MECHAZINE

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We are delighted to present the January 2023 edition of Mechazine, the official departmental magazine of Mechanical Engineering at Vishnu Institute of Technology. This edition encapsulates the vibrant academic, technical, and co-curricular journey of the department from September to December 2022. It reflects the achievements of our students and faculty in diverse fields—industrial visits, alumni interactions, national-level workshops, and innovation-driven events. Through this magazine, we aim to showcase the dynamic spirit, collaborative efforts, and technical excellence that define our department. We hope this edition inspires all readers—students, faculty, alumni, and industry peers—to continue pushing boundaries and contributing to a sustainable and technologically advanced future.

THE HEAD SPEAKS:

It gives me immense pride to witness the dedication and accomplishments of our students and faculty, reflected beautifully in this edition of Mechazine. As we move forward in a rapidly evolving technological world, let us stay curious, innovative, and committed to excellence. I encourage everyone to actively engage, learn, and contribute to the department's vision of creating future-ready mechanical engineers.

-Dr. M. Venu

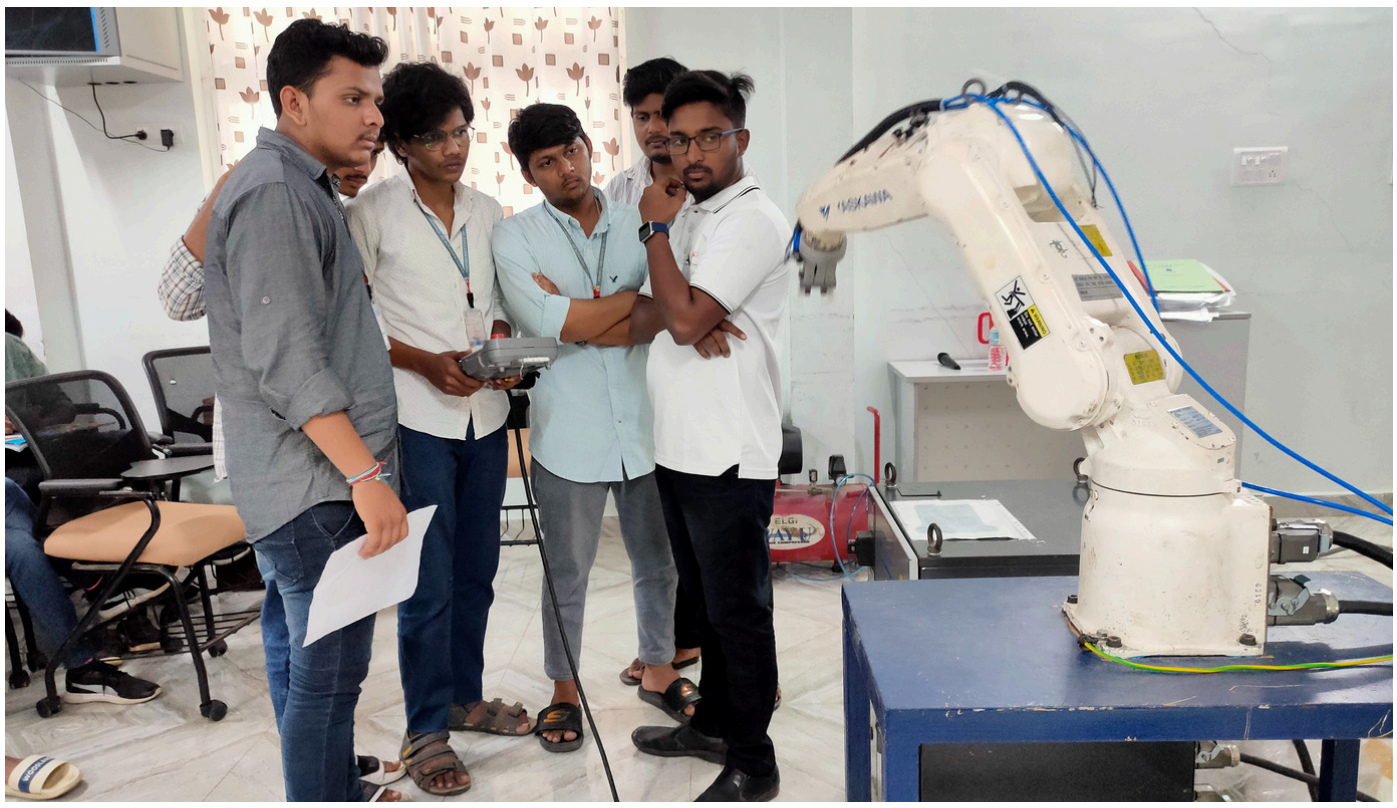
Head of the Department- ME.

