

CBCS SCHEME

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15AU71

Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019 Automotive Electrical and Electronic 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 :
- Earth Return and Insulated systems
 - 6 volts and 12 volts system
 - Automobiles cables and specifications. (08 Marks)
- b. Explain with a schematic diagram of typical wiring system for passenger car lighting system. (08 Marks)

OR

- 2 a. Describe the construction and working of a Lead Acid battery with a neat sketch. (08 Marks)
- b. (i) Discuss the following by giving neat sketches :
- Plate group
 - Separators
- (ii) Compare Lead Acid Batteries and Alkaline Batteries. (08 Marks)

Module-2

- 3 a. With a neat sketch, explain the working principle of third brush generator. (08 Marks)
- b. Describe the construction and working of cutout relay. (08 Marks)

OR

- 4 a. List out the different types of starting motor drives. Explain any one of them with a neat sketch. (08 Marks)
- b. i) Mention the characteristics of series motors
ii) List out the considerations affecting size of motors. (08 Marks)

Module-3

- 5 a. With a neat sketch, explain the Battery ignition system for a four – cylinder spark ignition engine. Also list out the advantages of it. (08 Marks)
- b. i) Describe the construction and working of spark plug.
ii) Compare Battery Ignition system and Magneto Ignition system. (08 Marks)

OR

- 6 a. Explain the Head light Aiming and levelling with necessary sketches. (08 Marks)
- b. Explain the following with circuit diagrams :
- Electric Horn
 - Dim – Dip light. (08 Marks)

Module-4

- 7 a. Illustrate the Compute Vehicle Control Systems with a neat block diagram. (08 Marks)
- b. Write short notes on :
- Hybrid Vehicle
 - Fuel cells
 - Dwell Angle. (08 Marks)

OR

- 8 a. Explain the following terms with suitable sketches :
i) Antilock Braking System (ABS) (08 Marks)
ii) Traction Control. (08 Marks)
- b. Summarize the importance of Seat belt Tensioners and Seat Heaters. (08 Marks)

Module-5

- 9 a. Mention the components of Electrical Vehicles. Explain briefly. (08 Marks)
- b. i) List out the advantages and disadvantages of Electrical Vehicles. (08 Marks)
ii) Write short notes on HEV. (08 Marks)

OR

- 10 a. Define Transducer. Explain the working principle of Transducer used in Automobile vehicle. (08 Marks)
- b. Discuss the following in detail :
i) Proximiting sensors
ii) Light sensors
iii) Hall effect sensors. (08 Marks)

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