



CBCS SCHEME

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)

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.

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)

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