EVENTS/ ACHIEVEMENTS

The Department of Mechanical Engineering has been at the forefront of organizing high-impact technical and cultural activities.

- In September 2022, Engineer's Day was commemorated through a series of competitions including Paper Presentations, Popsicle Bridge Making, Chess, Logo Design, and more. Students from all years participated enthusiastically, with winners receiving accolades that boosted their confidence.
- The SAE Collegiate Club organized "Mindset," a one-day event on September 22, that familiarized second-year students with departmental projects and national-level competitions like BAJA and Go-Kart.
- Events such as "SHOUT OUT LOUD" and VITAMEN Day provided platforms for students to engage in both academic and cultural pursuits.
- On October 21–22, a hands-on "E-Bike Overhauling Workshop" offered valuable mechanical exposure.
- Several students represented the department at national symposiums like PROMETHEAN 2K22, securing praise for their performance. Faculty members were also recognized by SAEINDIA for their outstanding contributions.

These initiatives reflect the department's commitment to student excellence, practical learning, and holistic growth.



From VIT to the World
Alumni Talk

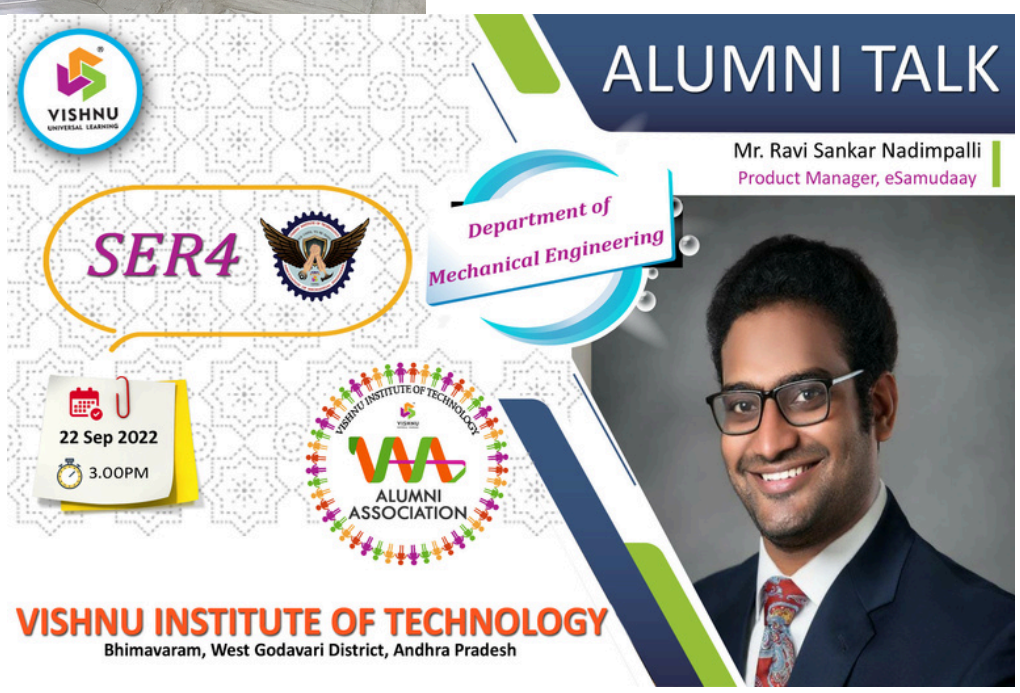
The Department of Mechanical Engineering regularly hosts alumni talks to bridge the gap between academia and industry. These sessions inspire students through real-life career experiences and highlight opportunities in core and emerging sectors.

1. Talk by Mr. Ravi Sankar Nadimpalli (22 Sept 2022)

Mr. Ravi Sankar, Product Manager at eSamudaay and alumnus of 2010–14, inspired students to embrace failures as learning steps, emphasizing resilience, purpose, and the value of experimentation in professional and personal growth.

