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17MT81

Eighth Semester B.E. Degree Examination, July/August 2022 Automotive Electronics and Hybrid Vehicles

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain the construction and working of four stroke engine with neat diagram. (10 Marks)
- b. Explain the working operation of starting system with neat diagram. (10 Marks)

OR

- 2 a. Explain the working operation of steering system with neat diagram. (10 Marks)
- b. Explain the working operation of Braking system with neat diagram. (10 Marks)

Module-2

- 3 a. Explain the construction and working of Hall effect position sensor with neat diagram. (10 Marks)
- b. Describe the operation of crankshaft position sensor with neat diagram. (10 Marks)

OR

- 4 a. Explain the working operation (AIR) Air Injection Reaction system with neat diagram. (10 Marks)
- b. Describe the operation of Evaporative emission system with neat diagram. (10 Marks)

Module-3

- 5 a. Define Automotive instrumentation. Explain the operation computer based Automotive instrumentation with neat diagram. (10 Marks)
- b. Explain the working of fuel Quality measurement with neat diagram. (10 Marks)

OR

- 6 a. Analyse the architecture of CAN controller with voltage level diagram. (10 Marks)
- b. Explain the working operation of Global positioning system with neat diagram. (10 Marks)

Module-4

- 7 a. Explain the working operation of cruise control system with neat diagram. (10 Marks)
- b. Explain the operation of ON-board and OFF-board diagnostic in detail. (10 Marks)

OR

- 8 a. Explain the working operation of collision avoidance Radar warning system. (10 Marks)
- b. Explain the operation of Advance driver information system with neat diagram. (10 Marks)

Module-5

- 9 a. Discuss the components used in Electrical vehicles in details. (10 Marks)
- b. Distinguish between Electric vehicles and hybrid vehicles. (10 Marks)

OR

- 10 a. Explain the architecture of Electric Vehicle in details. (10 Marks)
- b. Explain the operation of plug in hybrid Electric Vehicles with block diagram. (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.