between academia and industry is a shared responsibility that requires commitment from all stakeholders — educators, students, policymakers, and industries alike.

When academic learning aligns with industry needs, students graduate not just as job seekers but as **job creators**. The future workforce will then be equipped not only with technical knowledge but also with adaptability, creativity, and a passion for continuous learning — the very qualities that drive progress in the modern world.

AI Tools in Assignments – Help or Hindrance?

By: Jai Kishore.M, 3rd Yr, Mechanical Engg.

In the rapidly evolving world of technology, Artificial Intelligence (AI) has emerged as one of the most powerful and transformative forces of our time. Once a concept limited to science fiction, AI is now a part of our daily lives—powering our smartphones, assisting in medical research, and even driving cars. Among its many areas of influence, one of the most debated topics today is its role in **education**, especially in the way students complete their assignments.

Tools like **ChatGPT, Grammarly, Quill Bot, Copilot, and Bard** are redefining how students research, write, and present their academic work. But this transformation raises an important question: Are AI tools truly helping students learn better, or are they hindering genuine learning and creativity?

The Power of Assistance

AI tools have become a vital companion for students around the world. They provide **instant solutions, explanations, and feedback**, often reducing the stress and workload that come with tight deadlines and complex assignments.

For instance, ChatGPT can help generate ideas for essays or projects, Grammarly polishes writing by correcting grammar and style, while QuillBot can rephrase content to make it clearer and more concise. These tools not only make writing faster but also help students **develop confidence in communication** and **improve language proficiency**.

Moreover, AI can serve as a **personalized tutor**, adapting to a student's learning style and offering explanations at any time. It allows students to learn at their own pace—something traditional classroom environments may not always provide. For those who struggle with complex subjects, AI-driven applications can break down tough concepts into simpler, understandable terms.

The Temptation to Depend

However, while AI tools offer convenience, they also come with **significant drawbacks**. The most concerning issue is **overdependence**. When students start relying on AI for every assignment, the learning process takes a backseat. The ability to think critically, analyze information, and form original ideas gradually diminishes.

AI-generated content often sounds polished and accurate, but it might lack **depth, context, or creativity**—the very qualities that make academic work meaningful. There's also a risk of **factual errors**, as some AI tools generate responses that appear correct but are actually misleading or outdated.

Another major issue is **academic integrity**. Plagiarism detection tools can struggle to identify AI-generated text, leading to questions about authenticity and fairness. Many universities are now drafting new policies to regulate the ethical use of AI in assignments. Some professors encourage AI use for brainstorming but discourage it for final submissions, emphasizing that **students should remain the primary creators** of their academic work.

Ethics and Accountability in the AI Era

As AI becomes deeply integrated into education, ethical concerns have grown. Should students disclose when they use AI tools? Is it acceptable to use AI for idea generation but not for writing entire essays? These questions highlight the **moral gray area** surrounding AI-assisted learning.

Educational institutions are beginning to address these issues by promoting **AI literacy**—teaching students not only how to use AI tools but also how to use them **responsibly and transparently**. The goal is to ensure that AI enhances learning without compromising originality or honesty.

Teachers, too, are adapting by designing assignments that test conceptual understanding rather than surface-level responses—encouraging students to combine AI assistance with critical thought. After all, AI can produce information, but only a human mind can interpret it creatively.

Bridging the Gap Between Technology and Learning

Instead of viewing AI as a threat, it's time to see it as an opportunity to rethink education. Just as calculators didn't eliminate the need to learn mathematics, AI won't replace learning—it will **reshape how we learn**.

The key lies in **balance**. Students can use AI to streamline research, organize data, or proofread drafts, but the essence of learning—understanding, analyzing, and expressing—must remain human-driven. AI should serve as a **guide, not a shortcut**.

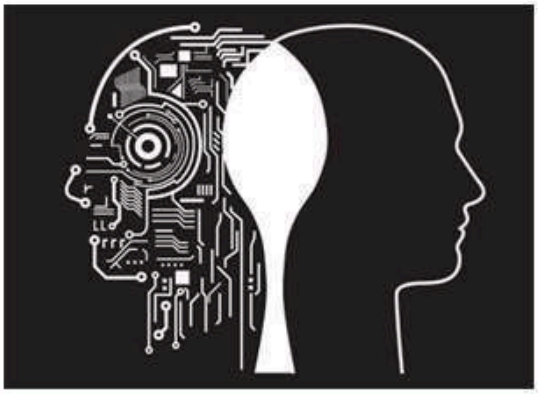
In the near future, AI may even become part of the curriculum, helping students develop skills in data analysis, coding, and creative problem-solving. By integrating technology thoughtfully, educators can prepare students for the AI-driven world ahead.

