

CBCS SCHEME

15AU662



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Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020 Hybrid and Electric Vehicle

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. Write a short note on Fuel economy of Hybrid vehicle. (06 Marks)
b. Explain performance attributes of road. Explain any two in detail. (10 Marks)

OR

- 2 a. Explain compound wound DC motor with neat sketch. (08 Marks)
b. Explain with neat sketch separately excited DC motor. (08 Marks)

Module-2

- 3 a. Explain AC induction motor with neat sketch. (08 Marks)
b. Explain switched reluctance motor with neat sketch. (08 Marks)

OR

- 4 a. Explain significance of Mild Hybrid. (06 Marks)
b. Describe continuously variable Transmission. (10 Marks)

Module-3

- 5 a. Explain : i) Grade ii) Cruise target iii) Launching iv) Boosting. (08 Marks)
b. Explain series regenerative brake system. (08 Marks)

OR

- 6 a. Explain Engine downsizing. (08 Marks)
b. Explain usage requirements of Hybrids. (08 Marks)

Module-4

- 7 a. Explain Matching electric drive and IC engine. (08 Marks)
b. Explain Lean acid battery. (08 Marks)

OR

- 8 a. Explain Lithium ion battery. (08 Marks)
b. Explain Flywheel energy storage system. (08 Marks)

Module-5

- 9 a. Explain proton exchange membrane Fuel cell. (08 Marks)
b. Explain Hydrogen storage methods. (08 Marks)

OR

- 10 a. Explain Direct methanol fuel cell. (08 Marks)
b. Explain reformers briefly. (08 Marks)

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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.