

CBCS SCHEME

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17AU562

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 Alternative Energy Sources for Automobiles

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. List the different types of energy sources. Explain them in briefly. (10 Marks)
b. Discuss the need of alternative fuels for automobiles. (10 Marks)

OR

- 2 a. Classify the solar energy collectors and explain any one types in detail. (10 Marks)
b. Write the advantages and disadvantages of solar energy sources. (10 Marks)

Module-2

- 3 a. With a neat sketch explain KVIC Biogas plant. (10 Marks)
b. List out the factors affecting generation of Biogas and explain in brief. (10 Marks)

OR

- 4 a. Write a short note on "Biodiesel for internal combustion engine applications". (10 Marks)
b. List out the important properties of methanol. (10 Marks)

Module-3

- 5 a. Discuss the various safety systems used to handle hydrogen. (10 Marks)
b. List out the advantages and disadvantages of hydrogen. (10 Marks)

OR

- 6 a. What are the advantages and disadvantages using CNG as fuel in I.C engines? (10 Marks)
b. Write a note on : i) LFG ii) LNG. (10 Marks)

Module-4

- 7 a. Describe the production of Coal Water Slurry (CWS) fuel. (10 Marks)
b. List out the advantages and disadvantages of emulsified fuels. (10 Marks)

OR

- 8 a. List out the important properties of ammonia. (10 Marks)
b. Write a note on : i) Liquid – Nitrogen ii) PMF. (10 Marks)

Module-5

- 9 a. Explain different components of EV with block diagram. (10 Marks)
b. What is a Hybrid Electric Vehicle (HEV) with a diagram explain parallel hybrid electric vehicle. (10 Marks)

OR

- 10 a. List the advantages and disadvantages of Dual Fuel Technology (DFT). (10 Marks)
b. List the advantage and disadvantages of Electric Vehicles (EVs). (10 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.