
Department of
MECHANICAL ENGINEERING



SPARK

NEWSLETTER



Learn Beyond

KPR Institute of
Engineering and
Technology

(Autonomous, NAAC "A")

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About SPARK · Issue 3

SPARK is the quarterly newsletter of the Department of Mechanical Engineering, KPRIET. This issue covers January – March 2026.

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KPR INSTITUTE OF ENGINEERING AND TECHNOLOGY

KPRIET, established in 2009, is recognized for its high standards in engineering and technology. Supported by 250+ dedicated faculty and advanced facilities, KPRIET offers comprehensive programs across undergraduate, postgraduate, and research levels. Its commitment to global standards is evident in its NBA accreditation and partnerships with international institutions.

KPRIET is a dynamic environment for cultivating skilled professionals equipped for modern challenges.

VISION & MISSION

Vision:

To become a premier institute of academic excellence by imparting technical, intellectual and professional skills to students for meeting the diverse needs of industry, society, the nation and the world at large

Mission:

- Commitment to offer value-based education and enhancement of practical skills. Continuous
- assessment of teaching and learning processes through scholarly activities. Enriching research
- and innovation activities in collaboration with industry and institutes of repute.
- Ensuring the academic processes to uphold culture, ethics and social responsibilities.



DEPARTMENT OF MECHANICAL ENGINEERING

The Department of Mechanical Engineering, established in 2009, is committed to advancing technical education through a robust curriculum and research-driven approach. With over 400 students, the department offers undergraduate, postgraduate, and Ph.D. programs. Supported by 30 faculty members, 80% with Ph.D. degrees, and NBA accreditation since 2023, it provides students with essential industry skills and global perspectives.



Vision

To be recognized as a premier centre in the field of mechanical engineering education, research and development to meet the changing needs of industry and society.

Mission



Provide fundamental and skill-based education in mechanical engineering through innovative practices in teaching and learning



Establish centres of excellence in collaboration with reputed industries, professional bodies and research laboratories



Promote entrepreneurship with leadership qualities, ethics, and human values for the society at large



Events Organized

9 programmes organized by the Department during January – March 2026

KONE Centre of Excellence – Inaugural Ceremony and Expert Talk

13 February 2026 | Expert Discussion · Thanam Hall · Chief Guests: Mr. M. P. Saravanan, Senior Director – People, Communication & CSR, KONE, and Mr. Kotresh Jogikalmath, Head – KTEC · Coordinator: Dr. M. Makeshkumar



Event Brochure

The department inaugurated the KONE Centre of Excellence in the presence of Mr. M. P. Saravanan, Senior Director – People, Communication & CSR, Mr. Kotresh Jogikalmath, Head – KTEC, and six experts from KONE. In the expert talk that followed, 210 third-year students heard how elevator and vertical transportation systems are evolving – from AI-driven destination control and regenerative drives to IoT-based predictive maintenance such as KONE 24/7 Connected Services, digital twins and AR-assisted service. The partnership marks an important step in academia–industry collaboration and opens new career pathways for our students.



Hackverse – Smart Prototyping Hackathon (FIESTAA '26)

20 February 2026 | Hackathon · 3D Printing Lab · Coordinator: Mr. P. Arunkumar



Event Brochure

Thirty-three participants from various colleges took on Hackverse, a one-day smart prototyping hackathon held as part of FIESTAA '26. After a technical MCQ screening on design, materials and manufacturing, teams raced against the clock in a 3D modelling challenge based on a given problem statement. Finalists then designed an optimised wheel balancing strength, weight, manufacturability and aesthetics. The event tested creativity and decision-making under pressure and gave participants valuable exposure to parametric CAD and design optimisation, with winners felicitated at the close of the day.



FIESTAA '26 – National Level Paper Presentation

20 February 2026 | Presentation · in association with the Indian Welding Society (IWS) · Coordinators: Dr. B. Arulmurugan and Dr. N. Mathan Kumar

Ninety-three undergraduate and postgraduate students presented their research ideas, technical reviews and experimental studies at the national level paper presentation of FIESTAA '26, organised with the Indian Welding Society. Papers spanned manufacturing, materials, thermal and design engineering and were evaluated by an expert panel for originality, technical depth, clarity and relevance to current engineering challenges. Presenters received constructive feedback from academicians and industry professionals, making the event an excellent platform for building research culture and professional communication skills.