2. Talk by Mr. D. Naga Vamsi Krishna (15 Oct 2022)

Alumnus Mr. Vamsi Krishna, Lead Engineer at Fiat Chrysler, discussed career paths in the automobile sector, stressing the importance of core technical skills, software knowledge, and communication abilities for industry readiness.



Industrial Visits

Industrial visits serve as a cornerstone for practical learning in the Department of Mechanical Engineering. In the last quarter of 2022, multiple such visits were organized for both students and faculty to enhance real-world exposure.

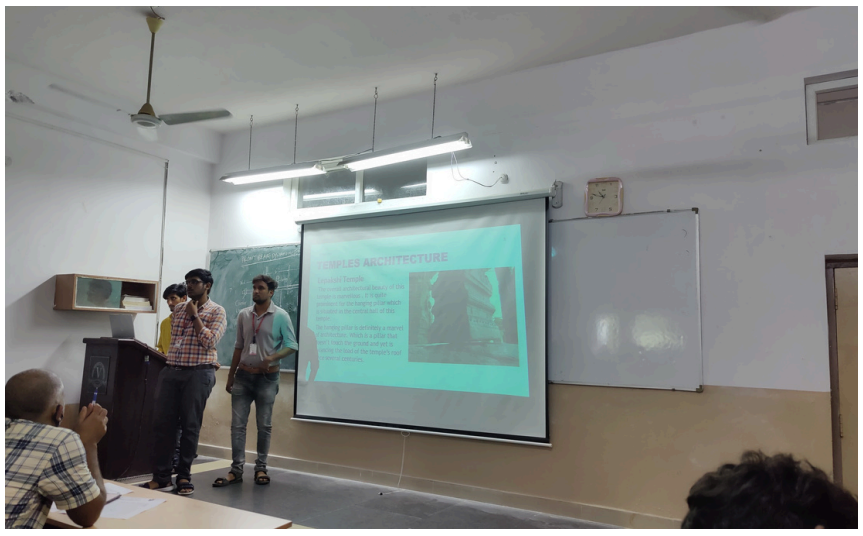
- Second-year students visited Kusalava International and UEM Pistons in Vijayawada, gaining hands-on exposure to engine component manufacturing processes, CNC machining, and industrial automation, bridging academic learning with real-world engineering applications.
- Students explored ARTOS Cool Drink Plant, BSM Foundries, and New Vijaya Sprayers, learning about beverage bottling, traditional casting, and sprayer assembly, gaining diverse insights into mechanical processes and production environments across different sectors.
- BAJA team students visited DriveDock Enterprises, Malikipuram, and experienced EV bike disassembly and reassembly, learning about BLDC motors, controllers, and battery systems, enhancing their skills in electric mobility and hands-on mechanical integration.
- Faculty visited Apollo Tyres and Daimler India in Chennai, exploring tire manufacturing and truck assembly operations, gaining valuable industrial insights to enrich academic delivery and promote future collaboration between industry and academia.

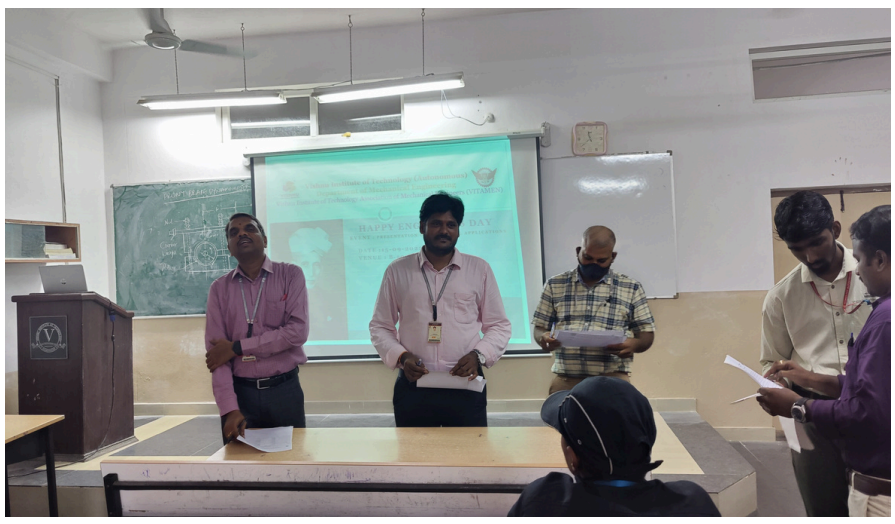
Celebrating Engineer’s Day

In honor of Engineer’s Day, commemorated every year on September 15th to celebrate the birth anniversary of the legendary engineer Sir Mokshagundam Visvesvaraya, the Department of Mechanical Engineering at Vishnu Institute of Technology organized a two-day event on 13th and 14th September 2022. The event was spearheaded by the departmental association VITAMEN and was a resounding success in encouraging creativity, critical thinking, and technical application among students.

