

## TWO-THREE WHEELER MECHANIC (TTWM)

### OBJECTIVES

- Student must get conversant with all types of repair, maintenance and overhauling of two/three wheeler vehicles.
- Student should be able to handle basic engineering equipments and measuring instruments.

### 1. SAFETY

General precautions to be observed in workshop or garage.

### 2. TOOLS AND EQUIPMENTS

General tools, equipments and measuring instruments used in repairs of two-three wheeler vehicles.

### 3. ENGINE

- Types of Heat engines, Technical terms used for engine. S.I. engine, and C.I. engine.
- Construction and working of two stroke cycle engine.
- Construction and working of four stroke cycle engine.
- Engine Parts :  
Cylinder block, Cylinder Head, Piston, Connecting rod, Crank Shaft, Crank Case, Valves, Cam shaft, Valve timing diagrams, Oil Chamber etc.

### 4. DIFFERENT TYPES OF SYSTEM IN ENGINES

- Fuel System :  
Types of fuel feed systems carburettor types and working, circuits of carburettor, faults and remedies.
- Cooling System :  
Types of cooling system, air cooled maintenance and repairs of cooling system.
- Lubrication System :  
Advantages of Lubrication, types of lubrication and working of petrol lubrication (Vaporised lubrication) and pressure feed lubrication.
- Ignition System :  
Types of Ignition system, magneto Ignition and coil Ignition, parts of Ignition system i.e. C.B. points, ignition coil, spark plugs etc.
- Intake and Exhaust system :  
Air cleaner, types of silencer mufflers.

### 5. TRANSMISSION SYSTEM

- Clutch :  
Function, types of clutch, multiplate wet clutch, operating mechanism.
- Gear Box :  
Function, Types of gear box, operating mechanism power transmission method, driving chains, adjustments.
- Final Drive.

### 6. SUSPENSION AND STEERING SYSTEM

- Function, suspension used for two-three wheeler, parts of suspension systems.
- Types of steering, handle and its fitting adjustments, hubs, bearing adjustments, lubrication, disc wheels, tyre, tube etc.

### 7. BRAKES

Types of brakes system, Hydraulic brakes and mechanical brakes, Internal expanding and external contracting brakes, parts of brakes, faults, and maintenance.

### 8. ELECTRICAL SYSTEM OF TWO-THREE WHEELER

Head lights, Tail lights, Horn, Kick mechanism, self starter mechanism, gauges of panel board etc.

### 9. SERVICING AND MAINTENANCE

Cleaning and greasing method, shop layout and conditions regarding illumination ventilation cleanliness, Maintenance schemes of two/three wheelers.

### LIST OF PRACTICALS

1. Study of identification of two-three wheeler assembly in general.
2. Complete dismantling and assembly overhaul of units mounted on two-three wheeler.
3. Change of pistons, Piston rings.
4. Remove and assembly of crank shaft.
5. Change of clutch plates.
6. Servicing and turning up of carburetor.
7. Magneto Servicing, C.B. point adjustment.
8. Repair of tyres and tube, Servicing of spark plug.
9. Repair of Gear Box.
10. Servicing of shock absorber, renewal eye bushes.
11. Strip down inspect repair and assemble of brake units, brake adjustments.
12. Servicing of dismantling and assembly of chain mechanism.
13. Oil pump servicing.
14. Inspection of electrical accessories for fault finding.

### SCHEME OF EXAMINATION

<i>Theory, One paper</i>	<i>3 Hours</i>	<i>100 Marks</i>
<i>Practical</i>	<i>2 Hours</i>	<i>70 Marks</i>
<i>Journal work</i>		<i>15 Marks</i>
<i>Oral</i>		<i>15 Marks</i>
	<b>Total</b>	<b>200 Marks</b>

Minimum marks for passing: 35% Theory, 40% Practicals

### WEIGHTAGE FOR THEORY PAPER

<i>Topic 1 &amp; 2</i>	<i>10 %</i>
<i>Topic 3</i>	<i>15 %</i>
<i>Topic 4</i>	<i>25 %</i>
<i>Topic 5</i>	<i>15 %</i>
<i>Topics 6, 7 &amp; 8</i>	<i>25 %</i>
<i>Topic 9</i>	<i>10 %</i>

### GUIDELINE FOR PAPER SETTER

<i>Q.1.</i>	<i>Compulsory and Objective type</i>	<i>20 Marks</i>
<i>Q.2. to Q.8.</i>	<i>Candidate has to solve any five out of these seven</i>	<i>16 Marks</i>
		<i>Each</i>