

17521

15116

3 Hours / 100 Marks

Seat No.

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

Instructions : (1) All Questions are *compulsory*.

(2) Illustrate your answers with neat sketches wherever necessary.

(3) Figures to the right indicate full marks.

(4) Assume suitable data, if necessary.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. (A) Attempt any THREE :

12

(a) List four major frame components and write function of each.

(b) State four advantages of electronic fuel injection systems.

(c) State the functions of carburettor under following engine operating conditions.

(i) Idling

(ii) Accelerating

(d) Describe construction and working of washable dual foam wet type air cleaner.

(B) Attempt any ONE :

6

(a) Draw a labelled diagram of down draught carburettor and describe its working.

(b) Describe the function of following components of starting system :

(i) DC motor

(ii) Battery

(iii) Solenoid

P.T.O.

2. Attempt any FOUR :**16**

- (a) Describe construction and working of constant mesh gear box.
- (b) State four advantages of multiple valves used in four stroke engine.
- (c) State four advantages of Gas filled shock-absorber for rear end suspension.
- (d) Draw a labelled sketch of hydraulic disc brake and describe its construction and working.
- (e) Describe the purpose of following :
 - (i) Ground clearance.
 - (ii) Shape of pillion rider seat.
- (f) Write the purpose of providing :
 - (i) Head lamp pairing of motorcycle.
 - (ii) Side panels of motorcycle.

3. Attempt any FOUR :**16**

- (a) What is gear ratio ? Write the gear ratios for motorcycle.
- (b) List three intake systems for two stroke engines and describe any one with neat sketch.
- (c) State the factors that affect the steering most. Give reasons.
- (d)
 - (i) How does variable rate coil spring affect suspension system ?
 - (ii) State the purpose of providing coil-in-coil spring arrangement in suspension system.
- (e) State and explain criterion for selection of tyre.

4. (A) Attempt any THREE :**12**

- (a) Differentiate between wheels of motorcycle and scooter on the basis of
 - (i) Size
 - (ii) Types of wheels
 - (iii) Construction
 - (iv) Off road driving suitability
- (b) State four benefits of twin spark ignition system.
- (c) Draw schematic diagram of charging system of a two wheeler.
- (d) State the purpose of following :
 - (i) LED lights in tail lamp
 - (ii) Tachometer at the dash-board.

(B) Attempt any ONE :**6**

- (a) How catalytic converter performs under oxidation and reduction of exhaust gas ? Give chemical reaction for the same.
- (b) State the use of following :
 - (i) Head lamp reflector
 - (ii) Neutral indicator lamp
 - (iii) Turn signal lamp
 - (iv) Tail lamp
 - (v) Trip meter
 - (vi) Speedometer

5. Attempt any FOUR :**16**

- (a) Compare gear box of two wheeler with gear box of four wheeler.
- (b) Differentiate between kick start and self start arrangement of starting system.
- (c) Enlist four safe riding habits.
- (d) Describe the aerodynamic aspects for
 - (i) Head lamp shape
 - (ii) Shape of fuel tank in motorcycle
- (e) State the use of following :
 - (i) Saree guard
 - (ii) Day night goggle
 - (iii) Foot rest for pillion rider
 - (iv) Mud Guard

6. Attempt any TWO :**16**

- (a) Draw and describe the working of wet sump pressurized lubrication system in four stroke engines. Also state its two advantages.
 - (b) Describe construction and working of capacitor discharge ignition system with suitable sketch. Also state its four advantages over conventional ignition system.
 - (c) Describe the ergonomic aspects for
 - (i) Seat arrangement for rider.
 - (ii) Motorcycle handle bar position.
-

