

**COURSE TITLE : INDUSTRIAL MAINTENANCE & SERVICING LABORATORY**  
**COURSE CODE : 5028**  
**COURSE CATEGORY : A**  
**PERIODS/ WEEK : 4**  
**PERIODS/ SEMESTER : 60**  
**CREDIT : 2**

#### TIME SCHEDULE

| MODULE | TOPIC  | PERIODS |
|--------|--|---------|
| 1      | General purpose tools and equipments         | 15      |
| 2      | Automobile system (Petrol and Diesel engine) | 15      |
| 3      | Machine tools and Air conditioners           | 15      |
| 4      | Refrigerator Pumps                           | 15      |
| TOTAL  |  | 60      |

**COURSE OUTCOME :**

| sl.no. | sub | student will be able to  |
|--------|-----|--|
| 1      | 1   | Select the general purpose tools and equipments.                             |
|        | 2   | Perform the dismantling, assembling and overhauling of I C engines.          |
|        | 3   | Perform the servicing and maintenance of machine tools and air conditioners. |
| 2      | 4   | Carryout the servicing of car air conditioners.                              |
| 3      | 5   | Carryout the servicing of refrigerators and pumps.                           |

#### **CONTENT DETAILS**

##### **MODULE I**

Use of tools and equipment in general purpose servicing  
 Perform the Maintenance of Bench Vice, Screw Jack.  
 Perform the Maintenance of Hydraulic jacks, Trolley jacks,  
 Perform the Maintenance of Bucket grease guns, pressure control valves  
 Servicing and maintenance of water pumps

##### **MODULE II**

Dismantling, assembling and overhauling of different IC Engines parts  
 Dismantling, assembling and overhauling of automobile systems such as fuel feed pumps, Distributor & Carburettor  
 Dismantling, assembling and overhauling of oil pumps and fuel pumps  
 Dismantling, assembling and overhauling of fuel injectors  
 Dismantling, assembling and overhauling of rocker shafts, cylinder heads, cylinder blocks, crank shafts  
 Dismantling, assembling and overhauling of clutch assembly,

Dismantling, assembling and over hauling of Gear box  
Dismantling, assembling and over hauling of Differential assembly,  
Dismantling, assembling and over hauling of slider joints,  
Dismantling, assembling and over hauling of Master Cylinder,  
Dismantling, assembling and over hauling of Brake & wheel cylinders.

### **MODULE III**

Familiarization of air-conditioners maintenance tools  
Servicing and maintenance of air-conditioners.  
Practice operations such as tube bending, cutting, flaring, jointing, leak testing, leak prevention  
Practice operations such as vacuum testing, charging.

### **MODULE IV**

**Familiarization of refrigeration maintenance tools**  
Servicing and maintenance of refrigerators.  
Practice operations such as tube bending, cutting, flaring, jointing, leak testing, leak prevention  
Practice operations such as vacuum testing, charging.

### **TEXT BOOKS**

1. Mechanical Workshop & Laboratory Manual By K. C. John