

22559

23124

3 Hours / 70 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answer with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Assume suitable data, if necessary.
- (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) List types of frame used in two wheelers.
- b) Define functions of Air filter.
- c) Define the term Trail in steering system.
- d) Enlist types of ignition system in two wheelers.
- e) Sketch layout of motorcycle chassis.
- f) List any two functions of fuel supply system.
- g) State the purpose of neutral position for gear box.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Describe single cradle frame with neat sketch.
 - b) Illustrate the stepwise procedure for valve clearance adjustment.
 - c) Compare disc brake with drum brake on following parameters.
 - i) Method of activation
 - ii) Working principle
 - iii) Maintenance
 - iv) Service cost
 - d) Sketch variator mechanism in scooters.
- 3. Attempt any THREE of the following:** **12**
- a) Select Air filter for Activa with justification.
 - b) Select the appropriate specifications for –
 - i) Head lamp bulb
 - ii) Number plate lamp
 - iii) Turn single lamp
 - iv) Tail lamp bulb
 - c) Explain how DTSi engine works with its working principle.
 - d) Compare engine kick and button starting system on following parameters –
 - i) Type of arrangement
 - ii) Components used
- 4. Attempt any THREE of the following:** **12**
- a) Describe Aesthetic aspect for –
 - i) Ground clearance
 - ii) Mud guard shape and position.
 - b) Give four examples of Ergonomic aspects used in handle bar position.
 - c) State importance of ground clearance for scooter.

- d) State any four good driving habits.
- e) Describe role of crash bar and saree guard in two wheeler safety.

5. Attempt any TWO of the following: 12

- a) Sketch and describe EGR system used for emission control.
- b) Select engine exhaust system muffler for motorcycle with justification.
- c) Select a material for a frame of motorcycle and justify its use.

6. Attempt any TWO of the following: 12

- a) Sketch and describe microprocessor controlled ignition system.
 - b) Sketch and explain layout of transmission system used for three wheelers.
 - c) Select a type for sports bike and justify with illustrations.
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