



# G. M. Vedak Institute of Technology, Tala

Shri. Gopinath Mahadeo Vedak Pratishthan's

Approved by AICTE, Recognized by Govt. of Maharashtra & Affiliated to University of Mumbai.  
Institute code: EN 3447

E-mail : [gmvedakit@gmail.com](mailto:gmvedakit@gmail.com)

Web : [www.gmvit.com](http://www.gmvit.com)

Department of Mechanical Engineering  
Academic Year 2018-19      Second Half 2018

## A REPORT ON INTERNAL COMBUSTION ENGINEERING WORKSHOP

(Organized by Skyfi Education Labs Pvt. Ltd)  
(6<sup>th</sup> and 7<sup>th</sup> September 2018)

An Internal Combustion Engineering workshop is being organized to learn practically the concepts behind the engine control unit, sensors, and actuators and will also help to learn how to assemble and dismantle IC engines so as to know the internal working mechanisms. IC engines or Internal Combustion Engines are the most widely used engine mechanism in the automobile industry. These engines are capable of producing immense power in contrast to their size and weight. Almost all the automobiles that we see today run using this engine and it is essential for automobile engineering students to learn and get skilled in it to improve their job prospects.

### **Objectives of the Workshop:**

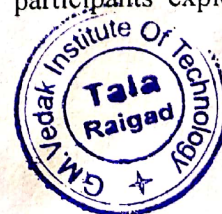
- Assembling and dismantling 4 stroke IC engine
- Design and detailed sketching of Piston assembly
- Live demonstration of the internal engine mechanisms
- Re-assembly of the engine

### **Outcomes:**

- After completion of the workshop students got the hands on experience for dismantling and assembly of 4-stroke petrol Engines
- Also the experts from the Skyfi lab shared the knowledge on design and detailed sketching of Piston assembly

### **⚡ What is this workshop about?**

Internal Combustion or IC Engines have had a great impact on human life. These engines produce immense power in contrast to their size and weight. Today, these engines power almost all air and land vehicles. In this workshop students got firsthand experience of the working principles for IC Engine Design. By dismantling a real IC Engine into components, participants explored the engineering involved in an automotive engine system.



# Course Highlights

- Dismantling and assembling the engine

## ✚ Project

- Assembling and dismantling 4 stroke IC engine

## ✚ Course Structure

- Lecture Session - 4 hrs
- Design Session - 1 hr
- Hands-on Session - 8 hrs
- Certificate Distribution - 1 hr

## ✚ Topics Covered

### 1. Theory Session -

- 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.

### 2. Design Session

- Design and detailed sketching of Piston assembly

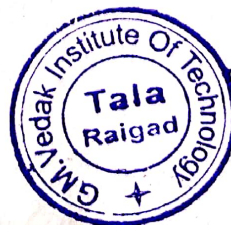
### 3. Hands-on Session -

- Dismantling of the engine into individual components
- Analyzing all the components first hand
- Live demonstration of the internal engine mechanisms
- Re-assembly of the engine

### 4. Case Studies

#### Kit Content

- 4 stroke Bajaj pulsar DTSI engine
- Working Tools



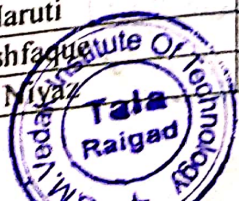
These components are provided during the workshop but taken back after the completion of the workshop. This was done to reduce the cost of the workshop and make it affordable for students.

