AF 6

Department of Mechanical Engineering

REPORT

Details of Activity: Expert Lecture "*Application of Thermodynamics in Mechanical Engineering and its Fundamentals"*

Name of the Activity	Expert Lecture on "*Application of Thermodynamics in Mechanical Engineering and its Fundamentals"*		
Date & Time	31/07/2026	**Department / Committee**	Mechanical Engineering
Venue	SE Classroom (B210)	**No. of Participants**	52
Nature of Activity	Guest lecture	**Mode of Activity**	Online
Name of Activity In-charge	Dr. Kishor Rambhad	**Name of Activity Coordinator**	Dr. Shashikant Verma
Name and Affiliation of Resource Person	Assistant Professor, National Institute of Technology, Raipur		

Activity Information:

Objectives	The primary objective of the expert lecture was to strengthen students' conceptual understanding of Thermodynamics and its engineering applications. The session aimed to bridge the gap between theoretical concepts and practical engineering problems by demonstrating the significance of thermodynamics in various industrial sectors. The lecture also intended to motivate students to develop analytical skills required for solving real-world thermal engineering problems and to appreciate the role of thermodynamics in sustainable energy systems.
Target Audience	Second Year Mechanical Engineering Students (Semester III)
Methodology	The expert lecture was delivered by **Dr. Shashikant Verma** from the **National Institute of Technology (NIT), Raipur** in an engaging and interactive manner. The session began with a comprehensive overview of the fundamental principles of thermodynamics, including the laws of thermodynamics, properties of pure substances, energy interactions, and entropy. The resource person explained the practical relevance of thermodynamics in engineering systems such as power plants, refrigeration and air conditioning, internal combustion engines, gas turbines, renewable energy systems, and industrial manufacturing processes. Several real-life engineering examples and case studies were discussed to help students correlate classroom concepts with practical applications. The lecture concluded with an interactive question-and-answer session where students actively participated by clarifying conceptual doubts and discussing various applications of thermodynamics in modern engineering.

AF 6

Outcomes	The expert lecture significantly enhanced students' understanding of thermodynamic principles and their practical applications in engineering. Students developed better conceptual clarity regarding energy conversion processes, thermal systems, and engineering analysis. The session inspired students to explore advanced topics in thermal engineering and renewable energy while emphasizing the importance of fundamental concepts in solving engineering challenges. Overall, the lecture successfully bridged the gap between academic learning and practical industrial applications.

SWOT Analysis of the Event:

Strength	Weakness	Opportunity	Threats
Expert faculty from NIT Raipur	Limited duration of the session	Enhanced conceptual understanding	Internet connectivity issues (if online)
Interactive discussion	Limited time for extended interaction	Exposure to higher education and research	Scheduling constraints
Practical engineering examples		Motivation for research and competitive examinations	

Feedback Analysis: Oral feedback was collected from the participants. Students expressed high satisfaction with the expert lecture and appreciated the resource person's ability to explain complex thermodynamic concepts using practical examples. The interactive nature of the session enhanced student engagement and learning.

Geo-Tagged Photo



Proofs & Documents Attached (Tick mark the proofs attached) :

	Notice / Brochure		Feedback Analysis
✓	Attendance list		News letter data for Spectrum
✓	Photos		Media News Details
	Certificate		CO-PO Mapping

AF 6

	Feedback Form		Any Other

Prepared By	Checked By
Name & Dated Signature of Coordinator	**Name & Dated Signature of Committee In- charge**
Dr. Kishor Rambhad	Dr. Kishor Rambhad

Date of Activity: 31/07/2026

Date of Report Submission: 31/07/2026

Reason for delay if any: No

Approved By

HOD Signature

Date: 31/07/2026