

Workshop Report: Workshop On I.C. Engine and Automobile Prototyping

Department of Mechanical Engineering School of Engineering & Technology, Sandip University Madhubani

Date: 28/10/2023

Venue: Room no. 7 (SRP, Building) Sandip University, Madhubani
Hands-on Session: Workshop, Sandip University, Madhubani

Instructors:

- Dr. Kunal Kishor Chandan (HOD, Mechanical Engineering)
- Dr. Rajesh Kumar (HOD, First Year Engineering)
- Mr. Anjay Kumar (Assistant Professor, Mechanical Engineering)
- Mr. Keshav Kumar (Assistant Professor, Mechanical Engineering)

Introduction:

The Workshop on I.C. Engine and Automobile Prototyping was held on 28/10/2023 at Room No. 7, Main Building organized by Department of Mechanical Engineering, the workshop aimed to provide participants with a comprehensive understanding of the principles, applications, and advancements in the field of I.C. Engine and Automobile Prototyping. The event brought together experts, industry professionals, and enthusiasts to share knowledge, discuss emerging trends, and foster collaboration within the industry.

Workshop Highlights:

Inaugural Session:

The workshop commenced with an inaugural session, featuring keynote speeches from renowned experts in the field of I.C. Engine and Automobile Prototyping.

Participants were welcomed and briefed about the workshop's agenda and objectives.

Technical Sessions:

Discussions importance points during of Workshop:

Session 1:

1. I.C. Engines: Basics of Automobiles: History & Classification
2. Detailed exposure to different systems in an automobile
 - Basic Components of a Motor Cycle
 - Advanced Ignition, Braking and Exhaust systems
 - Advanced topics on Turbo and Nitro charged Engines
 - Component and structure of Chassis, Handling and steering system
 - Advanced topics on Engine Control Unit, Sensors, and Actuators etc.
3. Automobile Prototyping
 - Chassis
 - Engine Placement and Weight Distribution
 - Chassis Design Algorithm
 - Drive Train
 - Drive Train Design Algorithm
 - Steering
 - Ackerman Design Algorithm
 - Suspension
 - Car Handling
 - Aerodynamics

Session 2:

Hands-on Session

- Dismantling and assembling a life size engine (150 cc)
- Analyzing all the IC Engine components first hand
- Live demonstration of internal mechanism of an IC Engine
- Chassis Design & Fabrication
- Power train Design & Placement
- Transmission systems & Suspension systems
- Steering Mechanism

- Radio Controls for the miniature Automobile
4. Benefits of Workshop and Training Program
- Utilize your Summer break productively by developing projects
 - Get specialization in automobile engineering with this learning package

Conclusions:

The Workshop on I.C. Engine and Automobile Prototyping engine proved to be a valuable platform for knowledge dissemination and collaboration. Participants gained insights into the latest developments in the field, fostering a deeper understanding of the challenges and opportunities in the automobile industry. The event successfully encouraged dialogue and networking, paving the way for future advancements and partnerships.