Conclusion: A Tool, not a Substitute

AI tools are neither heroes nor villains—they are **powerful instruments** that can either elevate or undermine learning, depending on how they are used. When harnessed responsibly, AI can foster efficiency, enhance creativity, and open new avenues of exploration. But if abused, it can erode integrity, critical thinking, and the joy of discovery.

Ultimately, success in the age of AI will depend not on avoiding technology but on **using it wisely**. As students, educators, and institutions learn to strike the right balance, AI will evolve from a mere helper to a true partner in the pursuit of knowledge.

"AI is not replacing students — it's redefining how they learn."



Kalpana Saroj – The "Original Slumdog Millionaire"

by, Hari Krishnan D, 3rd Yr, Mechanical Engg

In the world of Indian entrepreneurship, very few names shine as brightly as **Kalpana Saroj**—a woman who rose from the depths of poverty and discrimination to become a celebrated industrialist and social icon. Her life story reads like a modern-day fairy tale; except it's not fiction. It's a powerful, real-life saga of perseverance, courage, and the indomitable human spirit that continues to inspire millions across India and beyond.

A Childhood Marked by Struggle

Born in 1961 in a small village of Roperkheda, Maharashtra, Kalpana Saroj belonged to a Dalit family—a community that faced intense social discrimination. Her father was a police constable, earning barely enough to feed his family of six. Life in the village was harsh, especially for a young girl from a marginalized caste. Though she was bright and loved going to school, societal prejudices and rigid customs cut her dreams short.

At the tender age of **12**, Kalpana was forced into marriage, moving from her small village to the crowded slums of Mumbai. There, she encountered unimaginable hardships—domestic abuse, poverty, and emotional trauma. With no support and no escape, she lived in silence until one day, she gathered all her courage, left her abusive husband, and returned to her parents' home. Her decision was met with criticism and gossip, but Kalpana had made up her mind—she would live life on her own terms.

Surviving Against All Odds

The road ahead was far from easy. The stigma of being a child bride and a "runaway wife" made it impossible for her to live a normal life in her village. Poverty loomed large, and opportunities were scarce. But Kalpana was determined not to let her past define her future. She moved back to Mumbai and started working in a garment factory, earning just ?2 per day.

Despite the meagre income, she worked tirelessly—saving every rupee she could. She spent her evenings learning tailoring and later set up a small business making clothes. Soon, she expanded into furniture-making and other ventures. Her persistence began to pay off. For the first time, she saw the power of self-reliance and entrepreneurship.

The Turning Point – Kamani Tubes

Kalpana's life took a remarkable turn when she came across the failing company **Kamani Tubes** in the early 2000s. The once-successful company had gone bankrupt, leaving hundreds of workers unemployed and families in distress. While most investors turned away, Kalpana saw an opportunity where others saw disaster.

With her trademark determination and compassion for the workers, she took charge of reviving the company. It wasn't an easy journey—she faced bureaucratic hurdles, massive debts, and scepticism from all sides. But her leadership, negotiation skills, and transparent business ethics gradually restored confidence among employees and investors alike.

Within a few years, **Kamani Tubes Ltd.** was back on its feet, profitable once again, and providing livelihoods to hundreds of workers. This extraordinary achievement cemented Kalpana Saroj's reputation as one of India's most inspiring entrepreneurs.

Beyond Business – A Mission to Empower

Kalpana Saroj's success didn't stop at business. Having experienced the bitterness of discrimination and poverty, she dedicated her life to social causes. She actively supports initiatives for **women's empowerment**, **Dalit upliftment**, and **entrepreneurship development**.

Through her foundation, she has helped young people from marginalized backgrounds start small businesses, providing them with training, mentorship, and financial guidance. Her efforts aim to create a generation of self-reliant individuals who can transform their lives just as she did.

In 2013, Kalpana Saroj was awarded the **Padma Shri**, one of India's highest civilian honors, for her contribution to trade and industry. She was also appointed to the Board of Governors of the Indian Institute of Management, Bangalore (IIM-B), recognizing her influence as a visionary leader.

The Philosophy of a Fighter

What truly defines Kalpana Saroj is not just her wealth or fame—it's her mindset. She often says,

"You are the creator of your own destiny."

Her philosophy stems from personal experience. Having faced caste discrimination, abuse, and extreme poverty, she learned that success isn't given—it's earned through hard work, patience, and persistence. She believes that one must rise every time life knocks them down, stronger and more determined than before.

Kalpana also advocates for financial independence, especially for women. She emphasizes that empowerment begins with economic freedom, and encourages young women to pursue education, skills, and entrepreneurship as a means of breaking social barriers.

An Inspiration for Every Dreamer

Today, Kalpana Saroj stands as a living embodiment of the phrase "rags to riches." Her life story transcends caste, gender, and class—it is a universal tale of hope. She continues to inspire students, entrepreneurs, and social activists to believe in their dreams, no matter how distant they may seem.

