

Scheme - G

## Sample Test Paper-I

Course Name : Diploma in Mechanical Engineering

Course Code : ME/MH/MI

Semester : Fifth

Subject Title : Automobile Engineering

Marks : 25

**17526**

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) Give classification of automobile vehicles.
- b) State functions of clutch and state classification of clutch.
- c) Define following terms.
  - i) Caster
  - ii) Camber
  - iii) King pin inclination.
- d) Why aerodynamics shapes are used for body of automobile. State its advantages.

**Q 2. Attempt any TWO.**

**08 Marks**

- a) Draw labeled chassis layout of front engine rear wheel drive vehicle.
- b) Explain with sketch working of differential.
- c) Describe with neat sketch full floating rear axle.

**Q 3. Attempt any TWO.**

**08 Marks**

- a) Explain with neat sketch working of Master cylinder.
- b) Describe working of air braking system with neat sketch.
- c) Differentiate between Drum brakes and Disk brakes.

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## Sample Test Paper-II

Course Name : Diploma in Mechanical Engineering

Course Code : ME/MH/MI

Semester : Fifth

Subject Title : Automobile Engineering

Marks : 25

**17526**

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.

**Q1. Attempt any THREE.**

**09 Marks**

- a) State function of suspension system. State its types.
- b) Differentiate between radial tyres and cross ply tyres.
- c) State the different types of tyres. Explain any one in details.
- d) State different precautions to be taken while using AC system in automobile.

**Q2. Attempt any TWO.**

**08 Marks**

- a) Describe Mac Pherson type suspension system with neat sketch.
- b) State and explain different ways of battery rating.
- c) Describe with neat sketch Bendix drive.

**Q3. Attempt any TWO.**

**08 Marks**

- a) Explain Magneto ignition system with neat sketch.
- b) Describe working of air conditioning system used in automobile.
- c) Draw a labeled layout of lighting system in four wheel drive.

Scheme - G

Sample Question Paper

Course Name : Diploma in Mechanical Engineering

Course Code : ME/MH/MI

Semester : Fifth

Subject Title : Automobile Engineering

Marks : 100

17526

Time:3 hours

**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

**Q1. (A) Attempt any THREE of the following**

**12 Marks**

- a) State different components of transmission system with their functions.
- b) How automobiles are classified?
- c) State necessity of braking system. What is the function of parking brakes?
- d) Define and give range of angles.  
(i) Castor (ii) Camber

**(B) Attempt any ONE of the following**

**06 Marks**

- a) Sketch and explain chassis layout of front engine rear wheel drive.
- b) Explain with neat sketch working of constant mesh gear box.

**Q2. Attempt any FOUR of the following**

**16 Marks**

- a) State advantages and disadvantages of gas operated automobile vehicles.
- b) Describe with neat sketch single plate clutch.
- c) Differentiate between drum brakes and disc brakes.
- d) Explain with neat sketch Hotchkiss drive.
- e) Draw neat and labeled sketch of synchromesh gear box.

**Q3. Attempt any TWO of the following.**

**16 Marks**

- a) State the need of differential. Explain with neat sketch working of differential.
- b) Describe hydraulic braking system with neat sketch.
- c) Explain construction and working of rack and pinion steering system.

**Q4. (A) Attempt any THREE of the following**

**12 Marks**

- a) What is the requirement of suspension system in automobile?
- b) Differentiate between radial and cross ply tyres.
- c) Define battery rating. State the common battery ratings.
- d) Draw neat labeled sketch of Bendix drive.

**(B) Attempt any ONE of the following**

**06 Marks**

- a) Explain working of car air conditioning system with neat layout.

b) State and explain air conditioning parameters for human comfort.

**Q 5. Attempt any FOUR of the following**

**16 Marks**

- a) Write different wire color codes used in automobile wiring system.
- b) State advantages of independent suspension system.
- c) State and explain different factors affecting tyre life.
- d) Discuss in details various requirements of automobile body.
- e) Why aerodynamic shapes are used in automobile bodies? State its advantages.

**Q 6. Attempt any TWO of the following**

**16 Marks**

- a) Describe with neat sketch construction and working of lead acid battery.
- b) Explain with neat sketch electronic ignition system.
- c) Describe construction of Macpherson suspension system. State its advantages.

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