Several technical and non-technical competitions were conducted, including Design Contest, Paper Presentation on Ancient Engineering, Popsicle Bridge Building, Logo Design for the BAJA Team, Technical Pick and Talk, Chess, and a Zig-Zag Puzzle. These activities were designed to test and enhance students’ design aptitude, communication skills, and problem-solving abilities.

The enthusiastic participation of students across all academic years made the event vibrant and competitive. Winners were recognized with prizes and certificates, adding to their academic portfolios. More importantly, the event cultivated team spirit, leadership, and a passion for engineering among budding technocrats. The department’s commitment to celebrating engineering excellence through such meaningful events continues to inspire and engage the student community every year.





TechPulse

1. India Launches 6G Testbed

India’s 6G testbed enables ultra-high-speed wireless research, fostering innovations in holographic communication, smart cities, and autonomous systems with strong support from academia and startups.

2. Reusable Rocket Technology by Skyroot Aerospace

Skyroot Aerospace advances reusable rockets, reducing space mission costs and positioning India’s private space industry as a competitive player in sustainable space exploration technologies.

3. Advanced Self-Healing Concrete

European researchers enhanced bacterial concrete to autonomously seal cracks, improving infrastructure longevity and minimizing maintenance, promoting sustainable practices in construction and civil engineering.

4. Carbon Capture Systems in Industrial Plants

Canada and Norway deployed modular carbon capture systems to reduce CO_2 emissions in factories, supporting cleaner industrial practices and global climate change mitigation efforts.

Future Materials – Shaping Tomorrow’s Engineering

The field of materials science is witnessing a revolution with the emergence of advanced future materials that promise to transform the way we build, manufacture, and interact with the world. One such breakthrough is the development of graphene, a single layer of carbon atoms that is incredibly strong, lightweight, and highly conductive—ideal for use in electronics, flexible displays, and energy storage.

Another exciting innovation is aerogel, often called “frozen smoke,” which is ultra-light and an exceptional thermal insulator. Self-healing polymers are also gaining momentum; these materials can repair minor damage autonomously, significantly extending the life of products from electronics to aircraft.

Metamaterials, engineered at the nano-scale, can manipulate light and sound in unusual ways, opening up applications in cloaking technology and advanced optics. These future materials will lead the way in building stronger, lighter, smarter, and more sustainable products, revolutionizing industries from aerospace to medical devices.

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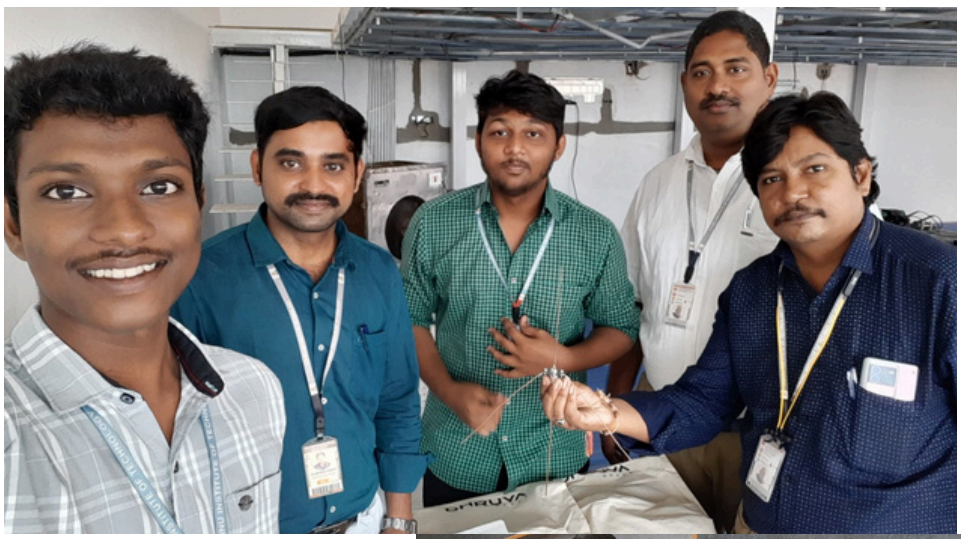

