

CBCS SCHEME



18ME752

Seventh Semester B.E./B.Tech. Degree Examination, June/July 2025 Automotive Engineering

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. List the components of automotive engine. Mention their functions and material used for manufacturing. (08 Marks)
- b. Distinguish between dry-liner and wet-liner. (04 Marks)
- c. What is swirl? Explain the different method of swirl generation. (08 Marks)

OR

- 2 a. What is the necessity of engine cooling? (04 Marks)
- b. Sketch and explain thermosyphon system of engine cooling. (08 Marks)
- c. Explain with a neat sketch the working of coolant pump. (08 Marks)

Module-2

- 3 a. What is the need of clutch in automobiles? (04 Marks)
- b. Explain with a neat sketch the working of single plate clutch. (08 Marks)
- c. Explain with a neat sketch the working of torque converter. Mention its advantages. (08 Marks)

OR

- 4 a. Explain with a neat sketch the working of hydraulic brake system. (08 Marks)
- b. What is ABS? Mention its advantages. (06 Marks)
- c. Explain with a neat sketch the working of wheel cylinder. (06 Marks)

Module-3

- 5 a. Define the following with sketch and explain their effect on steering. (08 Marks)
 - i) Caster
 - ii) Camber
 - iii) King pin inclination
 - iv) Included angle.
- b. Explain with a neat sketch : (08 Marks)
 - i) Worm and wheel steering gear
 - ii) Re-circulating ball type steering gear.
- c. Explain with a neat sketch torsion bar. (04 Marks)

OR

- 6 a. What are the functions of the ignition system? (04 Marks)
b. What are the types of ignition system? Explain with a neat sketch electronic ignition system. (10 Marks)
c. Differentiate between battery ignition system and magneto ignition system. (06 Marks)

Module-4

- 7 a. Define super charger? List the types of super charger? Explain with a neat sketch centrifugal type super charger. (08 Marks)
b. Write a note on turbo charger lag. (06 Marks)
c. Distinguish between super charging and turbo charging. (06 Marks)

OR

- 8 a. List the various alternate fuels used for S.I engine. Explain any two fuels. (08 Marks)
b. Explain Cetane number and octane number. (04 Marks)
c. Explain with a neat sketch common rail direct injection system. (08 Marks)

Module-5

- 9 a. List the various pollutants. List the measures taken to reduce pollutants. (04 Marks)
b. Explain with a neat sketch crank case ventilation system. (08 Marks)
c. Discuss how evaporative emission can be controlled. (08 Marks)

OR

- 10 a. Discuss about how air injection system can control the pollution. (06 Marks)
b. What are catalytic converters? How they are helpful in reducing HC, CO and NO₂. (08 Marks)
c. Write a note on Motor Vehicle Act. (06 Marks)
