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10ME844

Eighth Semester B.E. Degree Examination, June/July 2016
Automotive Engineering

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. List advantages of Aluminium alloy pistons. (04 Marks)
- b. With neat sketches, explain the construction and purpose of dry and wet liners. (08 Marks)
- c. Draw the valve timing diagram for a 4 stroke petrol engine indicating clearly the position of following and also briefly explain them. i) IVO ii) IVC iii) Ignition iv) EVO v) EVC. (08 Marks)
- 2 a. What are octane and cetane ratings for gasoline and diesel fuel? (04 Marks)
- b. Explain with sketch working of carter carburetor. (08 Marks)
- c. With a neat sketch explain the working of fuel injector. (08 Marks)
- 3 a. What are the objectives of super charging? (04 Marks)
- b. With neat sketch explain the working of i) Vane blower ii) Roots blower. (08 Marks)
- c. What is turbo charger lag and explain how it can be controlled? (06 Marks)
- d. What is super charging? (02 Marks)
- 4 a. With a schematic diagram explain the working of transistor ignition system. (08 Marks)
- b. With sketch explain the working of vacuum advance. (08 Marks)
- c. What is ignition advance and list the factors affecting ignition advance? (04 Marks)

PART – B

- 5 a. Explain with neat diagram working of single plate clutch. (06 Marks)
- b. How different speeds are obtained by using planetary gear systems. (07 Marks)
- c. With a neat sketch, explain the working principle of fluid coupling. (07 Marks)
- 6 a. What is function of differential and explain its operation with neat diagram. (10 Marks)
- b. Explain the working of power steering. Mention the advantages of power steering. (10 Marks)
- 7 a. With neat sketch, explain the working of telescopic type shock absorber. (10 Marks)
- b. Draw the layout of a pneumatic brake system. (08 Marks)
- c. What is Anti-lock Bracking system (ABS)? (02 Marks)
- 8 a. Explain various evaporative emission control system. (08 Marks)
- b. Explain i) Air injection system ii) Air aspirator valve. (12 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.