

22559

22223

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 answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (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 any two types of two wheeler frame.
 - b) Sketch layout of three wheeled vehicle
 - c) Select an air filter for motor cycle with justification.
(any 2 justification).
 - d) State the purpose of Header pipe.
 - e) Describe the effect of caster angle for two wheeled vehicle.
(any 2 points)
 - f) List the ignition systems used in two wheeler vehicles.
 - g) State two applications of engine speed indicator.

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- 2. Attempt any THREE of the following. 12**
- a) Describe with sketch construction of single cradle frame.
 - b) Explain selection criteria for two wheeler engine.
(any 4 points)
 - c) Describe electronic petrol injection system used in two wheeler vehicle.
 - d) Describe Transmission system of two wheeler with sketch.
- 3. Attempt any THREE of the following. 12**
- a) Describe valve operating mechanism for two wheeler engine.
 - b) Compare transmission system of Moped and Motorcycle.
 - c) Write importance of mudguard shape and position.
 - d) Explain the working of two wheeler charging system with sketch.
- 4. Attempt any THREE of the following. 12**
- a) State significance of ground clearance for motorcycle.
 - b) Explain use of alloy wheel for motorcycle with justification.
 - c) Explain the working of lubrication system used in 4-stroke two wheeler engine.
 - d) Compare kick start and button start arrangement of two wheeled vehicles.
 - e) List different ergonomic aspects of motorcycle with sketch.
- 5. Attempt any TWO of the following. 12**
- a) Select an frame for cruise bike with justification.
 - b) Select the suspension system for three wheeled vehicle with justification.
 - c) Sketch and explain the shape of fuel tank in motorcycle.

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

- a) Describe the procedure to adjust dampers pre-load for rear wheel suspension of motorcycle.
 - b) Describe the safety aspects of scooter relevant to rider.
 - c) Select tyre for rickshaw and motorcycle with justification.
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