

A.Y: 2022-23

#### REPORT OF THE EVENT

Event Name: Guest lecture on advances in manufacturing

Date(s): 11-11-2022

Coordinator: D Kiran Babu

Resource person(s):Dr. AMar Nagendram

Participants: 70 Duration: 2.5 Hours Brief Description:

Advances in manufacturing in mechanical engineering include automation, robotics, 3D printing, and CNC machining, which improve precision, efficiency, and customization. Technologies like IoT, AI, and smart manufacturing enable real-time monitoring and optimization. Advanced materials and processes, such as additive manufacturing and high-speed machining, enhance product quality and reduce waste. These innovations drive productivity and support complex, high-performance components across industries like aerospace, automotive, and healthcare.



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### Report of the Event

Event Name: Guest lecture on Guest Lecture on failure modes of sandwich panels

Date(s): 25-09-2023

Coordinator: D.KiranBabu

Resource person(s): D.Srinivas Rao

Participants: 40 Duration: 3 Hours Brief Description:

Failure modes of sandwich panels include core shear, face wrinkling, debonding between face and core, and face yielding. These occur due to excessive loading, impact, or manufacturing defects. Core shear happens when the core material fails in shear; face wrinkling is buckling of the face sheet; debonding weakens structural integrity. Understanding these failure modes is essential for improving design and ensuring the reliability of lightweight composite structures.



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### Report of the Event

Event Name: Guest Lecture on Variation of velocity and acceleration of piston on

velocity, acceleration of water in pipes

Date(s): 22-12-2023

Coordinator: K.LakshmiPriya

Resource person(s): P.Satyanarayana

Participants: 7
Duration: 2.5 Hours
Brief Description:

In mechanical systems like reciprocating pumps, the piston moves with varying velocity and acceleration due to crank rotation. This unsteady motion causes fluctuating water velocity and acceleration in pipes, leading to pulsating flow. These variations result in pressure surges, known as acceleration head, affecting pump efficiency and system stability. Air vessels are often used to minimize these effects and ensure smoother water flow in suction and delivery pipes.



COORDINATOR

HOD



### Report of the Event

Event Name: Guest lecture on Motion Analysis of Robots

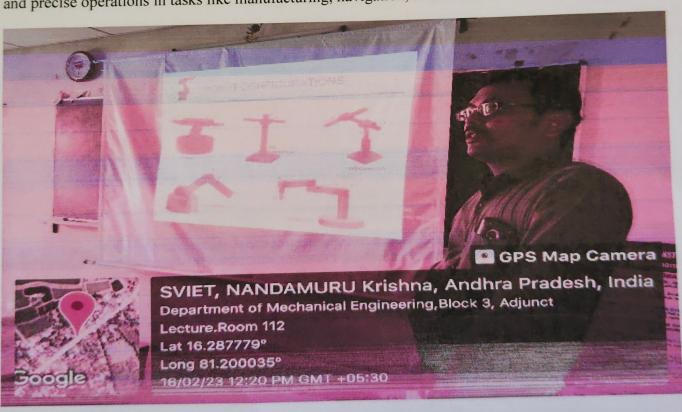
Date(s): 16-02-2023

Coordinator: CH.Anusha

Resource person(s): Mr. K kalyankumar

Participants: 43
Duration: 2.5 Hours
Brief Description:

Motion analysis of robots involves studying and evaluating the movement of robotic systems to ensure accuracy, efficiency, and functionality. It includes analyzing kinematics (position, velocity, acceleration), dynamics (forces and torques), and trajectory planning. This process helps in optimizing robot performance, improving control systems, and ensuring smooth and precise operations in tasks like manufacturing, navigation, or human-robot interaction.



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#### REPORT OF THE EVENT

Event Name: Guest lecture on Improvements in casting methods

Date(s): 16-02-2023

Coordinator: D Kiran Babu

Resource person(s): Mr. K kalyankumar

Participants: 43
Duration: 2.5 Hours
Brief Description:

Improvements in casting methods have significantly advanced the quality, accuracy, and efficiency of metal production. Key developments include the use of computer-aided design (CAD) and simulation software to predict defects and optimize mold design. Automation and robotics have increased consistency and productivity. New techniques like vacuum casting, investment casting, and lost-foam casting enable intricate shapes and better surface finishes. Enhanced mold materials and controlled solidification also improve strength and reduce porosity, benefiting industries such as automotive, aerospace, and medical manufacturing.



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### Report of the Event

Event Name: Guest Lecture on Transformation in the Solid State

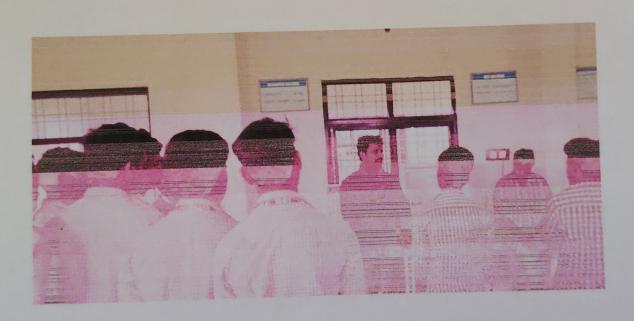
Date(s): 12-02-2023

Coordinator: K.LakshmiPriya

Resource person(s): Leela Siva Rama Prasad

Participants: 20 Duration: 2.5 Hours Brief Description:

Transformation in the solid state in mechanical engineering refers to changes in a material's internal structure without altering its physical state. Common transformations include phase changes like austenite to martensite in steel during heat treatment. These transformations affect mechanical properties such as hardness, strength, and toughness, and are crucial in



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