

CBCS SCHEME

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Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 Automotive Electrical and Electronics System

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. With a neat diagram, explain the simple wiring diagram of the electrical system of an automobile. (10 Marks)
b. Draw and explain the different electrical symbols used an automobile system. (10 Marks)

OR

- 2 a. With a neat diagram, explain the construction and working of lead – acid battery. Mention the reactions. (10 Marks)
b. Write a note on following : i) Alkaline batteries ii) Zinc–air batteries. (10 Marks)

Module-2

- 3 a. With neat diagram, explain the construction and working of generator. (10 Marks)
b. Explain the types of wound field generators with neat diagram. (10 Marks)

OR

- 4 a. Explain the construction of cranking motor with characteristic curves. (10 Marks)
b. With neat diagram, explain the working of bendix drive. (10 Marks)

Module-3

- 5 a. Give the comparison between battery and magneto ignition system. (10 Marks)
b. Draw a schematic wiring diagram of an ignition system with the contact point distributors and explain its working. (10 Marks)

OR

- 6 a. With a neat diagram, explain the working of electrical fuel pump. (10 Marks)
b. Explain the construction and working of wiper motor with neat sketch. (10 Marks)

Module-4

- 7 a. Explain the dwell angle calculation with neat block diagram. (10 Marks)
b. Write a note on : i) Hybrid vehicles ii) Fuel cells. (10 Marks)

OR

- 8 a. Explain the different components of ABS with neat diagram. (10 Marks)
b. Write a note on : i) Air bags ii) Seat heaters. (10 Marks)

Module-5

- 9 a. Explain hybrid electrical vehicle drive train components with neat diagram. (10 Marks)
b. State the advantages and limitations of electrical vehicles. (10 Marks)

OR

- 10 a. With neat diagram explain the working of hall effect sensors. (10 Marks)
b. Explain the different types of light sensors. (10 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.