Department Activity Report – February 2025

Department of Mechanical Engineering

1. Department programs

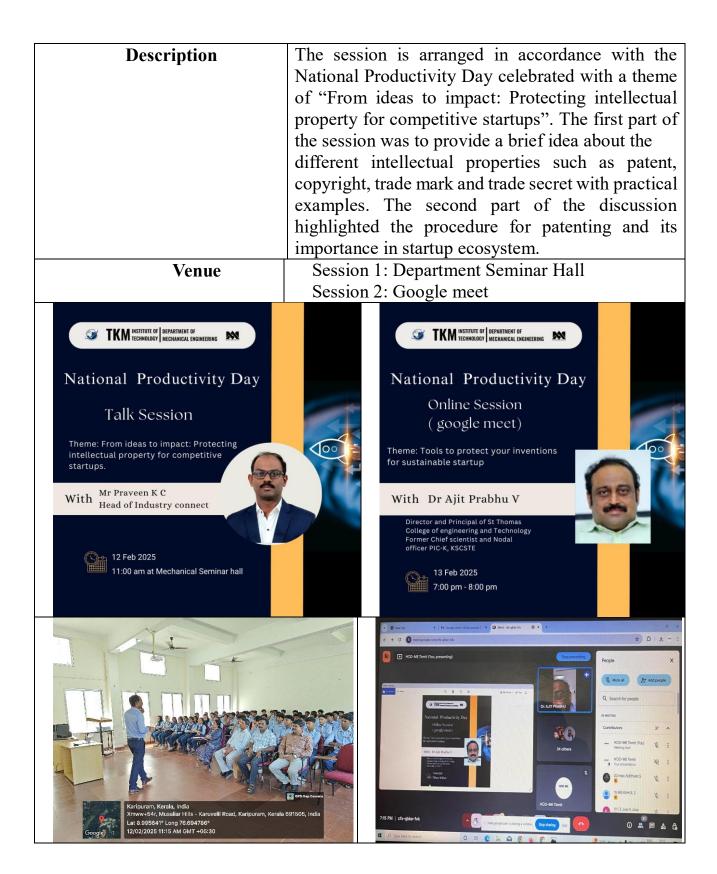
> Insight 2025

Date	February 10 th and 11 th 2025
Program	A variety of workshops and exhibitions were conducted
8	by department association, AMET
Description	 As a part of the event, the following events were conducted Ultimate woodsmith (Competition to prepare a wood model with precise measurements) Weld factor (Welding exhibition on TIG welding) CNC expo & Pelton Turbine (Department facilities were showcased with working models) Advanced Materials Expo (exhibition of various metal matrix composites, polymer composites, biocutting fluids, shape memory alloys, MWCNT, and biofuels were done) Engine Assembly Ignition Point (Four-cylinder engine was assembled and parts were displayed in a working model pattern.)
	The event witnessed enthusiastic participation from students of various schools and colleges and faculty members. Over 100 students and faculty members attended the expo, making it a grand success. The hands- on experience and knowledge-sharing sessions were highly appreciated by all attendees.
Venue	Basic Mechanical workshops, Hydraulics lab, thermal
	Lab and Machine shop



> National Productivity Day

Date	February 12 th and 13 th 2025
Program	Session 1: From ideas to impact: Protecting intellectual property for competitive startups
	(Offline)
	Session 2: Tools to protect your inventions for sustainable startup (Online)



2. Industrial visits conducted

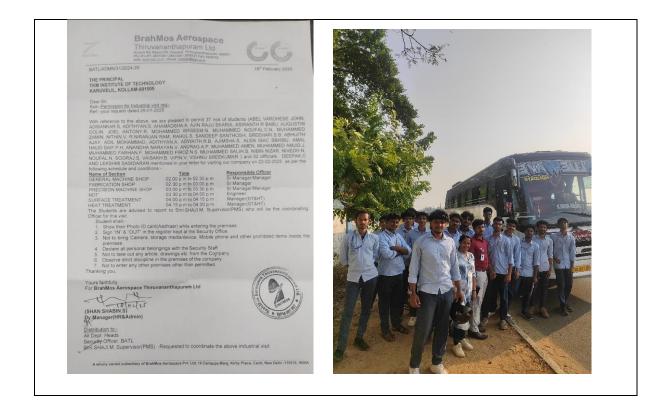
Date	February 16 th 2025
Program	One-day industrial visit at Plas Pack Synthetics Pvt
	Ltd, Gandhinagar, Gujarat
Description	Students of 6 th semester and a faculty, Prof. Deepu Chandran of the Mechanical department attended an industrial visit at Plas Pack Synthetics Pvt Ltd, Gandhinagar, Gujarat. The visit provided valuable insights into real-world applications of polymer processing techniques such as injection molding, extrusion, blow molding, and thermoforming used in synthetic and plastic product manufacturing. As a part of the internship program, students gained insights into quality assurance procedures, ISO standards, and safety protocols followed in a plastics manufacturing plant. They got to see cutting-edge machinery, robotics, and automation used in the plastics industry, enhancing their technical knowledge.
Venue	Plas Pack Synthetics Pvt Ltd, Gandhinagar, Gujarat
Kalol, Gujarat, India Google Google	Lat 23.223512° Long 72.51296°

