

Code No: 135CU

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year I Semester Examinations, October - 2020

NON-CONVENTIONAL POWER GENERATION

(Common to CE, ME, ECE, CSE, MCT)

Time: 2 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

- 1.a) Explain the working of concentrated collector with the help of a neat sketch. [7+8]
b) How solar radiation effect on tilted surface.
- 2.a) Briefly explain the need for solar energy collection. Differentiate between flat plate collectors and concentrating collectors.
b) Explain any one solar radiation measuring instrument with a neat sketch. [7+8]
- 3.a) Explain the method of solar thermal energy storage using sensible heat. [7+8]
b) Explain solar photovoltaic energy conversion with graph.
- 4.a) What is MPPT? Describe the construction and working of MPPT system. [7+8]
b) Draw the I-V characteristics of PV cell.
- 5.a) Briefly explain the Indian wind energy potential. [7+8]
b) Explain the working of horizontal axis wind mill with a neat sketch.
- 6.a) Discuss about the classification and applications of wind energy conversion systems. [7+8]
b) Discuss the factors influencing wind shear and turbulence.
- 7.a) Enumerate the prime movers used in geothermal power stations. [7+8]
b) Explain about the storage and handling of biomass.
- 8.a) Define fuel cell. Explain in detail about the working of fuel cell. [7+8]
b) List out the limitations of storage batteries.

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