## Workshop Participants

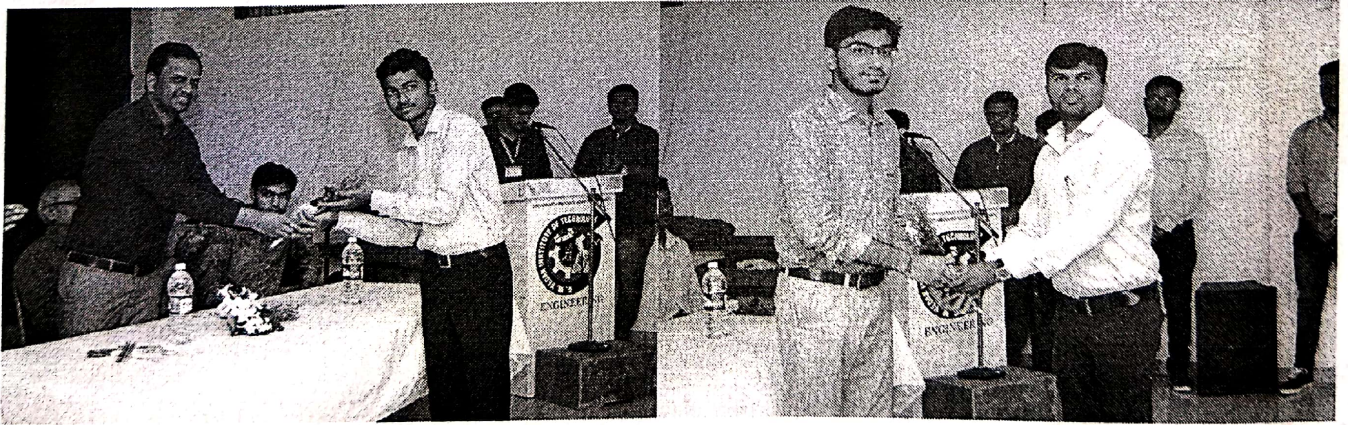
Total 37 students participated in this IC engine workshop from the department of mechanical engineering. Two experts from Skify Education Labs Pvt. Ltd, conducted the workshop namely, Mr. Sankarsan Mohanty and Mr. Dhilan. The duration of workshop was 2 days i.e. from 06<sup>th</sup> September to 7<sup>th</sup> September 2018. The experts guided the students with the help of 4 stroke Bajaj pulsar DTSI engine models and corresponding working tools which they brought with them. After completion of the workshop the experts conducted an event of assembly of engine in a least time. For this they handovered the engine models to different groups. The least time recorded for the assembly of the engine was 4 minutes and 30 seconds. Rugved warde and his team from TE mechanical declared as a winner of the event who completed the activity in this least time i.e. 4.30 minutes. Finally on 2<sup>nd</sup> day at 5.00 pm workshop is completed and the session has been concluded with the distribution of certificates to all the participants. All the students successfully completed the IC Engines workshop and get the hands on experience of assembling and dismantling 4 stroke IC engine. This workshop will definitely help to improve their practical knowledge. Volunteers also worked hard for the successful completion of the workshop who got the Volunteer certificates as well.

Following students from the mechanical department were participated in the workshop

Sr. No	Name	Mobile	Email id
1	Bait Ashish Ashok	9833794983	<a href="mailto:ashbait100@gmail.com">ashbait100@gmail.com</a>
2	Baqwal Awwab Ahmed	8983506650	<a href="mailto:awwabbaqwal2@gmail.com">awwabbaqwal2@gmail.com</a>
3	Bhonkar Adesh Anant	9545539094	<a href="mailto:adesh.bhonkar.ad08@gmail.com">adesh.bhonkar.ad08@gmail.com</a>
4	Bonawale Sachin Madhav	9970177528	<a href="mailto:sachinbonwale1997@gmail.com">sachinbonwale1997@gmail.com</a>
5	Birambole Shubham Jagadish	8308509182	<a href="mailto:shubhambirambole10@gmail.com">shubhambirambole10@gmail.com</a>
6	Burundkar Rushabh Manoj	7888159126	<a href="mailto:rushabhburundkar@gmail.com">rushabhburundkar@gmail.com</a>
7	Dhanse Sameer Dawood	7038683717	<a href="mailto:dhansesameer40@gmail.com">dhansesameer40@gmail.com</a>
8	Dhumal Rohit Pravin	9922086773	<a href="mailto:dhumalrohit3@gmail.com">dhumalrohit3@gmail.com</a>
9	Gawade Shubham Pradip	7020299240	<a href="mailto:shubhamgawade321@gmail.com">shubhamgawade321@gmail.com</a>
10	Jaffer Mudassir Gulam Mainuddin	9967385410	<a href="mailto:mudassirjaffer@gmail.com">mudassirjaffer@gmail.com</a>
11	Jaiswal Rohan Ramkrupah	8087543196	<a href="mailto:jaiyaswalrohan02@gmail.com">jaiyaswalrohan02@gmail.com</a>
12	Kadam Rhishikesh Ravindra	8425904688	<a href="mailto:hreshisr30@gmail.com">hreshisr30@gmail.com</a>
13	Kawale Prasad Sunil	8108482018	<a href="mailto:kawalepaddy@gmail.com">kawalepaddy@gmail.com</a>
14	Khadtar Mandar Maruti	7507309292	<a href="mailto:mandarkhadtar31@gmail.com">mandarkhadtar31@gmail.com</a>
15	Khanzade Arfat Ashfaq	8552866955	<a href="mailto:khanzadea9@gmail.com">khanzadea9@gmail.com</a>
16	Mahimkar Naveed Miya	8411945951	<a href="mailto:naveedmahimkar@gmail.com">naveedmahimkar@gmail.com</a>



