

Code No.: ME741PE

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H.T.No.

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CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS

IV-B.TECH-I-Semester End Examinations (Supply) - April- 2024
RENEWABLE ENERGY SOURCES
(MECH)

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) Write about global climate changes in India. [2M]
- b) List out the sources of renewable energy. [2M]
- c) Define Solar constant. [2M]
- d) What is meant by beam radiation? [2M]
- e) Classify the wind turbines. [2M]
- f) List out the applications of wind turbines. [2M]
- g) Briefly explain the biomass gasification. [2M]
- h) Explain the urban waste to energy conversion. [2M]
- i) List out the types of turbines used for small hydro power plant. [2M]
- j) Define Tidal energy. [2M]

PART-B

(50 Marks)

2. Explain the global and Indian energy scenario. [10M]
- OR**
3. Differentiate renewable and non-renewable energy sources and state their relative merits and demerits. [10M]
4. Explain the working of pyranometer with the help of a neat sketch. [10M]
- OR**
5. Describe any one of the solar thermal energy storage system with neat sketches. [10M]
6. Explain the factors influence for site selection of wind power generation. [10M]
- OR**
7. Compare horizontal and vertical axis wind turbines. [10M]
8. Explain in brief about different biomass resources. [10M]
- OR**
9. What are the different factors which affect the size of the bio gas plants? [10M]
10. Describe the construction and working of any one type of wave energy conversion machine. [10M]
- OR**
11. Describe working principle of Geothermal power plant with neat sketch. [10M]
