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Time: 3 hrs.

10ME844

Eighth Semester B.E. Degree Examination, June/July 2019

Automotive Engineering

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

PART – A

- 1 a. Explain the various methods of cylinder arrangements used in multicylinder engines. (08 Marks)
- b. What are the various methods of engine cooling? Explain with sketches. (12 Marks)
- 2 a. Explain Octane number and Cetane number. (08 Marks)
- b. Sketch and explain Zenith Carburetors. (12 Marks)
- 3 a. Explain with neat sketches, types of superchargers. (10 Marks)
- b. Compare Turbochargers with mechanical superchargers. (10 Marks)
- 4 a. Explain “Battery coil ignition system” for four cylinder engine. (10 Marks)
- b. Explain with sketch vacuum advance mechanism. (10 Marks)

PART – B

- 5 a. With neat sketch, explain single plate clutch. (10 Marks)
- b. With neat sketch, explain working of “synchromesh gear box”. (10 Marks)
- 6 a. Define following and explain their effects on steering:
 - i) Camber
 - ii) King pin inclination
 - iii) Castor
 - iv) Toe in and Toe out(08 Marks)
- b. With a neat sketch explain Hotch-Kiss drive. (12 Marks)
- 7 a. Explain with neat sketch, “laminated springs”. (08 Marks)
- b. State advantages and disadvantages of hydraulic brake over mechanical brake. (06 Marks)
- c. Draw the neat sketch of “Master Cylinder”. (06 Marks)
- 8 a. Explain with neat sketch “Exhaust Gas Recirculation” system. (10 Marks)
- b. Explain the sources of automotive exhaust gas emission. (05 Marks)
- c. Draw neat sketch of “Positive Crank Ventilation System”. (05 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.