17	Mhatre Chaitanya Dilip	8793550789	<a href="mailto:chaitanyamhatre789@gmail.com">chaitanyamhatre789@gmail.com</a>
18	Mhatre Rajesh Naresh	8806224135	<a href="mailto:mhatre261997@gmail.com">mhatre261997@gmail.com</a>
19	Mokal Sanyogeeta Santosh	9028282541	<a href="mailto:sanyogeetamokal@gmail.com">sanyogeetamokal@gmail.com</a>
20	Mulla Nasir Nisar	7875393184	<a href="mailto:nnm9421968132@gmail.com">nnm9421968132@gmail.com</a>
21	Murkar Suraj Sudhir	8698116185	<a href="mailto:surajmurkar555@gmail.com">surajmurkar555@gmail.com</a>
22	Nandgaonkar Ashutosh Ashok	7058096678	<a href="mailto:ashutoshnandgaonkar18@gmail.com">ashutoshnandgaonkar18@gmail.com</a>
23	Nate Avinash Ramdas	7887465463	<a href="mailto:avinate738@gmail.com">avinate738@gmail.com</a>
24	Navgane Mohit Rajendra	8237733936	<a href="mailto:mohitnavgane27@gmail.com">mohitnavgane27@gmail.com</a>
25	Nehete Sanket Arun	9527322250	<a href="mailto:sanku.nehete@gmail.com">sanku.nehete@gmail.com</a>
26	Nilkar Swapnil Padmakar	7276173468	<a href="mailto:swapnil.nilkar@gmail.com">swapnil.nilkar@gmail.com</a>
27	Pansari Rameez Abdulrauf	7021812043	<a href="mailto:rameezpansari68@gmail.com">rameezpansari68@gmail.com</a>
28	Penkar Sahil Ramesh	9112169198	<a href="mailto:sahilpenkar143@gmail.com">sahilpenkar143@gmail.com</a>
29	Penkar Vishal Suryakant	9767040975	<a href="mailto:vishalpenkar5@gmail.com">vishalpenkar5@gmail.com</a>
30	Rawoot Tanveer Bashir	7738280229	<a href="mailto:tanveerr159@gmail.com">tanveerr159@gmail.com</a>
31	Rode Siddhesh Kishor	8149671812	<a href="mailto:siddhesh9225@gmail.com">siddhesh9225@gmail.com</a>
32	Sawant Uddhav Sudhir	9762674733	<a href="mailto:uddhavsawant11@gmail.com">uddhavsawant11@gmail.com</a>
33	Thakur Shritej Manohar	7875948025	<a href="mailto:shritej62@gmail.com">shritej62@gmail.com</a>
34	Thale Siddharth Ravindra	7276678134	<a href="mailto:siddharththale10@gmail.com">siddharththale10@gmail.com</a>
35	Varsolkar Nikhil Chandrashekhar	8308433114	<a href="mailto:nkvarsolkar@gmail.com">nkvarsolkar@gmail.com</a>
36	Waknis Abdulrehman Kamal	9146459466	<a href="mailto:awaknis2@gmail.com">awaknis2@gmail.com</a>
37	Warde Rugved Santosh	9765008362	<a href="mailto:rugvedwarde34@gmail.com">rugvedwarde34@gmail.com</a>

