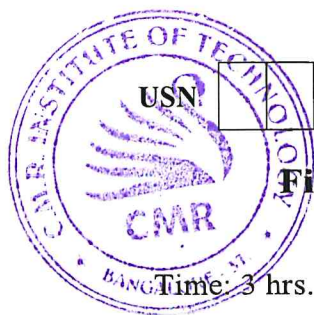


CBCS SCHEME



15EE563

Fifth Semester B.E. Degree Examination, July/August 2022 Renewable Energy Sources

Time: 3 hrs.

Max. Marks: 80

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

Module-1

- 1 a. What are the causes of energy scarcity? And explain the solution to energy scarcity. (08 Marks)
b. With block diagram, explain the multi-purpose utilization of solar energy. (08 Marks)

OR

- 2 a. "Energy consumption as a measure of prosperity". Discuss in brief. (08 Marks)
b. Explain "Solar energy reaching the earth's surface". (08 Marks)

Module-2

- 3 a. Explain the "solar flat plate collectors". (08 Marks)
b. Draw the I-V characteristics of a typical solar cells under different illumination level and explain in brief. (08 Marks)

OR

- 4 a. Write short notes on: i) Solar dryers ii) Crop drying. (08 Marks)
b. Define efficiency of solar cells and what are factors limiting the efficiency of the cell. (08 Marks)

Module-3

- 5 a. What are the advantages, disadvantages and problems associated with hydrogen energy? (08 Marks)
b. What are the considerations and guidelines for wind turbine site selection? (08 Marks)

OR

- 6 a. What are hydrogen production technologies? Explain any one technology. (08 Marks)
b. How do you explore resource in case of geothermal? Explain in detail. (08 Marks)

Module-4

- 7 a. Explain Downdraft gasifier. (08 Marks)
b. Explain the benefits of biogas. (08 Marks)

OR

- 8 a. What are the advantages and disadvantages of tidal power? (08 Marks)
b. Explain with a neat sketch the fluidized bed gasification. (08 Marks)

Module-5

- 9 a. Show that the wave power is directly proportional to the square of the wave height. (08 Marks)
b. Explain the basic Rankine cycle and its working. (08 Marks)

OR

- 10 a. What are advantages, disadvantages and benefits of OTEC? (08 Marks)
b. What are the advantages and disadvantages of wave power? (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.

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