

# CBCS SCHEME

15ME655

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## Sixth Semester B.E. Degree Examination, Aug./Sept. 2020 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. List the components of automotive engine. Mention their functions and materials used for manufacturing. (06 Marks)
- b. With neat sketch, explain the working of thermosyphon cooling system. (06 Marks)
- c. What is the necessity of engine cooling? (04 Marks)

OR

- 2 a. Why cooling is necessary and what are different methods of cooling? (04 Marks)
- b. Classify valve operating mechanisms and with the help of diagram, explain overhead inlet and side exhaust valve mechanism. (06 Marks)
- c. Explain dry sump lubrication system, with help of neat sketch. (06 Marks)

### Module-2

- 3 a. What are the requirements of a clutch? And with neat sketch explain the working of cone clutch. (07 Marks)
- b. Explain the purpose and operation of antilock braking system. (06 Marks)
- c. What is the principle of automatic transmission? (03 Marks)

OR

- 4 a. Explain working of master cylinder of a braking system with the help of neat sketch. (10 Marks)
- b. What is ABS? Explain with appropriate sketch. (06 Marks)

### Module-3

- 5 a. Explain the working of power steering. (04 Marks)
- b. What are the differences between Battery Ignition system and Magneto Ignition system? (06 Marks)
- c. Define the following : (i) Camber (ii) Caster (iii) King pin inclination. (06 Marks)

OR

- 6 a. What are the types of Ignition systems? Describe with diagram the battery ignition system. (08 Marks)
- b. Sketch and explain Electronic Ignition System. (08 Marks)

### Module-4

- 7 a. Distinguish between supercharging and turbocharging. (06 Marks)
- b. Explain centrifugal type supercharger. (06 Marks)
- c. What are limitations of turbocharging? (04 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. What are fuel mixture requirements for SI engine? (04 Marks)  
b. Explain working of Zenith Carburetor. (08 Marks)  
c. What are CRDI engine? Explain principle of working. (04 Marks)

Module-5

- 9 a. Mention various pollutants. List measures to be taken to reduce pollution. (04 Marks)  
b. Discuss positive crank case ventilation system to control Crank case emission. (06 Marks)  
c. Discuss how evaporative emissions can be controlled. (06 Marks)

OR

- 10 a. What are catalytic converters? How they are helpful in reducing HC, CO and NO<sub>x</sub> emissions. (08 Marks)  
b. Write a note on Motor Vehicle Act. (08 Marks)

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