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15ME655

Sixth Semester B.E. Degree Examination, July/August 2021 Automobile Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1 a. List out the components of Automotive engine. Give its function and mention the materials used to manufacturing of components. (08 Marks)
 b. What are the various methods of Engine Cooling? Explain with neat sketch, the Thermosyphon system of cooling. (08 Marks)
- 2 a. With neat sketch, explain the Overhead Valve Mechanism method. (08 Marks)
 b. With neat sketch, explain the working of Forced Feed lubrication system. (08 Marks)
- 3 a. With neat sketch, explain the working principle of Single Plate Clutch. (10 Marks)
 b. With neat sketch, explain the working construction and working principle of different units. (06 Marks)
- 4 a. Explain with diagram, the working of Hydraulic Braking system. (08 Marks)
 b. What is Anti – lock Braking System (ABS)? With neat sketch, explain the working principle of Disc Brake. (08 Marks)
- 5 a. What is Steering Geometry? Define the following: i) Camber ii) Caster iii) King Pin inclination iv) Toe in and Toe – out. (08 Marks)
 b. With neat sketch, explain the working principle of Air Suspension system. (08 Marks)
- 6 a. Explain with neat sketch, working of a Battery Ignition System. (08 Marks)
 b. Explain the working of Vacuum advance and state the advantages of Electronic ignition system. (08 Marks)
- 7 a. What are the effect of Supercharging on Engine performance? With neat sketch, explain centrifugal type super charge. (08 Marks)
 b. With neat sketch, explain Working principle of Turbo charging. (08 Marks)
- 8 a. What is Cetane and Octane numbers? With neat sketch, explain single Point Fuel Injection system. (05 Marks)
 b. Briefly explain some of the alternate fuels can be used for IC engines. (05 Marks)
 c. Discuss briefly Mixture requirements for steady state operation of an SI engine. (06 Marks)
- 9 a. Briefly explain the different types of emissions from IC engines. (08 Marks)
 b. Explain the Evaporative Emission Control System. (08 Marks)
- 10 a. Explain Euro 1 and Euro II Norms. (04 Marks)
 b. State the procedure to get the driving license. (06 Marks)
 c. How can the motor vehicle be registered? Explain. (06 Marks)

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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.