

Roll No.

Total No. of Questions : 09

Total No. of Pages : 02

B.Tech. (ME) (Sem.-6)  
**AUTOMOBILE ENGINEERING**

Subject Code : BTME 603-18

M.Code : 79652

Date of Examination : 07-12-2023

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A**

1. Write briefly :

- a) How does Exhaust Gas Recirculation (EGR) help in reducing pollution?
- b) What is the knocking phenomenon in an IC engine? Explain.
- c) What is the function of Servo in a braking system?
- d) What is the function of shackle in conventional suspension systems?
- e) What is the need and advantage of wheel alignment?
- f) Explain the functioning of a catalytic converter in an automobile.
- g) Compare preventive maintenance with breakdown maintenance.
- h) Name various types of independent suspension systems.
- i) What are the various functions of a carburetor?
- j) Draw a neat diagram of vacuum servo brake.

## SECTION-B

2. Explain double wishbone type suspension system with diagram.
3. What do you understand by engine performance? Discuss.
4. What are the different sources of automobile pollutant? Discuss.
5. Explain the construction and principle of working of power steering system of an automobile.
6. Differentiate between torque tube and Hotchkiss drive with the help of diagram.

## SECTION-C

7. What do you understand by independent suspension system in a vehicle? What are its advantages over rigid axle suspension system? With help of neat sketch discuss the construction of McPherson suspension system for front wheels.
8. **Discuss and differentiate following :**
  - a) Pump circulation system and thermosyphon system of engine cooling.
  - b) Mechanical and hydraulic steering system.
9. **Write short notes on following :**
  - a) Functions of exhaust system.
  - b) Trailing link type suspension system.
  - c) Distributor system.
  - d) Combined voltage and current regulator.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**