

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (Sem.-5)
AUTOMOBILE ENGINEERING

Subject Code : BTME-505

M.Code : 70606

Date of Examination : 03-06-23

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. Answer briefly :

- a) Differentiate between Frameless and unitary construction.
- b) List down major tools used for Automobile maintenance shop.
- c) What is the function of shackle in conventional suspension system?
- d) What is the function of clutch in transmission system?
- e) Briefly explain the advantages of Transistorized ignition system.
- f) What's the function of "servo" in Braking system?
- g) What is the function of cut out in battery charging system?
- h) Differentiate between MPFI and Gasoline Direct Injection systems.
- i) What is the function of Thermostat in Engine cooling system?
- j) What is the need and advantages of Wheel Alignment?

SECTION -B

2. Describe Viscosity and Service Ratings for Lube oil. What are multi-grade oils?
3. Draft preventive maintenance schedule for a passenger car.
4. Explain the construction and working of a telescopic type shock absorber with the help of a neat diagram.
5. Differentiate between :
 - a) Individual pump and nozzle system,
 - b) Unit injector system
 - c) Common rail system
 - d) Distributor system
6. Enlist the different Starting motor drives in automobiles. Describe with neat sketch the most widely used drive for diesel engines.

SECTION-C

7. Briefly explain : (a) Weight transfer during Braking and stopping distance (b) merit; demerits of AT, AMT, CVT, DCT/DSG automatic transmission systems.
8. Write short note on:
 - a) Tractive effort and Vehicle performance curves
 - b) Working of Differential with neat sketches.
9. Explain the following terms :
Camber, castor, King pin inclination and Included angle. Discuss their impact of steering characteristics of vehicle.

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.