

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

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

Subject Code : BTME603/18

M.Code : 79652

Date of Examination : 22-05-2024

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) State advantages and disadvantages of frameless construction
- (b) Explain briefly principle of Gasoline Direct Injection Engine.
- (c) Briefly explain Crank case ventilation and its uses.
- (d) What is the function brake in Automatic Transmission?
- (e) What's the use of Overdrive in Automobile Transmission?
- (f) What is are leading and trailing shoes in automobile braking system?
- (g) What is the function of Clutch?
- (h) What are Fuel Cells?
- (i) What is the function of Thermostat in Engine cooling system?
- (j) What are the advantages of Mc Pherson strut suspension system?

**SECTION-B**

2. Describe various loads on frame and discuss briefly function of shock absorber.

3. Discuss working of full pressure lubrication system with a neat sketch.
4. Explain the working of one Power steering system of an automobile
5. Discuss in brief working of ABS and Cruise Control in Modern Automobile.
6. Enlist the different Starting motor drives in automobiles. Describe with a neat sketch of one such drive.

### SECTION-C

7. What do you mean by Active and Passive safety systems in an Automobile? Explain the following terms : Air Bags, Collapsible Steering system, side impact bars and crumple zones *w.r.t.* Vehicle safety in Modern Automobiles.
8. Explain in detail use of one Alternative Fuel/ Energy Source option for future Automobile.
9. Differentiate briefly, stating merits and demerits of AT, AMT, CVT, DCT/DSG Automatic Transmission systems.

**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.**