

Two Days Workshop on “Automobile Mechanics & IC Engine Design”

Event Overview

- **Date:** 18th - 19th January, 2019
- **Venue:** Babaria Institute of Technology
- **Department:** Department of Mechanical Engineering
- **Trainer:** Mr. Rakesh Sharma (GeeksLAB - Delhi)
- **Coordinators:** Prof. Sunny Rach and Prof. Ronak Soni
- **Convener:** Prof. Ramesh Mewada (HOD)
- **Number of participants:** 76 students

Purpose

A two day workshop on Automobile Mechanics and IC engine was held at Babaria Institute of Technology on 18 -19th January, 2019. This workshop helped students to enhance the knowledge and interest on Automobile Mechanics and to get practical knowledge.

About the trainer

Mr. Rakesh Sharma possess a Bachelor’s Degree in Automobile Engineering. Having the vast knowledge in Automobile Engineering on various tools and domains. He has experience as a corporate trainer; run training in a dynamic, participative style. His, dedication to training as an in-house on-the-job trainer is well liked and is always able to impart his knowledge of the subject effectively to the participants.



Workshop Highlights

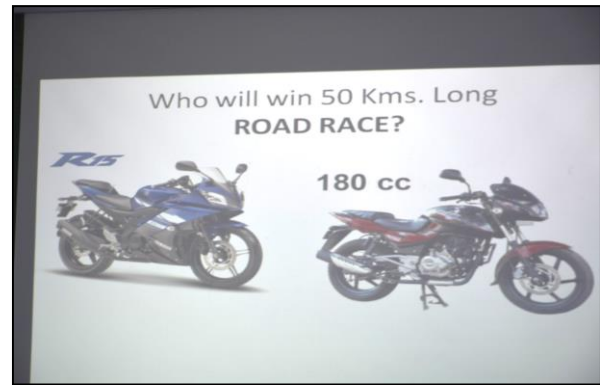
- Insight to the vehicle dynamics and suspension geometry.
- Complete dismantling and assembling of IC engine.
- Engine designing and 3d modeling.
- Details of Brake Horsepower.
- Deep dive in automobile engineering aspects.
- Transmission and working of various engines.
- Breaking unit and steering mechanism.



Overview of the event

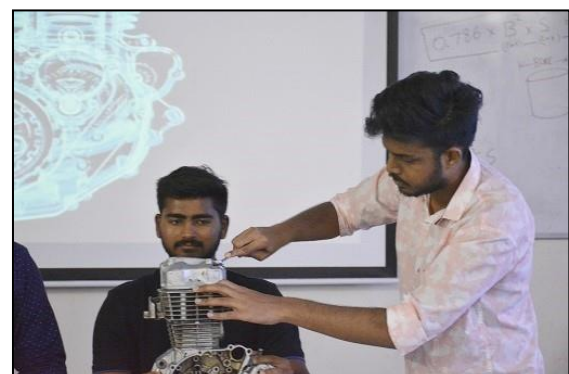
Day 1: Introduction

- Comparison between bikes of same CC.
- Major system units of any Automobile:
 1. Steering System
 - Hydraulically powered
 - Electronic Motorized
 2. Brake system
 - Mechanically Operated (Drum brake)
 - Hydraulic Operated (Disk brake)
 - Pneumatically Operated
 3. Suspension
 - Dependent
 - Independent
 - i) MC Pherson
 - ii) Double Wishbone/ Double A
 - iii) Torsion Bar
 - iv) Leaf Spring
 - v) Air suspension
 - vi) USD suspension
 4. Frames & Chassis
 5. Traction control
 6. Power Management
 7. Transmission System
 8. Wheel Geometry
 - Caster
 - Camber
 - Toe in/out
 - Kingpin Inclination



Day 2: Hands on Session

1. Assemble and Disassemble of Engine(Honda Stunner 125CC)
2. Description of Fuel injector and Carburetor
3. Method to design a vehicle
4. Cam shaft
 - Single overhead camshaft (SOHC)
 - Double overhead camshaft (DOHC)
5. Types of engine
 - Inline engine
 - V engine
 - Horizontal engine
 - V with 90 degree / L engine
6. Calculation of CC(Cylinder capacity)
7. Cooling system
 - Oil cooled
 - Liquid cooled
 - Both oil and liquid cooled
8. Types of tires



Outcome & Acknowledgement

The workshop was a great success. Er. Rakesh Sharma helped the students enhance their knowledge and interest on Automobile Mechanics and helped those students who wishes to become an experienced and practical Automobile Engineer in the future.

We are very much thankful to the Management of BITS Edu Campus – Respected Chairman Sir & Campus director Sir for their support to conduct the workshop. All the students are grateful to respected Principal Mam Dr. Pallavi Agarwal & HOD Sir Prof. Ramesh Mewada for organizing this wonderful workshop along with the contribution of the coordinators, Prof. Sunny Rach and Prof. Ronak Soni. We hope that there would be more such events conducted in the near future.