> Industrial visit conducted by 6th Semester students



> Industrial visit conducted by 2nd and 4th semester students

Date	February 22 nd 2025
Program	One day industrial visit conducted at BrahMos Aerospace Trivandrum Ltd
Description	35 Students of 2 nd and 4 th semesters and two faculty members, Prof. Deepak C and Prof. Lakshmi Sasidharan of the Mechanical department attended an industrial visit at BrahMos Aerospace Trivandrum Ltd. Visiting facilities such as general machine shops, fabrication shops, precision machine shops, non-destructive testing (NDT) facilities, surface treatment, and heat treatment processes offers students invaluable practical exposure. They gained importance with machining operations, fabrication techniques, and precision manufacturing. Students also learn about quality control through NDT methods, understand material enhancements via surface and heat treatments, and observe industrial safety protocols. This comprehensive exposure bridges the gap between theoretical knowledge and real-world applications, preparing them for careers in manufacturing and engineering industries.
Venue	BrahMos Aerospace Trivandrum Ltd



3. Student achievement

• Nikhil N, S8 ME student and his team secured second prize in 8kg Robowar and first prize in Robosoccer & Roborace at Jain University held on February 1st 2025.



• Nikhil N, S8 ME student got second prize in 8kg Robowar held at TKM Institute of Technology, Ezhukone on February 11th 2025.



- Nikhil N, S8 ME student secured third prize in the 8 kg Robo War held at SSM Polytechnic College, Tirur on February 21st and 22nd 2025.
- Nikhil N, S8 ME student secured First prize in Robo soccer held at Bishop Jerome Institute of Technology, Kollam on February 23rd 2025.
- Goutham S of S8 ME got core placement on Ashok Leyland Hosur as Company Engineer Trainee as a part of attending a placement drive at VKCET on Janaury 31st.



4. Paper Publication

A paper was published by Dr. Mubarak M. on the journal "Next Sustainability" of *Elsevier* publication on the topic "A comprehensive review of production and utilisation of ammonia as potential fuel for compression ignition engines".

ALC: NOT	Contents lists avail	able at ScienceDirect		
274 M	Next Sus	tainability		
ELSEVIER	journal homepage: www.acienced	irect.com/journal/next-sustainability		
Review article		utilisation of ammonia as		
	compression ignition eng			
	MEA Engineering College Perinthalmanna, Malappurur	oopathi 🗐, Ravikumar Jayabal 4		
¹⁰ Department of Mechanical Engineering	, TKM Institute of Technology, Kollam, Kerala 691505,	India		
¹ Department of Automobile Engineering, ⁴ Department of Mechanical Engineering	College of Engineering and Technology, SRM Institute of 5 Saveetha School of Engineering, SIMATS University, C	f Science and Technology, Kamankulathur, Tarril Nadu 603203, India hennai 602205 India		
ARTICLE INFO	ABSTRACT			
Keywards:		istion engines (ICEs) have powered cars using gasoline and diesel as the prima		
Ammonia Green fuel		fuel. Bio-derived faels have been blended with conventional faels to address the depletion of fossil faels and the associated greenhouse effect. The researchers focus on finding new technology that leads to carbon-free mobilit Renewable energy sources such as amonsia, hydrogen, and CNG are becoming increasingly popular as efficie		
Renewable fuel				
CI engine		in as ammonia, nyurogen, and Cros are seconding increasingly popular at emore is. Due to the concern about the production and storage of hydrogen, ammonia		
		s better hydrogen-storing capacity. This review paper aims to discuss the various		
	ammonia production process	es, the possibilities of ammonia as fuel in conventional CI engines, and the use		
	ammonia in internal combust	ammonia in internal combustion engines. Research has shown that the addition of ammonia to CI enhances it		
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5. FDP attended by faculties

Dr. Mubarak M. attended a faculty development programme organised by AICTE Training And Learning (ATAL) Academy Faculty Development Program on ADVANCES IN METAL ADDITIVE MANUFACTURING: TODAY, TOMORROW, AND BEYOND at National Institute of Technology Calicut from 27/01/2025 to 01/02/2025.

