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10ME844

Eighth Semester B.E. Degree Examination, Dec.2018/Jan.2019
Automotive Engineering

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain various methods of cylinder arrangements used in multi cylinder engine. (10 Marks)
- b. What is the necessity of cooling the valve? Explain with a neat sketch, the sodium cooled valve. (10 Marks)
- 2 a. Explain with a neat sketches, normal and abnormal combustion. (05 Marks)
- b. What are the main functions of a carburetor? Explain carter carburetor. (10 Marks)
- c. Sketch and explain AC mechanical pump. (05 Marks)
- 3 a. Explain the following with neat sketches:
 - i) Root's supercharger
 - ii) Vane type supercharger. (10 Marks)
- b. What is turbolag? Explain the principle of working of turbocharger. (10 Marks)
- 4 a. Explain with a neat sketch, working of a battery ignition system. (08 Marks)
- b. Explain the working of:
 - i) Rotating armature type
 - ii) Rotating magneto ignition system. (12 Marks)

PART – B

- 5 a. What are the requirements of clutch? (04 Marks)
- b. With sketch explain the working of single plate clutch. (08 Marks)
- c. With a neat sketch, explain the working of synchromesh gear box. (08 Marks)
- 6 a. Explain the working of Hotch kiss drive with a neat sketch. (08 Marks)
- b. Explain the effect of following on steering: i) Camber ii) King pin angle iii) Caster. (06 Marks)
- c. Explain the working of power steering. (06 Marks)
- 7 a. Explain the schematic diagram the air suspension system. Mention its advantages and disadvantages. (12 Marks)
- b. Explain with diagram, the working of hydraulic braking system. (08 Marks)
- 8 a. Briefly explain crankcase emission controlling. (04 Marks)
- b. Explain with diagram the exhaust gas circulation system (EGR). (10 Marks)
- c. Write a note on emission standards. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.