Gripbot – Robotic Gripper Challenge (FIESTAA '26)

20 February 2026 | Symposium Event · ME Ground Floor (Open Space) · Coordinator: Dr. M. Makeshkumar



Event Brochure

Gripbot challenged teams to design robotic grippers that combine precision, stability and efficiency. After a technical inspection and a design review presentation, finalists faced the decisive pick-and-place task, manoeuvring delicate objects through a course against the clock. Entries ranged from two-finger parallel grippers to advanced three-finger claw designs, and participants applied stress analysis and grip-pressure calculations to fine-tune their machines. The task mirrored real assembly-line and packaging operations, giving students a hands-on taste of industrial robotics.



Workshop on Vehicle Dynamics (FIESTAA '26)

21 February 2026 | Workshop · IV Mech Classroom · Resource Person: Mr. E. Aravindram, Manager – Vehicle Dynamics Division, TVS Motor Company · Convenor: Dr. S. Gokulkumar



Event Brochure

Nearly a hundred participants attended a workshop on vehicle dynamics delivered by Mr. E. Aravindram of TVS Motor Company's Vehicle Dynamics Division. The session covered longitudinal, lateral and vertical dynamics, tyre–road interaction, suspension behaviour, ride comfort and handling stability, illustrated with case studies from automotive development and testing. Students learned how mass distribution, centre of gravity and load transfer shape behaviour during braking, acceleration and cornering. The interactive session bridged theory and industry practice and drew enthusiastic questions on performance, safety and future mobility.



Mr. Mechanic (FIESTAA '26)

21 February 2026 | Competition · Special Machine Shop · Convenor: Dr. S. Gokulkumar



Event Brochure

Mr. Mechanic set out to find the sharpest all-round mechanical engineer at FIESTAA '26, attracting 134 participants. A challenging objective screening round on manufacturing processes, engineering mechanics and core fundamentals narrowed the field to five teams. The final round tested practical skills through technical problem-solving, engineering-drawing interpretation and troubleshooting scenarios under time pressure. One team emerged as Winner and another as Runner-up, and the event gave every participant a chance to apply theory to real-world engineering challenges.



180-Hour Skill Development Programme on Robotic Welding & Additive Manufacturing

23 February – 26 March 2026 | VAC / Training Programme · CMMT Lab · Resource Persons: Mr. R. Venkat, CEO, Centroid Engineers India Pvt. Ltd. & GeeDee WIM Institute of Welding Technology, and Mr. S. Ramanathan, Kavin Inc. · Coordinator: Dr. B. Arulmurugan · Co-convenor: Mr. P. Arunkumar



Event Brochure

The department's flagship 180-hour skill programme welcomed eleven students – nine from Jyothi Engineering College, Kerala, one from North East Frontier Technical University, Arunachal Pradesh and one from Christ the King Engineering College, Coimbatore. The month-long curriculum covered robotic welding systems and automation, process parameter optimisation, additive manufacturing and DfAM, NDT for weld quality, CAD/CAM and PLC programming, delivered through labs, demonstrations and real-time problem solving. The outcome speaks for itself: participants secured placements at Flowlink, Bull Machines and Kongu Engineers.



IWS Student Chapter Inauguration and Guest Lecture on “Opportunities in Welding”

27 February 2026 | Guest Lecture · Veena Hall · Chief Guests: Dr. N. Murugan (Jonah), Senior Welding Consultant; Mr. R. Venkatanarayanan, Chairman, IWS & Director, CENTROID Group; Dr. R. Sathiskumar, Secretary, IWS · Coordinator: Dr. B. Arulmurugan



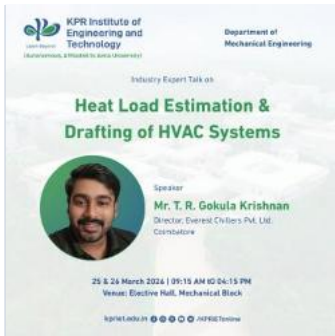
Event Brochure

The Indian Welding Society (IWS) Student Chapter was formally inaugurated at KPRIET, followed by a technical talk on “Opportunities in Welding”. Distinguished guests from the welding fraternity – Dr. N. Murugan, Mr. R. Venkatanarayanan and Dr. R. Sathiskumar – spoke to 74 students about current industry trends, emerging welding technologies, professional certifications and the wide range of careers in fabrication and manufacturing. The new chapter will serve as a platform for technical activities, certifications and stronger industry interaction for students throughout the year.



