

Sample Test Paper - I

Course Name : Diploma in Automobile Engineering

Course Code: AE

Semester : Fifth

Subject Title : Two Wheeler Technology

Marks : 25

17521

Time: 1 Hour

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**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. Preferably, write the answers in sequential order.

**Q.1) ATTEMPT ANY THREE**

**09 MARKS**

- a) State three features of a two wheeler gearbox.
- b) How Multi-port arrangement in Two-Stroke engine is useful?
- c) Draw a schematic diagram of fuel valve of vacuum operated fuel supply system.
- d) State 2 types of muffler. State application of any one type.

**Q.2) ATTEMPT ANY TWO**

**08 MARKS**

- a) Describe the operation of normal running circuit in a carburetor. Draw a schematic diagram for the same.
- b) State 2 merits of chain drive and 2 merits of gear drive types of transmission mechanism.
- c) State the gear ratios used in a scooter. Why neutral position of gear shifter appears between 1st and 2<sup>nd</sup> gear position?

**Q.3) ATTEMPT ANY TWO**

**08 MARKS**

- a) Describe concept of Wet Sump Pressurized lubrication for four-Stroke engine.
- b) Describe the working of Exhaust Gas Recirculation System using a Block diagram.
- c) Draw a schematic diagram of single cradle frame and label it.

**Scheme – G**  
**Sample Test Paper - II**

**Course Name : Diploma in Automobile Engineering**

**Course Code : AE**

**Semester : Fifth**

**Subject Title : Two Wheeler Technology**

**Marks : 25**

**17521**

**Time: 1 Hour**

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**Q.1) ATTEMPT ANY THREE**

**09 MARKS**

- a) State three advantages of gas filled shock absorber for rear end suspension.
- b) State three benefits of twin spark ignition system.
- c) Write the criteria of selection of wheel for
  - i) Motorcycle
  - ii) Scooter
  - iii) Sports bike
- d) State the use of Speedometer, Trip meter and Tachometer in dash Board.

**Q.2) ATTEMPT ANY TWO**

**08 MARKS**

- a) Describe working of Double acting type of Shock Absorber.
- b) Describe the Handle bar Arrangement in two wheeler.
- c) Draw a schematic sketch for Lever Operated brake system.

**Q.3) ATTEMPT ANY TWO**

**08 MARKS**

- a) Draw a schematic diagram of kick-start arrangement.
- b) State use of
  - i) Reflector
  - ii) Tail Lamp
  - ii) Number Plate lamp
  - iv) Side stand indicator lamp
- c) Describe the working of Condenser Discharge Ignition system with neat Sketch.

**Scheme – G**  
**Sample Question Paper**

**Course Name : Diploma in Automobile Engineering**

**Course Code: AE**

**Semester : Fifth**

**Subject Title : Two Wheeler Technology**

**Marks : 100**

**17521**

**Time: 3 Hours**

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4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

**Q. 1 A) ATTEMPT ANY THREE**

**12 MARKS**

- a) State two types of frames. Describe construction of any one type.
- b) Draw a schematic diagram of air cleaner and label it.
- c) Why a decompression valve is used in some engines? Draw a schematic diagram for the same.
- d) Compare Overhead Valve and Overhead Cam arrangements on the basis of
  - i) Engine height
  - ii) Valve timing
  - iii) Cam shaft location
  - iv) Maintenance

**B) ATTEMPT ANY ONE**

**06 MARKS**

- a) Draw and describe layout of gravity feed type of fuel supply system.
- b) Describe operation of Microprocessor Controlled Ignition System using block diagram.

**Q. 2 ATTEMPT ANY FOUR**

**16 MARKS**

- a) Describe two features of Monocoque construction.
- b) State Four advantages of using multiple valves.
- c) Demonstrate the importance of raised seat for pillion rider using a schematic diagram.
- d) State four advantages of Monoshock suspension system.

- e) Identify the system using the components shown in figure. List the components as numbered in the figure. (6 Components)

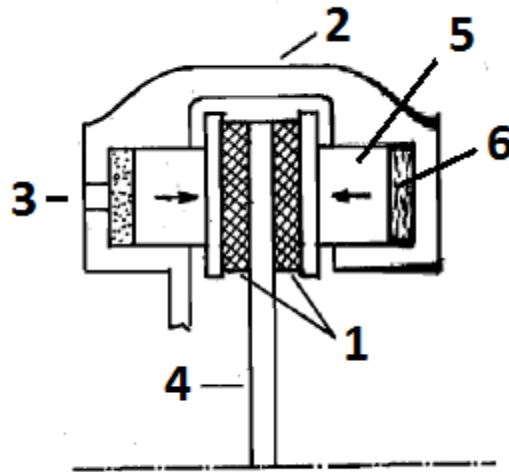


Fig.

**Q. 3 ATTEMPT ANY FOUR**

**16 MARKS**

- a) Draw a labeled sketch of Variator mechanism used in belt drive.
- b) Distinguish between the carbureted fuel supply and Electronic Fuel Injection system on the basis of
  - i) Drivability
  - ii) Emission
  - iii) Efficiency
  - iv) Maintenance
- c) Explain the purpose of providing caster angle with the schematic diagram for a motorcycle.
- d)
  - i) How does variable rate coil spring affect suspension system?
  - ii) Why coil-in-coil spring arrangement is used in suspension.
- e) Draw layout of hydraulic braking system used in a motorcycle and label it.

**Q. 4 A) ATTEMPT ANY THREE**

**12 MARKS**

- a) Differentiate between wheels of motorcycle and scooter on the basis of
  - i) Size
  - ii) Construction
  - iii) Tyre Rotation
  - iv) Off road driving suitability
- b) State the purpose of using following
  - i) LED light in tail lamp

- ii) Neutral Indicator Lamp
  - iii) High Beam Indicator lamp
  - iv) Tachometer at the dashboard
- c) Draw a schematic diagram showing AC and DC circuits of a two wheeler and label it.
- d) Describe working of Condenser Discharge ignition system and state two advantages of the same.

**B) ATTEMPT ANY ONE**

**06 MARKS**

- a) Draw a schematic diagram of starting circuit of a two wheeler **carburetor** and describe its operation.
- b) Describe the function of Following components of Starting system
- i) DC Motor
  - ii) Battery
  - iii) Solenoid

**Q. 5 ATTEMPT ANY FOUR**

**16 MARKS**

- a) Compare chain drive and belt drive type of transmission systems on the basis of
- i) Efficiency
  - ii) Construction
  - iii) Service life
  - iv) Maintenance
- b) Why modern scooterate exhaust tail pipe is raised?
- c) Draw a schematic diagram of charging system of a two wheeler
- d) State the importance of
- i) Foot rest for pillion rider during braking
  - ii) Mud- guard shape for motor cycle rear wheel.
- e) State the use of following
- i) Crash bar
  - ii) Saree guard
  - iii) Jacket (Drive Gear)
  - iv) Helmet

**Q. 6 ATTEMPT ANY FOUR**

**16 MARKS**

- a) State the use of
- i) Speedometer

- ii) Trip Meter
  - iii) Reflector
  - iv) Tail Lamp
- b) Why a separate oil pump is used in modern two-stroke engine lubrication? State one application.
- c) Statements: Kick start method is used for cold engine. Button start method is preferred for hot engine. Justify the statements.
- d) Describe the purpose of providing
- i) A particular shape to motorcycle fuel tank
  - ii) Ground clearance
- e) Describe the ergonomic aspects for
- i) Motorcycle Handle bar
  - ii) Driver's Seat (Motorcycle).

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