KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Department of Mechanical Engineering

INNOVATION

Name of the course instructor	**: Dr. S. Thanga Kasi Rajan**
Subject Name	**: Engineering Materials and Metallurgy**
Subject Code	**: ME2251**
Academic Year	**: 2025 - 2026**
Class & sec	**: II year (Even Sem)**
Tool Used	**: Seminar**

Outcome:

- Students gained foundational knowledge of plastic materials and composites, enabling them to identify suitable materials for different applications.
- Improved student engagement towards materials science and its practical relevance in industries and in products.

Real life / Case studies (If any):

Automotive Industry

- *Polypropylene (PP)* – for bumpers and interior trims
- *Acrylonitrile Butadiene Styrene (ABS)* – for dashboards
- *Polycarbonate (PC)* – for headlamp covers

Medical Field

- *Polyvinyl Chloride (PVC)* – for IV bags and tubing
- *Polypropylene (PP)* – for syringes
- *Polyethylene (PE)* – for disposable gloves

Packaging

- *Polyethylene Terephthalate (PET)* – for beverage bottles
- *Low-Density Polyethylene (LDPE)* – for plastic bags and wraps
- *Polystyrene (PS)* – for foam containers

SDG mapping Relevance:

- SDG 9 – Industry, Innovation, and Infrastructure
- SDG 12 – Responsible Consumption and Production
- SDG 13 – Climate Action (Eco friendly)

PO's and PSO's relevance: PO1, PO4, PO6, PO10, PSO1, PSO2

Objective:

- To enhance students' understanding of various types of plastics, their properties, and the role of composite materials in modern applications.
- To create awareness about material selection in engineering based on functional, environmental, and structural considerations.

Proof (Photo\document\any other) :

Batch details, topic for the seminar are enclosed seperately

STAFF IN CHARGE **HOD\MECH**

KAMARAJ COLLEGE OF ENGINEERING & TECHNOLOGY

(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)

S.P.G.Chidambara Nadar - C.Nagammal Campus

S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

Department of Mechanical Engineering

ME2251 – Engineering Materials and Metallurgy

Seminar Topics and Batch details

Batch No	Roll No.	Name of the students	Title of the Seminar
1	24UME001	Udhayasankaran P	Engineering Polymers: Thermoplastics vs Thermosetting Plastics
	24UME002	Varadharajan M	
2	24UME004	Suriya Prakash V.M	Polymerization
	24UME003	Naresh Kanna T	
3.	24UME005	Ariharasudhan M	Difference Between Thermosetting and Thermoplastic
	24UME007	Muthu Krishnan V	
4.	24UME009	Akshay Sivan	Properties and Applications of PPPS + PVC Properties and Applications of PET, PC, PA
	24UME008	Maariselvam	
5.	24UME011	Sabarivaasan S	Engineering Thermoplastic and Applications
	24UME012	Karthi K	
	24UME018	Guruvishnu M	
6.	24UME013	Sugumar.G	Formaldehyde, Phenol and Urea Formaldehyde
	24UME015	Mohan.A.C.T	
	24UME028	Surya Prakash C	
7.	24UME020	Sridharan A	Engineering Ceramics
	24UME021	Lakshmanan S	
	24UME023	Manoj S	
8.	24UME022	Sanjay Kumar M	Composite Materials and Metal Matrix Composites
	24UME022	Harini V S	
	24UME025	Ajay Chandran S	
9.	24ME010	Lakshmi Narayanan .K	Composite Material and Applications
	24UME014	Krishnmoorthi .P	
	24UME024	Raja Pandi. S	

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

DEPARTMENT OF MECHANICAL ENGINEERING

INNOVATION in Teaching Learning

Name of the course instructor : Dr.B.Balavariavan

Subject Name : Thermal Engineering

Subject Code : ME2255

Academic Year : 2025-26 – Even Sem

Class & sec : II

Activity Conducted : Poster Presentation Date : 02.03.2026

Subject Expert/Judges for Poster Presentation : Mr.A.Sankara Narayana Murthy/ Mech

Outcomes

Learning Outcomes:

- Students will gain knowledge about different systems used in Internal Combustion (IC) engines such as fuel supply system, cooling system, lubrication system, ignition system, and exhaust system.
- Students will be able to identify the major components of each engine system and explain their functions clearly.
- The activity improves students' understanding of engine construction, working principles, and system integration.
- Students develop confidence in explaining technical concepts visually and verbally during the presentation.
- Designing posters encourages creativity in presenting engineering concepts through diagrams, charts, and illustrations.
- The activity motivates students to explore advanced engine technologies and automotive systems.

