

# 17521

**21718**

**3 Hours / 100 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

- 1. a) Attempt any THREE of the following:** **12**
- (i) State four major components of transmission system of motor cycle and write function of each.
  - (ii) Define two stroke engine and four stroke engine and also write application of each one.
  - (iii) Draw labelled sketch of overhead cam arrangement and state its two advantage.
  - (iv) Name Lubrication system used for 4-stroke engine. Draw the labelled sketch of it.
- b) Attempt any ONE of the following:** **6**
- (i) Draw and describe working of four stroke engine.
  - (ii) Describe working of microprocessor controlled ignition system with sketch.

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- 2. Attempt any FOUR of the following:** **16**
- a) Describe the working of constant mesh gear box.
  - b) List any four advantages of electronic fuel ignition system.
  - c) List any four advantages of mono-shock suspension system.
  - d) Compare Drum and Disc Brake (Minimum four point)
  - e) Describe the use of day night goggle and Helmet as a safety concern.
  - f) Describe the effect of following on aerodynamics of motor cycle:
    - (i) Shape of fuel tank
    - (ii) Shape of head lamp
- 3. Attempt any FOUR of the following:** **16**
- a) State function of frame and list any two types of it.
  - b) Explain concept of petroil lubrication with separate oil pump for two stroke engine.
  - c) Explain purpose of providing caster angle with schematic diagram for a motor cycle.
  - d) Describe working of double acting type of shock absorbers.
  - e) Write the specification of tyre used in scooters. Write the meaning of each term in specification.
- 4. a) Attempt any THREE of the following:** **12**
- (i) Name the type of wheel used for motor cycles and draw labelled sketch of it.
  - (ii) Difference between kick start and button start arrangement in two wheeler.
  - (iii) Describe the working of charging system of two wheeler with it's circuit diagram.
  - (iv) Write function of Battery. Also explain concept of battery rating for use in button start vehicle.

b) Attempt any ONE of the following:

6

- (i) Explain the working of carburetor used in two wheeler motor cycle with the help of sketch.
- (ii) State the purpose of following:
  - 1) Turn signal lamp
  - 2) Side stand indicator lamp
  - 3) Speedo meter lamp
  - 4) Neural Indicator lamp

5. Attempt any FOUR of the following:

16

- a) Name clutch used in two wheeler and draw labeled sketch of it.
- b) Describe the construction and working of Air cleaner.
- c) Write the purpose of use:
  - (i) Head lamp
  - (ii) Number plate lamp
- d) State importance of:
  - (i) Floor rest pillion rider during braking
  - (ii) Mud guard shape and position
- e) Explain Aesthetic aspects:
  - (i) Head lamp fairing of motor cycles
  - (ii) Ground clearance
- f) Describe the use of:
  - (i) Horn
  - (ii) Saree guard
  - (iii) Crash bar
  - (iv) Jacket

**6. Attempt any FOUR of the following:**

- a) Draw labeled sketch of EGR system.
  - b) Explain the following terms for two wheeler's:
    - (i) use of speedometer
    - (ii) use of trip meter
    - (iii) use of engine speed indicator.
    - (iv) use of tail lamp reflectors used.
  - c) Draw labeled sketch of CDI system.
  - d) Describe ergonomic aspects for
    - (i) Seat arrangement for rider and pillion rider.
    - (ii) Handle bar position
  - e) State four good driving habits to avoid accidents.
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