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15ME655

of
Sixth Semester B.E. Degree Examination, June/July 2019
Automobile Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With the help of PV diagram, compare SI and CI engines. (06 Marks)
b. With help of neat sketch give construction details of connecting rod. (05 Marks)
c. With help of neat sketch, explain pre-chamber type of combustion chamber. (05 Marks)

OR

- 2 a. Why cooling is necessary and what are different methods of cooling? (04 Marks)
b. Classify valve operating mechanisms and with the help of diagram, explain overhead inlet and side exhaust valve mechanism. (06 Marks)
c. Explain dry sump lubrication system, with help of neat sketch. (06 Marks)

Module-2

- 3 a. With the help of neat sketch explain multi-plate clutch. (08 Marks)
b Sketch and explain Hotch Kiss Drive and also compare with torque tube. (08 Marks)

OR

- 4 a. Explain working of master cylinder of a braking system with the help of neat sketch. (10 Marks)
b. What is ABS? Explain with appropriate sketch. (06 Marks)

Module-3

- 5 a. Define following: (i) Camber (ii) Caster (iii) King pin inclination (06 Marks)
b. With the help of sketch explain Mac person strut type sub pension. (10 Marks)

OR

- 6 a. What are the requirements of Ignition system? (04 Marks)
b. Sketch and explain Electronic Ignition system. (08 Marks)
c. Compare Battery and Magneto Ignition system. (04 Marks)

Module-4

- 7 a. What do you mean by supercharging? Explain any one method of super charging. (06 Marks)
b. Explain centrifugal type of super charger. (06 Marks)
c. What are limitations of turbo charging? (04 Marks)

OR

- 8 a. What are fuel mixture requirements for SI engine? (04 Marks)
b. Explain working of Zenith carburetor. (08 Marks)
c. What are CRD engine? Explain principle of working. (04 Marks)

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Module-5

- 9 a. Mention various pollutants. List measures to be taken to reduce pollution. (04 Marks)
b. Discuss positive crank case ventilation system to control crank case emission. (06 Marks)
c. Discuss how evaporative emissions can be controlled. (06 Marks)

OR

- 10 a. Discuss about, how air injection system controls pollution. (06 Marks)
b. Write short notes on any two:
i) Catalytic converter
ii) Euro IV norms for petrol and diesel engines
iii) Redesign of combustion chamber to control emission. (10 Marks)

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