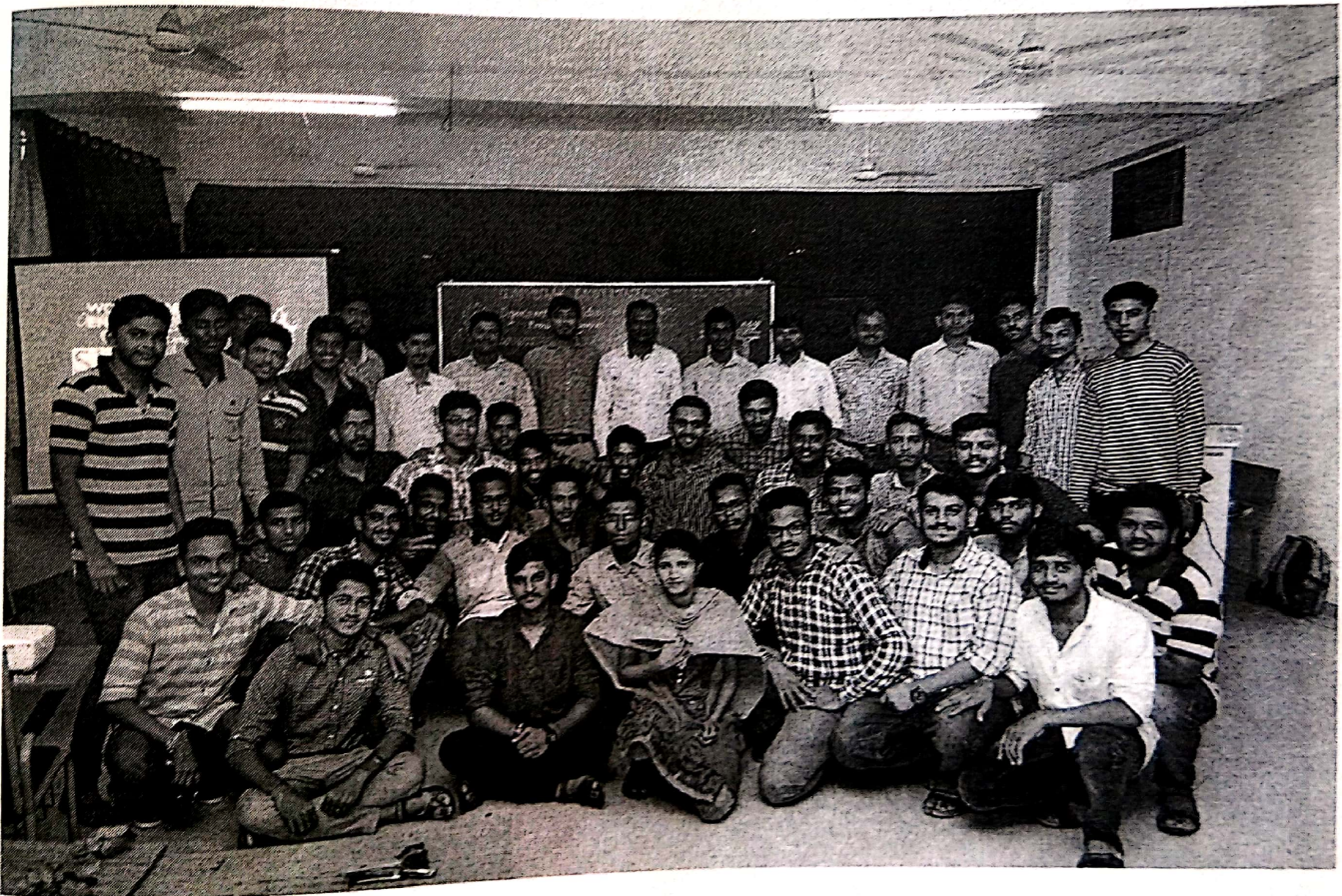


Photographs of the workshop with the guests from Skyfi Education Labs Pvt. Ltd





Inauguration of the workshop with Hon'ble Principal, Dean, Registrar and Head of the Department



All faculties of the department with guests and participants of I. C. Engine workshop

*(Faculty coordinators)*

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*[Signature]*  
 Head of the Department  
 Mechanical Engineering  
 G.M.Vedak Institute of Technology  
 Tala, Raigad

