

# 314344

**12526**

**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) 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) State the functions of Air filters used in two wheelers.
- c) State the functions of mudguard.
- d) State the function of Exhaust system.
- e) Define following terms :–
- i) Trail
- ii) Rack angle.
- f) State function of Ignition system.
- g) State the types of drives used in two wheelers transmission system.

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- 2. Attempt any THREE of the following: 12**
- a) Explain double cradle frame with neat sketch.
  - b) Compare two stroke engine with four stroke engine.
  - c) Explain layout of transmission system used in two wheelers.
  - d) Describe with neat sketch working of capacitive discharge ignition system.
- 3. Attempt any THREE of the following: 12**
- a) State the types of air filters used in two wheeler. Explain any one with neat sketch.
  - b) Describe construction and working of a drum brake with neat sketch.
  - c) Compare kick start and button start arrangement on the basis of effort, battery, convenience and maintenance.
  - d) Explain effect of shape of fuel tank in motorcycle aerodynamic.
- 4. Attempt any THREE of the following: 12**
- a) Explain the working of lubrication system used in 4-stroke two wheeler engine.
  - b) Which gearbox is mostly used in motor cycle? Explain the working of gearbox with neat sketch.
  - c) Explain the working of two wheeler charging system with sketch.
  - d) State the function of :-
    - i) Crash bar
    - ii) Saree guard.
  - e) Explain with neat sketch cable actuated clutch mechanism.

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

- a) Select an frame for bike with justification.
- b) Justify the importance of wheelbase in selection of suspension system.
- c) Explain the effect of following on aerodynamics of motorcycle:–
  - i) Shape of head lamp
  - ii) Tail lamp arrangement.

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

- a) Explain selection criteria for two wheeler engine.
  - b) State the purpose of :–
    - i) Speedomotor
    - ii) Tripmeter
    - iii) Head lamp.
  - c) Justify the importance of ergonomic aspect of seat arrangement for rider and pillion rider.
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