

CBCS SCHEME

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15ME655

Sixth Semester B.E. Degree Examination, July/August 2022 Automobile Engineering

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain with the line diagrams, the cylinder arrangements used for better performance of the engine. (08 Marks)
b. Explain the valve actuating mechanism with the suitable sketches. (08 Marks)

OR

- 2 a. Explain with a neat sketch, the two methods of engine cooling. (08 Marks)
b. Explain the types of engine lubrication systems, with the neat diagram. (08 Marks)

Module-2

- 3 a. Explain with neat sketch, the epicyclic gear box and determine its speed ratio. (08 Marks)
b. Explain the principle of friction clutches with the help of neat diagram. (08 Marks)

OR

- 4 a. Explain the different types of break shoe arrangements. (08 Marks)
b. Explain with the neat sketch, the construction and working of master cylinder. (08 Marks)

Module-3

- 5 a. List the different types of suspension springs and explain any two with neat sketches. (08 Marks)
b. With neat layout diagram, explain the air suspension system. (08 Marks)

OR

- 6 a. Explain with neat sketch the torsion bars. (06 Marks)
b. Explain with neat sketches, the Battery Ignition System and Magneto Ignition System. (10 Marks)

Module-4

- 7 a. With the neat sketch, explain any two types of supercharges with their advantages and disadvantages. (08 Marks)
b. Explain with the neat sketch, the turbocharger construction and operation. (08 Marks)

OR

- 8 a. With the neat sketch, explain the two types of fuel injectors. (08 Marks)
b. Write short notes on:
(i) Manifold injection system
(ii) Multi-point fuel injection system. (08 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.

Module-5

- 9 a. Explain the different methods used to reduce the amount of pollutants in the exhaust gas. (08 Marks)
b. Explain the vapour recovery system in a carbureted engine, with a neat sketch. (08 Marks)

OR

- 10 a. Briefly give the overview of emission norms in India. (08 Marks)
b. Write short notes on:
(i) Euro I, II, III and IV norms
(ii) Bharat stage II, III, IV norms (08 Marks)
