

CBCS SCHEME

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15AU71

Seventh Semester B.E. Degree Examination, June/July 2019 Automotive Electrical and Electronic System

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Explain the factors affecting charging battery. (04 Marks)
- b. Briefly explain the selection and positioning of battery used in automotive vehicle. (08 Marks)
- c. What are the different battery ratings used in automobiles? (04 Marks)

OR

- 2 a. Explain with neat sketch construction and working of lead-acid battery. (08 Marks)
- b. Write down a trouble shooting chart of automotive lead-acid batteries with defects causes and remedies. (08 Marks)

Module-2

- 3 a. With circuit diagram, explain series, shunt and compound wound generators. (09 Marks)
- b. Mention the advantages and disadvantages of electronic control starter. (07 Marks)

OR

- 4 a. Explain with the full circuit diagram, working principle of alternator. (10 Marks)
- b. What are the advantages of Alternator over DC generator? (06 Marks)

Module-3

- 5 a. Sketch and explain battery ignition system for multicylinder engines. (10 Marks)
- b. What are the advantages of electronic ignition system over conventional ignition system? (06 Marks)

OR

- 6 a. What is head height dazzle? List the reasons and remedies. (05 Marks)
- b. Explain balancing coil type fuel gauge, with the help of wiring diagram. (06 Marks)
- c. Write a short note on "wind screen wipers". (05 Marks)

Module-4

- 7 a. Explain various engine design parameters for exhaust emission control. (08 Marks)
- b. What is artificial intelligence? Explain with relevance to automotive engineering taking adaptive ignition system as example. (08 Marks)

OR

- 8 a. Explain with neat sketch, basic air-conditioning or refrigeration ratio cycle. (08 Marks)
- b. Write a short note on seat heaters. (04 Marks)
- c. Explain the functional requirements of heating and ventilation system used in automobile. (04 Marks)

Module-5

- 9 a. With neat diagram, explain the sensors used in an active suspension system. (08 Marks)
b. What are the benefits of ABS? Explain the function of each component with a neat sketch of ABS. (08 Marks)

OR

- 10 a. Explain the HEV drive train components with neat sketch. (08 Marks)
b. Write a short note on EV batteries. (04 Marks)
c. What are the advantages and disadvantages of electric vehicles? (04 Marks)
