USN | | | | | | | | | | | 18AU654

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

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1   a. Explain the working principle of Pyrheliometer.   (10 Marks)
    b. Briefly explain the working of solar water heater along with appropriate sketch.   (10 Marks)

OR

2   a. Classify and explain solar collectors.   (10 Marks)
    b. Enlighten about solar PV pumps.   (10 Marks)

Module-2

3   a. Explain working principle of horizontal Axis Wind Turbine.   (10 Marks)
    b. What are the factors affecting the distribution of wind energy on the surface of earth.   (10 Marks)

OR

4   a. How does wind speed vary with time and height?   (10 Marks)
    b. With block diagram, explain wind energy conversion system.   (10 Marks)

Module-3

5   a. Explain the working principle of vapour dominated power plant.   (10 Marks)
    b. How can geothermal energy be used for direct heat use.   (10 Marks)

OR

6   a. Mention the advantages and disadvantages of geothermal energy.   (10 Marks)
    b. Explain the process of heat extraction from hot dry rock resources.   (10 Marks)

Module-4

7   a. Explain the power generation from tidal energy.   (10 Marks)
    b. Explain the working principle of closed OTEC system.   (10 Marks)

OR

8   a. Show that wave energy does not depend on the amplitude of wave.   (10 Marks)
    b. Mention the advantages and disadvantages of wave energy.   (10 Marks)

Module-5

9   a. Explain the process of electrolysis for generation of hydrogen.   (10 Marks)
    b. Mention the various methods of storage of hydrogen.   (10 Marks)

OR

10   a. Sketch the layout of micro hydro power station and explain Desilting tank.   (10 Marks)
     b. Differentiate the advantages and disadvantages of small scale hydro electric system.   (10 Marks)

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