

## VOC-132: Automotive Tools and Equipments

### Learning Objectives:

1. To acquaint students with general and special tools.
2. To introduce student with various equipments and Measuring tools.

### Learning Outcomes:

After successful completion of course student will have knowledge about various general and special type automotive tools moreover the knowledge of measuring and marking tools used in automotive industries.

### **Module I: Introduction of work shop, General Tools and Equipments:-**

Introduction of work shop, work shop ethics, discipline, safety precaution, elementary first aid, workshop lay out, 5's techniques. Introduction and use of various tools and equipment used in work shop.

### **Module II: General and Special Tools**

Hammers, Chisels, Screw drivers, Torque Wrench, Adjustable wrenches, Wheel nut spanners, Punches, Pliers, Files, Spanner, Allen keys, Taps, Hacksaws, Dies, Reamers, Scrapper, Cleaning tools

### **Module III: Measuring and Marking Tools**

Inside caliper, outside caliper, Vernier caliper (Inside/Outside), Micrometer (Inside/Outside), Height gauge, bore gauge, Compression gauge, Vacuum gauge, Try square, Feeler gauge, Tachometer, AVO meter, Surface plate, Angle plate, Scribing block, Height gauge, Dial indicator, 'V' Block etc.

### **Module IV: Automotive Equipments**

Mechanical & Hydraulic Jack, Piston ring compressor, Piston ring expander, Stud extractor, Valve spring lifter, Tap extractor, Tyre remover, Wheel balancing Equipment, Brake testing equipment, Pullers, Filter wrench, Battery tester, Growler, Hydrometer spark plug tester, coil and condenser tester, Bench vice, Spray gun, Painting process and Tools etc.

### **Module V: Tutorials, assignments and presentation based on Module I to IV**

### **References:**

1. Workshop Technology Vol-I: B. S. Raghuwanshi: Dhanpat Rai & Co.
2. Automobile engineering Vol-I: Dr. Kripal Singh: Standard Publisher distributors.
3. Engineering Metrology, R.K. Jain, Khanna Publisher Delhi.
4. Workshop Technology Vol- I , W.A.J. Chapman.

1954

Dear Mr. [Name]:

I have your letter of [Date] regarding [Subject].

I am sorry that I cannot give you a more definite answer at this time.

I will be glad to discuss this matter further if you wish.

Very truly yours,  
[Signature]