

CBCS SCHEME

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15AU562

Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019 Alternative Energy Sources for Automobiles

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 "Need of Alternative Energy Sources". (05 Marks)
b. List the different types of energy sources. Explain then briefly. (06 Marks)
c. What are the implementation barriers for alternative energy sources? (05 Marks)

OR

- 2 a. What are the different types of solar radiation measurement devices? Explain pyraliometer with neat sketch. (08 Marks)
b. Write the advantages and disadvantages of solar energy sources. (08 Marks)

Module-2

- 3 a. Explain the production of biogas in different stages with block diagram. (08 Marks)
b. Write a short note on "Biodiesel for Internal Combustion Engine Applications". (08 Marks)

OR

- 4 a. With neat diagram explain the floating drum type biogas plants. (08 Marks)
b. Explain the production of methanol from synthesis gas. (04 Marks)
c. What are the advantages of biogas? (04 Marks)

Module-3

- 5 a. What are the different methods used for production of hydrogen? Explain the electrolysis process. (08 Marks)
b. Comment on the safety issues related to use of hydrogen as fuel in IC engines. (08 Marks)

OR

- 6 a. What are advantages and disadvantages of using CNG as fuel in IC engines? (08 Marks)
b. Write a short note on LPG. (04 Marks)
c. Write a short note on LFG. (04 Marks)

Module-4

- 7 a. Explain the production of Coal Water Slurry with block diagram. (08 Marks)
b. Write a short note on emulsified fuels. (04 Marks)
c. Write a short note on hydrogen – enriched gasoline. (04 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.

OR

- 8 a. Write a short note on "water as fuel for internal combustion engine". (05 Marks)
b. What are the advantages and disadvantages of ammonia as fuel in IC engine? (06 Marks)
c. What are the different properties of liquid – nitrogen? (05 Marks)

Module-5

- 9 a. Explain the different components of EV (Electric Vehicles) with block diagram. (08 Marks)
b. What are the advantages and disadvantages of electric vehicles? (08 Marks)

OR

- 10 a. Write a short note on hybrid electric vehicles (HEV). (05 Marks)
b. What do you mean by DFT? Mention its applications. (06 Marks)
c. What are the advantages and disadvantages of DFT? (05 Marks)
