

CT Inst. of En

Roll No. 

Total No. of Pages : 02

Total No. of Questions : 09

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

**AUTOMOBILE ENGINEERING**

Subject Code : ME-305

Paper ID : [A0816]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION 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 has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

**SECTION-A****I. Answer briefly :**

- i. State the advantages and disadvantages of frameless construction.
- ii. Compare a mechanical fuel pump with an electrical one.
- iii. Explain the necessity of differential in an automobile.
- iv. Name various engine parts requiring lubrication.
- v. State various factors of wheel alignment.
- vi. State requirements of a good spark plug.
- vii. How does "Selective Catalytic Reduction" improve the vehicle emission?
- viii. Compare preventive maintenance and breakdown maintenance.
- ix. Name various types of car brakes.
- x. Name various types of independent suspension systems.

**SECTION-B**

2. What is an engine performance curve? Describe curves, including their significance.
3. Discuss in detail the pump circulation system and the thermosyphon system of engine cooling.
4. Describe in detail the construction and working of a current regulator.
5. Explain the construction and working of a temperature absorber with the help of a neat sketch.
6. Describe with the help of a diagram, the principle type of automatic transmission.

**SECTION-C**

7. Draw a diagram showing the layout of complete brakes and explain the working of its main units.
8. Define the terms CAMBER, CASTOR, INCLINATION, TOE-IN and explain the effects characteristics of a vehicle.
9. (a) Draw diagrams showing layouts of various types for automotive diesel engines and describe the functions of each type.  
(b) Explain the functions of a primary and a secondary filter. Describe one filter of each type.

