

# CBCS SCHEME

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18ME824

**Eighth Semester B.E. Degree Examination, Dec.2024/Jan.2025**

## **Automobile Engineering**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. Explain with a neat sketch the dry liners and wet liners. (08 Marks)
- b. Explain over head valve actuating mechanism with a neat sketch. (08 Marks)
- c. What are the necessities of cooling system? (04 Marks)

**OR**

- 2 a. Explain thermosyphon cooling system with neat sketch. (06 Marks)
- b. Explain Hybrid Engine and Electric Car with suitable sketch. (10 Marks)
- c. State the significance of lubrication system. (04 Marks)

### Module-2

- 3 a. What are the functions of clutch? (04 Marks)
- b. Explain with neat sketch the working of single plate clutch. (08 Marks)
- c. With a neat sketch explain the working of hydraulic brake system. (08 Marks)

**OR**

- 4 a. With a neat sketch explain working principle of overdrive. (06 Marks)
- b. Explain sliding mesh gear box with a neat sketch. (07 Marks)
- c. Explain the working principle of a torque converter with a neat sketch. (07 Marks)

### Module-3

- 5 a. Discuss in detail the Ackerman steering mechanism. (10 Marks)
- b. Explain the principle of air suspension system with layout. (10 Marks)

**OR**

- 6 a. With a neat sketch explain Battery ignition system (08 Marks)
- b. Explain the following with suitable diagram : i) Camber ii) Castor. (12 Marks)

### Module-4

- 7 a. What are the advantages and disadvantages of super charging? (08 Marks)
- b. With a neat sketch explain exhaust turbo charging of a single cylinder engine. (12 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

OR

- 8 a. Explain working principle of carburetor with diagram. (10 Marks)  
b. Explain the following with a diagram :  
i) Mechanical fuel pump  
ii) Electrical fuel pump. (10 Marks)

**Module-5**

- 9 a. With a neat sketch explain exhaust gas recirculation system. (10 Marks)  
b. Explain positive crank case ventilation system. (10 Marks)

OR

- 10 Write short notes on following :  
a. Catalytic converter  
b. Motor vehicle Act  
c. Emission Norms in India  
d. Controlling combustion process. (20 Marks)

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