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10AU55

Fifth Semester B.E. Degree Examination, May 2017
Auxiliary Systems of Automotive Engines

Time: 3 hrs. Max. Marks:100

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

PART – A

1 a. Define carburetion. What are the mixture requirement for starting and acceleration condition? Explain. **(08 Marks)**

b. Describe with neat sketches: i) Idling system; ii) Acceleration system. **(08 Marks)**

c. Explain special requirements of air craft carburetors. **(04 Marks)**

2 a. Write any four drawbacks of modern carburetors. **(04 Marks)**

b. Write advantages and disadvantages of petrol injection system. **(06 Marks)**

c. With neat sketch, explain electronic petrol injection system. **(10 Marks)**

3 a. Write requirements of diesel injection system. **(10 Marks)**

b. Draw and explain the common rail injection system. **(10 Marks)**

4 a. Sketch and explain construction and working of jerk type fuel injection pump. **(12 Marks)**

b. Describe with neat sketches: i) Pintle nozzle and ii) Pintaux nozzle. **(08 Marks)**

PART – B

5 a. Explain oil bath air cleaner with a neat sketch. **(08 Marks)**

b. Draw and describe construction and working of baffle type and wave cancellation type mufflers. **(12 Marks)**

6 a. What is the necessity of cooling system in I.C. engines? **(04 Marks)**

b. Compare air cooling and water cooling systems. **(08 Marks)**

c. Explain with a neat sketch thermostat assisted cooling system. **(08 Marks)**

7 a. Explain functions of lubrication system in I.C. engines. **(10 Marks)**

b. Explain wet sump lubrication system, with a neat sketch. **(10 Marks)**

8 a. Explain effect of supercharging on i) Power output; ii) Mechanical efficiency; iii) Fuel consumption of I.C. engine. **(12 Marks)**

b. Explain supercharging limits in S.I. and C.I. engines. **(08 Marks)**

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