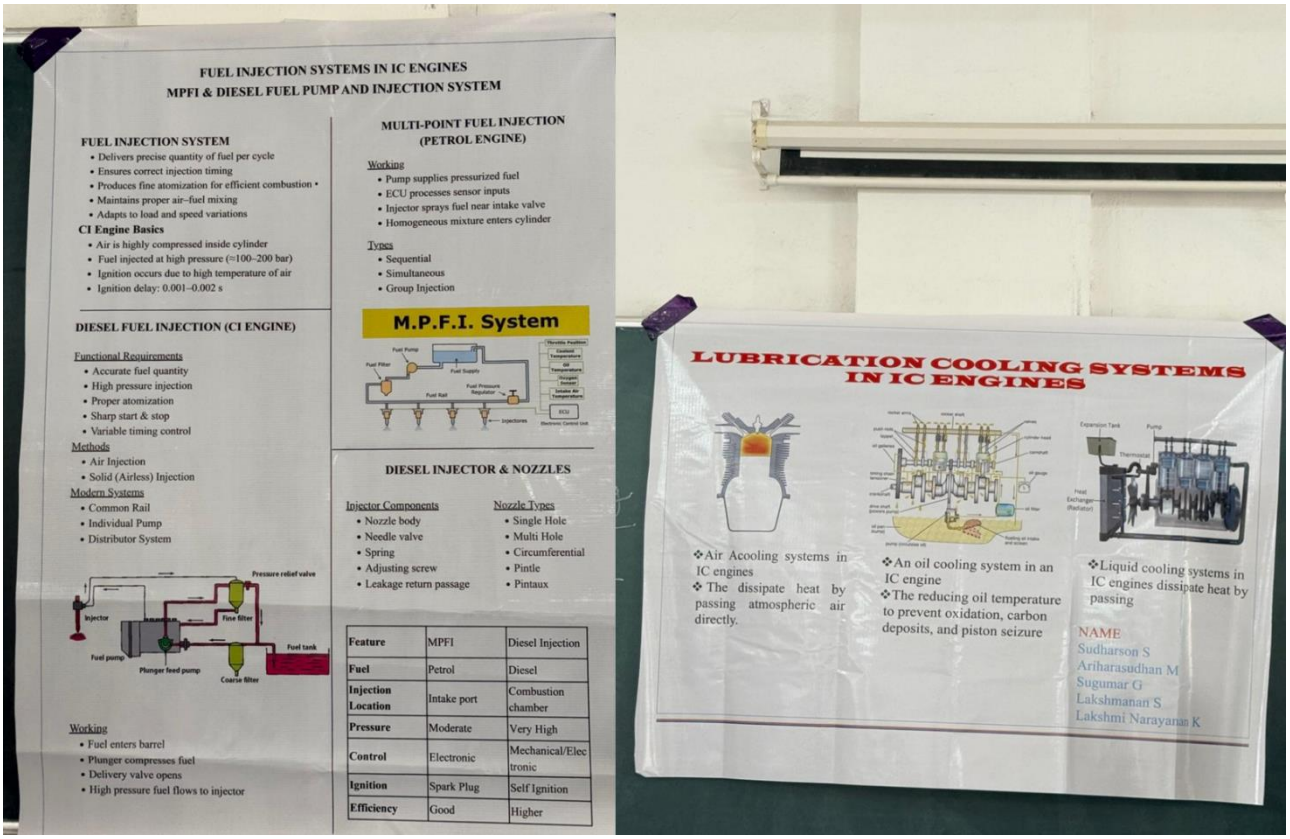
SDG mapping Relevance: SDG 4, SGD9 and SDG 14.

PO's and PSO's relevance: PO1, PO2, PO3, PO4, PO8, PO9, PO11, PSO1, PSO2.

