

**COURSE TITLE** : **INDUSTRIAL MAINTENANCE AND SERVICING**  
**COURSE CODE** : **418**  
**COURSE CATEGORY** : **A**  
**PERIODS/WEEK** : **3**  
**PERIODS/SEMESTER** : **54**  
**CREDITS** : **2**

<b>MODULE</b>	<b>TOPIC</b>
I	Servicing and Maintenance of general purpose Tools and Equipments
II	Dismantling and Assembling of Automobile systems
III	Servicing and Maintenance of Machine tools & Air conditioners
IV	Servicing and Maintenance of Pumps

### **CONTENT DETAILS**

#### **MODULE I**

- 1.1 Use of tools and equipment in general purpose servicing
- 1.2 Maintenance of Bench Vice, Screw Jack.
- 1.3 Maintenance of Hydraulic jacks, Trolley jacks,
- 1.4 Maintenance of Bucket grease guns, pressure control valves

#### **MODULE II**

- 2.1 Dismantling and assembling of automobile systems such as fuel pumps
- 2.2 Dismantling and assembling of Distributor, Air cleaner, Carburettor
- 2.3 Dismantling and assembling of oil filters, oil pumps and fuel pumps
- 2.4 Dismantling and assembling of injectors
- 2.5 Dismantling and assembling of rocker shafts, cylinder heads, cylinder blocks, crank shafts
- 2.6 Dismantling and assembling of clutch assembly,
- 2.7 Dismantling and assembling of Gear box,
- 2.8 Dismantling and assembling of Differential assembly,
- 2.9 Dismantling and assembling of slider joints,
- 2.10 Dismantling and assembling of Master cylinder,
- 2.11 Dismantling and assembling of Brake & wheel cylinders.

#### **MODULE III**

- 3.1.1 Familiarization of refrigeration maintenance tools
- 3.1.2 Servicing and maintenance of refrigerators and air-conditioners.
- 3.1.3 Practice operations such as tube bending, cutting, flaring, jointing, leak testing, leak prevention,
- 3.1.4 Practice operations such as vacuum testing, charging.
- 3.2.1 Servicing and maintenance of Lathe
- 3.2.2 Servicing and maintenance of Drilling machine
- 3.2.3 Servicing and maintenance of Shaper machine
- 3.2.4 Servicing and maintenance of Milling machine.

#### **MODULE IV**

4.1 Servicing and maintenance of centrifugal pump

4.2 Servicing and maintenance of reciprocating pump

4.3 Servicing and maintenance of jet pump, deep well pump and air lift pump.

#### **Note:**

**This course is practice oriented with the general procedure of servicing and maintenance, preventive maintenance, lubrication and preparation of estimate for servicing and maintenance works. 70% of the exercises are to be carried out in Servicing and Maintenance lab and 30% of exercises in other workshops, labs (eg. Machine shop, Hydraulics Lab etc.) and Industries. The students are expected to develop skills in diagnosing and rectifying faults, installation and commissioning of equipments and plants.**

#### **REFERENCE BOOKS**

Servicing and maintenance lab manual - TTTI extension centre, Kalamassery.