

22559

21222

3 Hours / 70 Marks

Seat No.

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

15 minutes extra for each hour

- 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) 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) State types of two wheeler frames.
 - b) Sketch Single Cradle Frame.
 - c) State the function of Air Cleaner.
 - d) State the function of Carburettor.
 - e) State any two function of Suspension System of two wheeler.
 - f) Define Caster angle and Trail.
 - g) State the purpose of using LED lights in tail lamp.
2. **Attempt any THREE of the following:** **12**
- a) Describe constructional details of Double Cradle Frame with neat sketch.
 - b) Explain working valve operation mechanism of two wheeler with neat sketch.
 - c) Explain working of foot operated gear shifting mechanism of two wheelers.
 - d) Describe the working of constant mesh gear box.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Describe the tail pipe arrangement of exhaust system with neat sketch.
 - b) Describe the working of two wheeler charging system with neat sketch.
 - c) Distinguish between kick start and button start arrangement on the basis of effort, battery, convenience and maintenance.
 - d) Describe working of microprocessor controlled ignition system with neat sketch.
- 4. Attempt any THREE of the following:** **12**
- a) State the importance of
 - i) Carsh bar
 - ii) Saree guard
 - iii) Jacket
 - iv) Helmet
 - b) Describe the Ergonomic aspects of Handle bar position.
 - c) Ergonomics plays an important role in passenger comfort. Justify this statement with illustrations.
 - d) Explain significance of aesthetic aspect for side panels of scooter.
 - e) Explain the Aesthetic Aspects of:
 - i) Ground Clearance
 - ii) Mud Guard Shape and Position
- 5. Attempt any TWO of the following:** **12**
- a) Select frame material for KTM bike and justify it's use.
 - b) Describe the diagnosis procedure of exhaust gas analysis.
 - c) State the lubrication system used for two wheeler four-stroke engine and explain working with neat sketch.

6. Attempt any TWO of the following:**12**

- a) Explain the effect of steering geometry on vehicle performance with sketches.
 - b) Explain purpose of providing caster angle with schematic diagram for a motor cycle.
 - c) Explain the working of ignition system used in two wheeler with neat sketch.
-