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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)



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_x emissions. (08 Marks)
- b. Write a note on Motor Vehicle Act. (08 Marks)

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