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Sixth Semester B.E. Degree Examination, June/July 2015
Auto Electrical and Electronic Systems

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. Explain with neat sketch construction and working of lead acid battery. (08 Marks)
b. What do you mean by battery rating? Explain different battery ratings. (08 Marks)
c. Write causes and remedies of following battery faults:
i) Sulphation ii) Loss of electrolyte. (04 Marks)
- 2 a. With a neat sketch, explain working of D.C. generator. (10 Marks)
b. Write advantages of alternator over D.C. generator. (05 Marks)
c. What is the need of cutout relay in charging system? Explain its construction and working. (05 Marks)
- 3 a. Explain suitability of series motor for engine cranking. (05 Marks)
b. What are the requirements of starting system? (05 Marks)
c. List out different types of starting motor drives. Explain any one of them with neat sketch. (10 Marks)
- 4 a. Sketch and explain battery ignition system for a multicylinder engine. (10 Marks)
b. What are the advantages of electronic ignition system over conventional ignition system? (04 Marks)
c. With block diagram, explain "Distributor less" ignition system. (06 Marks)

PART – B

- 5 a. Explain earth return and insulated return wiring system. (04 Marks)
b. Explain construction and working of
i) Electrical fuel pump ii) Temperature gauge. (10 Marks)
c. Explain working of wind screen wiper with neat sketch. (06 Marks)
- 6 a. Explain functional requirements of heating and ventilation system used in automobile. (05 Marks)
b. With neat sketch, explain basic air-conditioning or refrigeration cycle. (10 Marks)
c. Write a short note on seat heaters. (05 Marks)
- 7 a. Explain effect of various engine design parameters on engine emissions. (10 Marks)
b. Explain complete vehicle control with block diagram. (10 Marks)
- 8 Write short notes on:
a. Antilock brakes
b. Central locking
c. Active suspension
d. Air bags.
Wherever required draw neat sketches. (20 Marks)