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06ME844

Eighth Semester B.E. Degree Examination, June 2012
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 the components of automotive engine. Mention their functions and materials used for manufacturing. (05 Marks)
- b. What is piston slap? Explain various techniques used to avoid piston slap. (08 Marks)
- c. Classify valve operating mechanisms. Sketch over head inlet and side exhaust valve mechanism. (07 Marks)
- 2 a. With neat sketch, explain fuel-mixture requirements for SI engines. (10 Marks)
- b. Sketch and explain various circuits of solex carburetor. (10 Marks)
- 3 a. What is supercharging? Compare supercharged engines with naturally aspirated engines. (05 Marks)
- b. Explain different methods of supercharging. (08 Marks)
- c. Sketch and explain turbocharging. (07 Marks)
- 4 a. List the requirements of ignition system. (05 Marks)
- b. Explain working of electronic ignition system with help of a sketch. (08 Marks)
- c. Compare battery and magneto ignition systems. (07 Marks)

PART – B

- 5 a. Classify clutches. With a neat sketch, explain working of multiplate clutch. (06 Marks)
- b. Explain necessity for gear ratios in transmission. (06 Marks)
- c. Explain working principle of automotive transmission. (08 Marks)
- 6 a. Sketch and explain three types of fixing the wheels to rear axle. (10 Marks)
- b. Explain the functioning of differential. (05 Marks)
- c. With a neat sketch, explain the effects of over steer, under steer and neutral steer. (05 Marks)
- 7 a. Describe the working of wishbone type of independent suspension system with a neat sketch. (06 Marks)
- b. Explain working of master cylinder with a neat sketch. (09 Marks)
- c. Sketch and explain working of vacuum servo brake. (05 Marks)
- 8 Write short notes on :
 - a. Various methods of reduction of formation of pollutants.
 - b. Closed crank case ventilation.
 - c. Exhaust gas recirculation systems.
 - d. Catalytic converter. (20 Marks)

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