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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 breake 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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