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Fifth Semester B.E. Degree Examination, June/July 2016
Auxiliary System for Automotive Engines

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Explain the working of simple carburetor with the help of neat sketch. (10 Marks)
b. Discuss the utility of chokes. (04 Marks)
c. Explain the working of Idling system circuit. (06 Marks)
- 2 a. Describe the disadvantages of carburetted fuel supply systems. (06 Marks)
b. Write the comparison between direct injection and indirect injection system. (04 Marks)
c. Explain the working of petrol injection system with a neat diagram. (10 Marks)
- 3 a. Discuss the important requirements of a diesel injection system. (05 Marks)
b. Draw a typical heat release diagram of diesel engine and discuss its salient points. (05 Marks)
c. Describe the two types of injection systems with the help of neat sketches. (10 Marks)
- 4 a. Describe the different types of injection nozzles and discuss their relative advantages and disadvantages. (10 Marks)
b. Describe the principle of a helix by pass pump and also draw sketches for different types of plunger helix in use. (10 Marks)

PART – B

- 5 a. Explain the different types of mufflers. (10 Marks)
b. What are the functions of air filters? Discuss the different types of air filters. (06 Marks)
c. Discuss the different arrangements of intake manifold. (04 Marks)
- 6 a. Why cooling of an IC engine necessary. (02 Marks)
b. Sketch a piston and show typical temperature at various places. (04 Marks)
c. Describe with a sketch the construction and working of a thermostat. (10 Marks)
d. Write a note on antifreeze solutions. (04 Marks)
- 7 a. Discuss the objectives of lubrication systems. (05 Marks)
b. What is blow-by? What factors affects this? (05 Marks)
c. How lubricating oils use classified? (02 Marks)
d. What is crank case ventilation? Explain the different types of it. (08 Marks)
- 8 a. What is supercharging? How is it achieved? (04 Marks)
b. What is the effect of supercharging in the following parameters?
i) Power output
ii) Mechanical efficiency
iii) Fuel consumption. (09 Marks)
c. What are the modifications required for a supercharged engine. (03 Marks)
d. What is turbo-charging? Discuss the limits of turbo-charging. (04 Marks)