

17521

21819

3 Hours / 100 Marks

Seat No.

--	--	--	--	--	--	--	--

- Instructions* – (1) All Questions are *Compulsory*.
(2) Answer each next main Question on a new page.
(3) Illustrate your answers with neat sketches wherever necessary.
(4) Figure to the right indicate full marks.
(5) Assume suitable data, if necessary.

Marks

1. a) Attempt any THREE of the following: 12
- (i) Enlist any three types of frames and sketch any one and label it.
 - (ii) Enlist any four advantages of electronic fuel injection system.
 - (iii) Differentiate between gravity feed and vacuum operated fuel supply system. (any four points)
 - (iv) Explain the significance of exhaust gas recirculation system in vehicle.
- b) Attempt any ONE of the following: 6
- (i) With help of neat sketch, explain arrangement of ports in two stroke engine cylinder.
 - (ii) Explain with neat block diagram, working of microprocessor controlled ignition system.

P.T.O.

- 2. Attempt any FOUR of the following:** **16**
- a) Draw neat sketch of constant mesh gear box and label it.
 - b) Enlist any four functions of carburetor.
 - c) Explain the Ergonomic factors considered in seat arrangement of rider.
 - d) Enlist any four advantages of mono-shock suspension system.
 - e) Explain with suitable example tyre specification.
- 3. Attempt any FOUR of the following:** **16**
- a) Explain belt drive with variator mechanism
 - b) Explain the working of carburetor under following engine operating conditions:
 - (i) Idling
 - (ii) Accelerating.
 - c) State the purpose of providing castor angle.
 - d) State the significance of variable rate coil spring.
 - e) Differentiate between mechanical and hydraulic brakes (any 4 points).
- 4. a) Attempt any THREE of the following:** **12**
- (i) Differentiate between drum brake and disc brakes (any 4 points).
 - (ii) Explain working of CDI system with neat sketch.
 - (iii) State the functions of starting system components (any four).
 - (iv) State the specifications of following components:
 - 1) Head lamp
 - 2) Speedometer lamp.

- 4. b) Attempt any ONE of the following:** **6**
- (i) Draw neat sketch of tail pipe arrangement and explain its purpose. Also state its location.
 - (ii) Explain with neat schematic circuit, working of charging system.
- 5. Attempt any FOUR of the following:** **16**
- a) Explain the importance of different gear ratios in scooter.
 - b) State the purpose of lubrication system and enlist different locations where lubrication is required.
 - c) State the functions of following in starting system:
 - (i) D.C Motor
 - (ii) Battery
 - d) Explain aesthetic aspect in relation with ground clearance and mud guard shape.
 - e) State any four aerodynamic aspects in motor cycle fuel tank shape.
- 6. Attempt any FOUR of the following:** **16**
- a) Enlist benefits of Twin spark ignition system.
 - b) How catalytic convertor controls the emission?
 - c) State the purpose of using LED lights in tail lamp.
 - d) Enlist any two functions of each of the following:
 - (i) Crash bar
 - (ii) Saree guard
 - e) State any two good driving habits and bad driving habits.
-