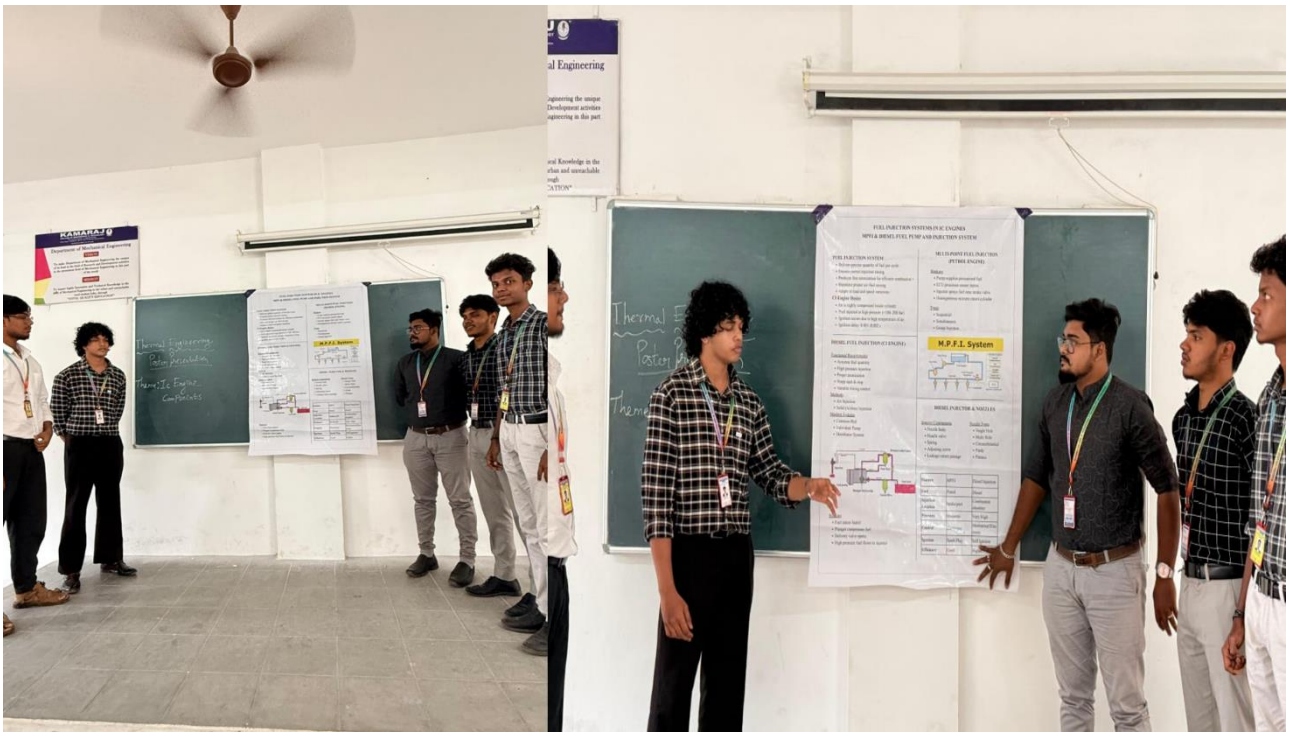
Objective:

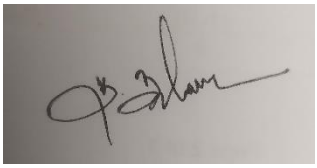
- To understand the basic concepts and working principles of Internal Combustion (IC) engine systems.
- To identify the different systems used in IC engines such as fuel system, cooling system, lubrication system, ignition system, and exhaust system.
- To study the functions and importance of each engine system in overall engine performance.
- To develop knowledge about the components involved in various IC engine systems.
- To enhance students' technical understanding of automobile and thermal engineering concepts.
- To encourage students to explore recent advancements in IC engine systems.
- To connect theoretical knowledge with practical applications in automobiles and industries.
- To create interest among students in automobile engineering and engine technologies.
- To motivate self-learning and active participation in technical activities.

Posters Samples



Proof (Photo\document\any other)





Faculty In-charge

HOD\Mech

KAMARAJ
COLLEGE OF ENGINEERING & TECHNOLOGY
(An Autonomous Institution - AFFILIATED TO ANNA UNIVERSITY, CHENNAI)
S.P.G.Chidambara Nadar - C.Nagammal Campus
S.P.G.C. Nagar, K.Vellakulam – 625 701 (Near VIRUDHUNAGAR).

ACTIVITY BASED LEARNING

Name of the course instructor : **Dr.S.Muthu Natarajan**

Subject Name : **Engineering Graphics**

Subject Code : **GE2151**

Academic Year : **2025 – 2026 Even Semester**

Class & sec : **Ist Year – BT**

Tool Used : **Peer Enabled Learning**

Outcome:

- A Peer Enabled Learning activity was conducted for the subject Engineering Graphics to enhance students' understanding through collaborative learning and discussion.
- Students actively participated in explaining drawing concepts, projection methods, and drafting techniques to their peers during the session. The activity helped students improve their visualization skills, problem-solving abilities, and confidence in engineering drawing practices.
- Peer Enabled Learning contributed to strengthening students' practical knowledge in Engineering Graphics and improved overall participation in the classroom.

SDG mapping Relevance: SDG 4, SDG 9, SDG 17

PO's and PSO's relevance: PO1, PO2, PO3, PO8

Objective:

- To enhance students' understanding of Engineering Graphics concepts through peer-to-peer learning.
- To improve visualization and drafting skills by collaborative problem-solving activities.
- To encourage active participation, teamwork, and knowledge sharing among students.
- To develop confidence in explaining engineering drawing concepts such as orthographic projections, isometric views, and section drawings

Proof (Photo\document\any other)

S. Muthu Natarajan
AP/Mech

STAFF IN CHARGE

HOD/FIRST YEAR