

COURSE TITLE : **AUTOMOBILE SERVICING LAB-1**
COURSE CODE : **2059**
COURSE CATEGORY : **B**
PERIODS/WEEK : **3**
PERIODS/SEMESTER : **45**
CREDITS : **2**

TIME SCHEDULE

| Module | Topic | Periods |
|--------------|--|-----------|
| 1 | Select the tools / equipments for engine assembly / dismantling | 11 |
| 2 | Identify the engine components and parts. | 12 |
| 3 | Basic calculations related to engine. | 10 |
| 4 | Acquire the basic skills related to engine servicing and maintenance | 12 |
| TOTAL | | 45 |

GENERAL COURSE OUTCOME

| Module | G.O | Student will be able to |
|--------|-----|---|
| 1 | 1 | Understand the different tools used in Automobile workshop |
| | 2 | Identify the application of measuring tools and specific tools. |
| 2,3&4 | 1 | Understand the working principle of SI and CI engines. |
| | 2 | Calculate bore, stroke length, swept volume and cubic capacity of engine. |
| | 3 | Understand maintenance schedule of two and four wheeler vehicles. |

SPECIFIC COURSE OUTCOME

MODULE- I

- 1.1.0 Select the tools / equipments for engine assembly / dismantling
- 1.1.1 Acquire competency related to use of hand tools, measuring tools and special tools
- 1.1.2 Observe engine components & to sketch them.

MODULE- II

- 2.1.0 Identify the engine components and parts.
- 2.1.1 Understand the working principle of SI and CI engines.

MODULE- III

- 3.1.0 Basic calculations related to engine.

MODULE- IV

- 4.1.0 Acquire the basic skills related to engine servicing and maintenance
- 4.1.2 Create awareness about maintenance schedules

CONTENT DETAILS

MODULE I

- 1. Study the various tools and equipments used in automobile workshop.
- 2. Study the Engine components - Cylinder block, cylinder liners – wet type and dry type, Cylinder head, cylinder head gasket, Pistons – types of pistons, Piston rings, – compression ring, oil ring and special purpose ring, Gudgeon pin, Connecting rod.

MODULE II

- 1. Study the engine components-Crank shaft, Main bearings, Fly wheel, Valves ,Cam shaft – drives.
- 2. Remove and refit spark plug and injector

MODULE III

- 1. Measure the bore of the given cylinder.
- 2. Calculate the stroke length of the given cylinder from crank radius.
- 3. Find the swept volume of the engine cylinder.
- 4. Calculate the cc of the given engine.

MODULE IV

- 1. Check and top-up of Engine oil, Coolant.
- 2. Study the maintenance schedule of a two wheeler and four wheeler.
- 3. Perform the jacking up and removal of one wheel.
- 4. Identify the major greasing points in a vehicle.

REFERENCE

- 1. Kirpal Singh - Automobile Engineering I &II - Standard Pub 12th E
William H Crouse - Automotive Mechanics - Tata Mc Graw Hill Pub 10th **ECOURSE**