

INDIRA TECHNICAL EDUCATION SOCIETY, NASHIK

CERTIFICATE COURSE TWO THREE WHEELER MECHANIC (TTWM)

EXAM SCHEME: THEORY PAPER 100 MARKS – 3 HRS.
PRACTICAL 100 MARKS – 2 HRS.

THEORY SYLLABUS

OBJECTIVES

1. Student must get conversant with all types of repair, maintenance and overhauling of two/three wheeler vehicles.
2. 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

- i) Types of Heat engines, Technical terms used for engine and C. I. Engine.
- ii) Construction and working of two stroke cycle engine.
- iii) 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 Diagram, Oil Chamber etc.

4. DIFFERENT TYPES OF SYSTEM IN ENGINES

- i) Fuel Systems :
Types of fuel feed systems carburetor types and working, circuits of carburetor, faults and remedies.
- ii) Cooling System :
Types of cooling system, air cooled maintenance and repairs of cooling system.
- iii) Lubrication System :
Advantages of Lubrication, types of lubrication and working of petroit Lubrication (Vaporized lubrication) and pressure feed lubrication.
- iv) 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.
- v) Intake and Exhaust system :
Air cleaner, types of silencer mufflers.

5. TRANSMISSION SYSTEM

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

6. SUSPENSION AND STEERING SYSTEM

- i) Function, suspension used for two-three wheeler, parts of suspension systems.
- ii) 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 light, 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.

SCHEME OF EXAMINATION

Theory on paper	3 Hours	100 Marks
Practical	2 Hours	75 Marks
Journal work		15 Marks
Oral		10 Marks
Total		200 Marks

Minimum marks for passing 35% Theory & 40% Practical

WEIGHTAGE FOR THEORY PAPER

Topic 1 & 2	: 10%	Topic 5	: 15%
Topic 3	: 15%	Topic 6, 7 & 8	: 25%
Topic 4	: 25%	Topic 9	: 10%

GUIDELINE FOR PAPER SETTERS

Q. 1	Compulsory and Objective type	20 Marks
Q. 2 to Q. 8	Candidate has to solve any five Out of these seven.	16 Marks each

