



CBGS SCHEME

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15AU71

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

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Write short notes on the following:
- i) Automobiles cables and specifications
 - ii) Fusing of circuit
 - iii) Earth return and insulated system
 - iv) Symbols used in automobile electrical system. (08 Marks)
- b. Explain the electrical system of a vehicle with a help of wiring diagram. (08 Marks)

OR

- 2 a. Describe the various battery tests. (08 Marks)
- b. List out the defects and remedies of batteries. (08 Marks)

Module-2

- 3 a. Describe the construction and working principle of DC generator with a neat sketch. (08 Marks)
- b. What is third brush regulations? Give its limitations with neat sketch. (08 Marks)

OR

- 4 a. Describe the construction and working principle of starter motor with a neat sketch. (08 Marks)
- b. With neat sketch. Explain the construction and working principle of Bendix drive. (08 Marks)

Module-3

- 5 a. Describe with help of neat sketch, the battery ignition system of four cylinder engine. (08 Marks)
- b. What are the advantages and disadvantages of Electronic ignition systems? (08 Marks)

OR

- 6 a. Explain the Head light aiming and leveling with necessary sketches. (08 Marks)
- b. Briefly explain the following:
- i) Electric horn
 - ii) Wind screen wipers
 - iii) Electrical fuel pump
 - iv) Speedometer. (08 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-4

- 7 a. List out the Exhaust emission control methods and explain any one with neat sketch. (08 Marks)
- b. Write a short notes on:
- i) Ignition timing
 - ii) Hybrid vehicle
 - iii) Dwell angle
 - iv) Fuel cells. (08 Marks)

OR

- 8 a. Explain the following terms with suitable sketches:
- i) Air bag system (08 Marks)
 - ii) Traction control (08 Marks)
- b. Summarize the importance of central locking and seat belt tensioners. (08 Marks)

Module-5

- 9 a. Briefly explain the components of electrical vehicles. (08 Marks)
- b. List out the advantages and disadvantages of HEV. (08 Marks)

OR

- 10 a. i) Define transducer and sensor and classify them. (08 Marks)
- ii) With neat sketch, explain proximity sensors. (08 Marks)
- b. What you mean by Hall effect? With neat sketch, explain the fuel level indicator by using Hall sensors. (08 Marks)