Her journey reminds us that success is not measured by where you start, but by how far you are willing to go. From a 12-year-old girl in a small village to the chairperson of a multi-crore enterprise, Kalpana Saroj's rise proves that the human spirit knows no limits.

Conclusion – The Power of Perseverance

Kalpana Saroj's life is a shining example of what can be achieved through resilience and courage. She didn't just overcome adversity—she transformed it into an opportunity. From the slums of Mumbai to the corridors of corporate success, her story is an anthem of empowerment for the underprivileged and a reminder that dreams can indeed come true, no matter how impossible they may seem.

Her journey is not just India's story—it's humanity's story: of struggle, strength, and triumph.

In the truest sense, Kalpana Saroj is not only the "Original Slumdog Millionaire" but also the "Queen of Courage" — a woman who built her empire not on inheritance, but on sheer willpower, compassion, and unbreakable resolve.

ALUMNI CORNER

My college journey

By, Balaji Dinakararaj

Mechanical Engineering

May 2012 - May 2016

My College Journey at Dr. M.G.R. University: A Story of Growth, Friendships, and Success

College isn't just about lectures, assignments, and exams—it's a transformative chapter that defines who we become. My journey at **Dr. M.G.R. Educational and Research Institute** from **May 2012 to May 2016** was nothing short of life-changing. It was a period filled with learning, laughter, challenges, and memories that continue to shape the person I am today.

From the nervous excitement of my first day to the pride of receiving my first job offer, every moment at Dr. M.G.R. University contributed to my personal and professional growth. Looking back, those four years weren't just about earning a degree—they were about discovering myself, building confidence, and learning to turn dreams into reality.

The Beginning: Stepping Into a New World

I still remember walking through the university gates on my first day—filled with excitement, anticipation, and just a touch of nervousness. The sprawling campus, buzzing with energy, was both awe-inspiring and overwhelming. Coming from a structured school environment, college felt like a new universe—one that promised independence, growth, and endless opportunities.

It didn't take long to realize that college was more than just lectures and labs. It was a place where curiosity thrived, friendships blossomed, and lessons extended far beyond the classroom.

First-Year Lessons: Adapting and Overcoming

The first year was all about adjustment—new subjects, new routines, and new faces. Adapting to university-level academics while managing a social life wasn't easy. There were moments of self-doubt and times when the workload felt overwhelming. But gradually, I learned to embrace the challenges.

Late-night study sessions, group discussions before exams, and encouraging words from friends helped me stay focused. I realized that success in college wasn't about perfection—it was about persistence. Every small achievement boosted my confidence and taught me the importance of consistency and hard work.

Beyond Books: Discovering My Passion

What made my journey truly special were the opportunities outside the classroom. Joining the **Society of Mechanical Engineers** was a turning point. It gave me practical exposure to real-world applications of mechanical engineering—through **workshops, industrial visits, and technical symposiums** that expanded my understanding beyond theory.

Being part of the **Event Management Club** taught me leadership and teamwork. Planning college fests, coordinating with departments, and managing events sharpened my organizational skills and gave me immense satisfaction.

I also took part in **community service programs**, which reminded me of the importance of empathy and giving back to society. These experiences enriched my college life and helped shape a more balanced version of myself—academically competent, socially aware, and emotionally grounded.

Memorable Moments and Achievements

Among the many memories I cherish, one stands out vividly—our team's participation in a **national-level technical competition**. After weeks of brainstorming, designing, and late-night troubleshooting, we proudly secured **second place**. That victory was more than a prize; it was a testament to teamwork, perseverance, and the spirit of innovation.

Gratitude and Reflections

When I walked out of the university gates in May 2016, I knew that my journey at Dr. M.G.R. University had shaped more than just my career—it had shaped *me*.

I owe my gratitude to:

- **My professors**, for their guidance and encouragement that strengthened my technical foundation.
- **My friends**, for making every day memorable and teaching me the value of teamwork and support.
- **My family**, for their unwavering belief in my potential.
- And above all, **Dr. M.G.R. University**, for providing an environment that inspired learning, creativity, and personal growth.

Those four years were not merely a phase of education—they were a journey of transformation. I entered as a curious student and left as a confident professional, ready to take on the world.

As I continue my journey beyond the campus, I carry with me the lessons, friendships, and memories of my time at Dr. M.G.R. University—a place that turned ambitions into achievements and students into lifelong learners.

PUBLICATIONS

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EXPLORING THE EFFECTS OF PILOT INJECTION TIMING ON CRDI ENGINE OPERATION UNDER VARYING LOADS

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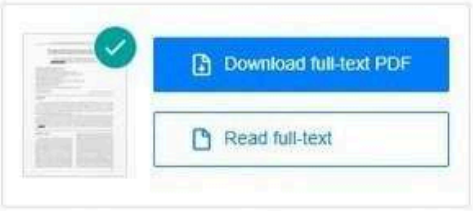

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