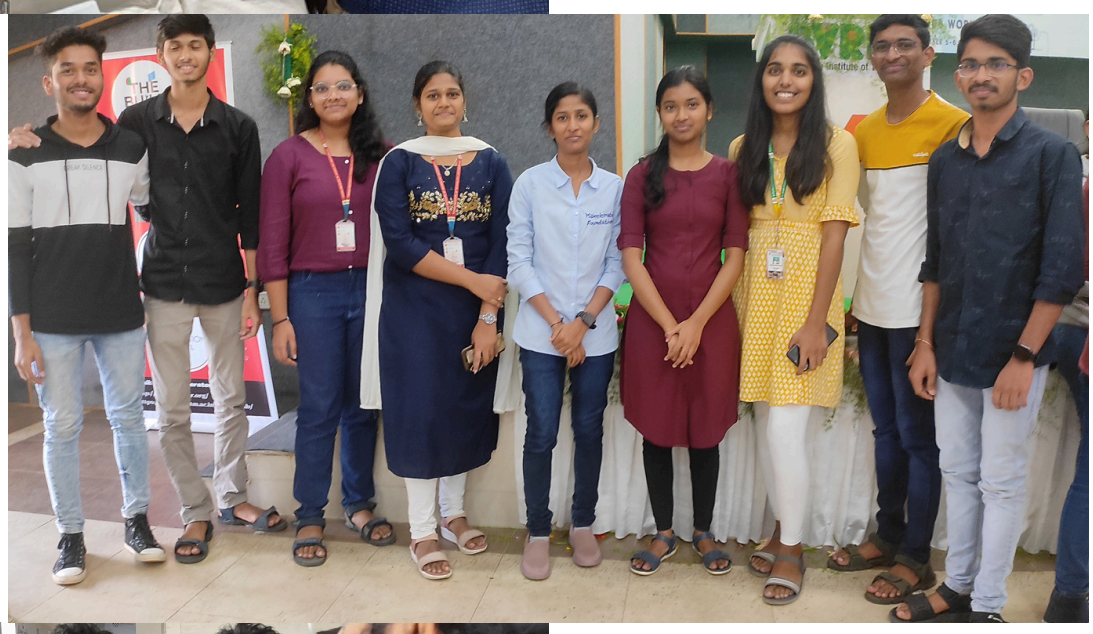

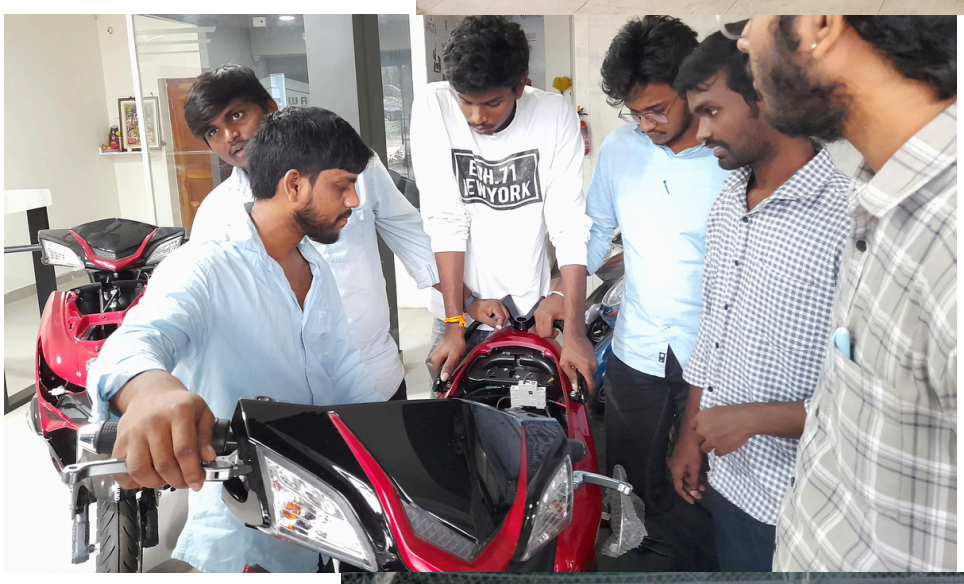

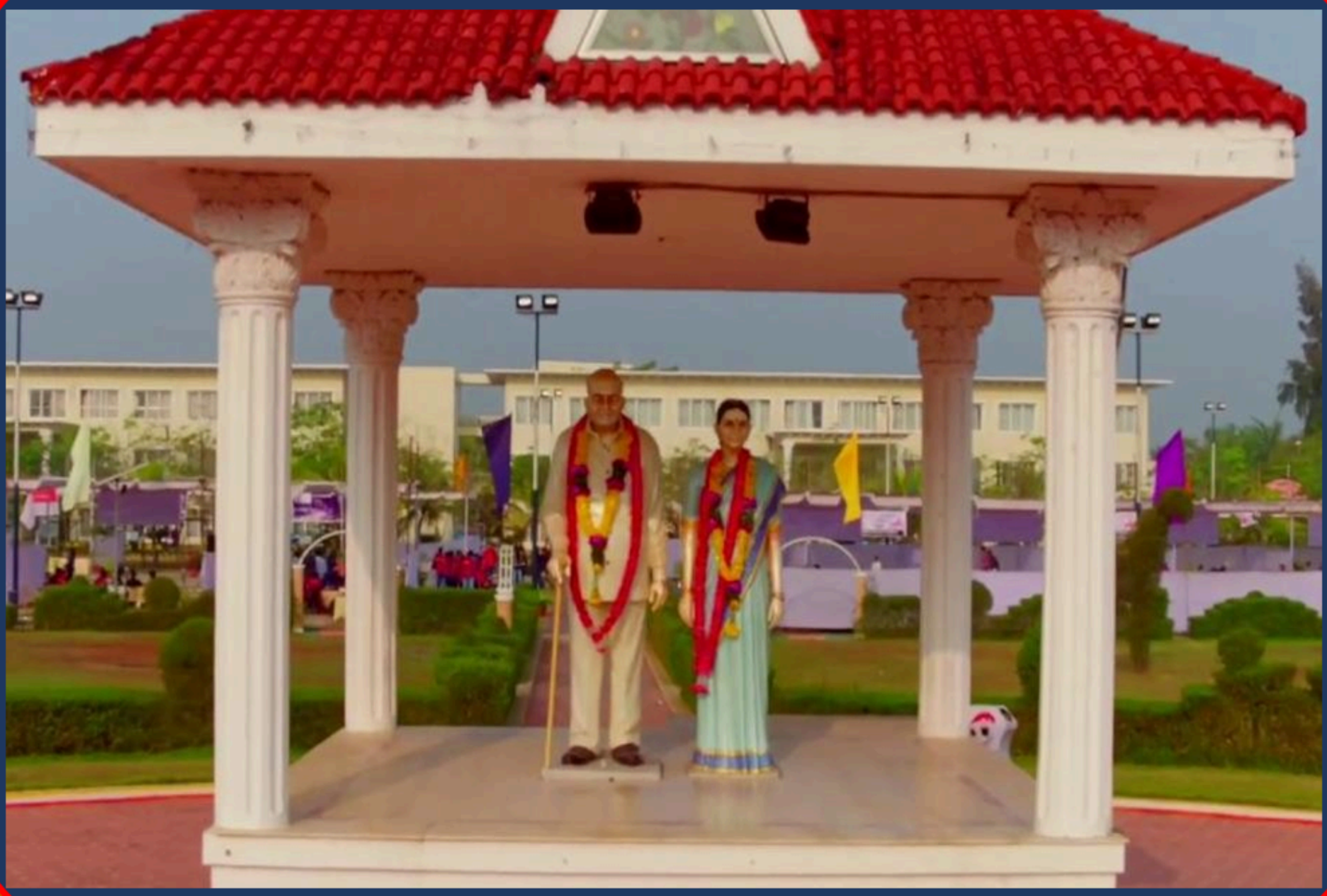

Do You Know?

Disc brakes are more effective than drum brakes because they dissipate heat faster, reducing brake fade. This makes them ideal for high-performance vehicles and heavy-load applications.

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