

Code No: 158DR

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech IV Year-II Semester Examinations, July/August - 2022

NON-CONVENTIONAL SOURCES OF ENERGY

(Common to EEE, CSE, IT)

Time: 3 Hours

Max.Marks:75

Answer any five questions
All questions carry equal marks

- 1.a) What is the role and potential of new and renewable energy source? Explain. [7+8]
b) Illustrate the functions of various components in flat plate collectors.
- 2.a) Write about Extra-terrestrial Radiation and Terrestrial Radiation.
b) What are the additional features employed in advanced solar collectors explain. [7+8]
- 3.a) Describe with a neat sketch working of a solar water heating system.
b) Discuss the working principle of a horizontal axis windmill with suitable sketch. [7+8]
- 4.a) Explain the process of generation of power in solar pond with a neat sketch and also mention its merits and demerits.
b) List the merits and demerits of wind energy. [8+7]
- 5.a) Identify the applications of Biomass energy along with its impact on environment.
b) Explain how biomass energy can be used for cooking. [8+7]
- 6.a) List the factors affecting the bio gas power generation and explain.
b) How the temperature effects the biogas production in the digesters explain. [7+8]
- 7.a) List out various components of tidal power plant and explain their importance.
b) With a neat sketch explain the working principle of closed cycle OTEC plant. [7+8]
- 8.a) What are thermoelectric generators how they differ from conventional generators?
b) Write a short note on i).MHD generators, ii) thermodynamic aspects in fuel.cells. [7+8]

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