Industry Expert Talk on Heat Load Estimation & Drafting of HVAC Systems

25 – 26 March 2026 | Guest Lecture · Elective Hall, Mechanical Block · Resource Person: Mr. T. R. Gokula Krishnan, Director, Everest Chillers Pvt. Ltd., Coimbatore · Convenor: Dr. N. Udhayakumar



Event Brochure

Fifty students took part in a two-day expert talk on heat load estimation and drafting of HVAC systems by Mr. T. R. Gokula Krishnan, Director, Everest Chillers Pvt. Ltd. Starting from the vapour compression cycle and primary versus secondary refrigeration, the sessions covered sensible and latent heat loads, unit conversions (TR, kW, BTU/hr, CFM), chiller types and ASHRAE design data. Two detailed case studies – air-conditioning for a hospital and for a residence – walked students through area, lighting, equipment and occupancy loads to final TR and CFM selection, showing exactly how HVAC systems are sized in practice.

Faculty Publications

11 journal articles and 3 patents

Journal Publications

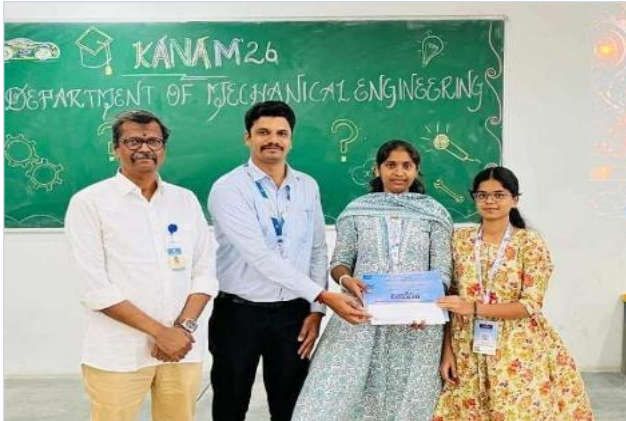
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2. Dinesh, S., Prabhu, L., Manoj Kumar, P. and Gokulkumar, S. (2026) 'Mechanical and interfacial performance of Curaua fiber/epoxy composites: a comparative study of biochar and alkaline microfillers of chestnut via PSI-VIKOR approach', *Journal of Polymer Research*. Available at: <https://doi.org/10.1007/s10965-025-04731-3>.
3. Palaniappan, M., Manoj Kumar, P., Arunkumar, P. and Gebreyohannes, D.T. (2026) 'Mechanical characterization of PETG–carbon fiber composite parts using 3D printing for drone frame application', *Scientific Reports*, 16. Available at: <https://doi.org/10.1038/s41598-026-38051-3>.
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10. Karuppusamy, M., Palanisamy, S., Gurusamy, M., Balasubramanian, V.P., Jayamani, M., Lakshmi Sankar, S., Sundararajan, K., Sivanantham, G., Ali, S.K., Palaniappan, M., Belay, M. and Abbas, M. (2026) 'Biomimetic and bioinspired materials: design strategies, mechanical properties, and engineering applications – a review', *Global Challenges*. Available at: <https://doi.org/10.1002/gch2.70101>.
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Patents

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2. Arulmurugan, B. (2026) *Magnetically controlled frictionless bearing system for high-speed rotating machinery*. Indian Patent Application No. 202641031229 A, filed 27 March 2026. KPR Institute of Engineering and Technology.
3. Arulmurugan, B. (2026) *Bio-inspired variable stiffness mechanical joint mechanism*. Indian Patent Application No. 202641032018 A, filed 27 March 2026. KPR Institute of Engineering and Technology.

Student Achievements

Our students bring home prizes, medals and trophies



Dhanusri R & Swasthica U

Secured 1st place in Tech Trix @ Kanam'26, Dr. N.G.P. Institute of Technology, Coimbatore



Harish K

Secured 3rd place in CAD Craze @ Kanam'26, Dr. N.G.P. Institute of Technology, Coimbatore



Harish K

Secured 2nd place in CAD Clash @ VARNAM'26, Karpagam Institute of Technology, Coimbatore



Harish K

Secured 1st place in CAD Modelling @ MECTROTZ'26, Karpagam Academy of Higher Education, Coimbatore



Harish K

Secured 3rd place in Technical Quiz @ MECTROTZ'26, Karpagam Academy of Higher Education, Coimbatore

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