22559

11920

3 Hours / 70 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. Attempt any FIVE of the following: **10**

a) Enlist features of tubular frame.

b) List materials used for two wheeler frame.

c) State any two types of mufflers with their application.

d) State functions of carburettor.

e) Define :

(i) Trail

(ii) Caster angle

f) Draw transmission system layout of two wheeler.

Marks

2. Attempt any THREE of the following: **12**

a) Describe constructional details of single cradle frame with neat sketch.

b) Describe procedure to adjust valve clearance of four stroke engine of two wheeler with necessary sketches.

c) Describe working of constant mesh gear box with neat sketch.

d) Describe mono shock regular swing arm suspension system with neat sketch.

3. Attempt any THREE of the following: **12**

a) Describe push rod overhead valve operating mechanism with neat sketch.

b) Describe working of capacitive discharge ignition (CDI) system.

c) Describe working of two wheeler charging system with labelled sketch.

d) ''Indicator lamps play an important role in vehicle safety'' justify this statement with suitable illustrations.

4. Attempt any THREE of the following: **12**

a) Describe ergonomic aspects of seat arrangement of two wheeler.

b) Describe role of crash bar and saree guard in two wheeler safety.

c) ''Ergonomics plays an important role in passenger comfort'' Justify this statement with illustrations.

d) ''Driving habits are closely associated with drivers safety'' Justify this statement with illustrations.

e) Describe effects of frontal area exposed in motor cycle on performance of vehicle.

Marks

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

a) Select a material for a frame of 350 CC motorcycle and justify its use.

b) Explain with sketch working of electronic petrol injection system. State its advantages over carburetted fuel system.

c) Explain with relevant justification that use of catalytic convertor reduce the tail pipe emissions.

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

a) Explain with sketches effect of steering geometry on vehicle performance.

b) Select a tyre for sports bike and justify it with illustrations.

c) Explain with block diagram working of microprocessor controlled ignition system.