

CBCS SCHEME

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17ME562

Fifth Semester B.E. Degree Examination, Jan./Feb.2021 Energy and Environment

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. List and explain the different forms of energy. (10 Marks)
b. Explain briefly the key energy trends in India. (10 Marks)

OR

- 2 a. Outline the factors that affect India's Energy development. (10 Marks)
b. Explain briefly world energy scenario with respect to production and consumption using relevant statistics. (10 Marks)

Module-2

- 3 a. List the different types of thermal energy storage systems. Explain any two of them. (10 Marks)
b. Elaborate the benefits of thermal energy storage. (10 Marks)

OR

- 4 a. Define Energy Audit. Explain the need for Energy Audit. (10 Marks)
b. A power plant of 210 MW installed capacity has the following particulars:
Capital cost : Rs.18,000/kW installed.
Interest and depreciation = 12%
Annual load factor = 60%
Annual capacity factor = 54%
Annual running charges = Rs. 2×10^8
Energy consumed by auxiliaries = 6%
Calculate the cost of power generation per kWh. (10 Marks)

Module-3

- 5 a. Identify the need for public awareness on environment management. Discuss the effort of important institution and people in environment management. (10 Marks)
b. Explain with a suitable examples, multidisciplinary nature of environment studies. (10 Marks)

OR

- 6 a. Explain the concept of ecological pyramid and food chains. (10 Marks)
b. Describe grassland ecosystems. What are its types? How conservation of grassland can be made. (10 Marks)

Module-4

- 7 a. Define pollution. Explain the different types of pollution briefly. (10 Marks)
b. Discuss the role of an individual in prevention of pollution. (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.

OR

- 8 a. Define Noise Pollution. List the major sources and effects of noise pollutants. (10 Marks)
b. Define air pollution. List the major sources and effects of air pollutants. (10 Marks)

Module-5

- 9 a. Write a note on global warming. (10 Marks)
b. What is the need for water land reclamation? Explain the methods for reclaiming waste land. (10 Marks)

OR

- 10 a. Explain how ozone layer depletion occurs. Discuss the importance ozone depletion on human health. (10 Marks)
b. Write short notes on:
(i) The water (Prevention and Control of Pollution) Act.
(ii) Environment Protection Act. (10 Marks)
