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Code No: D6401

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012
RENEWABLE ENERGY RESOURCES
(POWER ENGINEERING AND ENERGY SYSTEMS)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks

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1.a) How the Solar radiation is classified? Discuss the spectral distribution of solar intensity.
b) Discuss about the instruments used for solar radiation measurements.

2. Explain the following
a) Solar still
b) Crop drier
c) Solar air heaters

3.a) Explain various characteristics of wind and variation with respect to height, pressure, temperature and time.
b) Explain the aero dynamics of vertical axis wind turbines.

4.a) Explain various configurations of wind turbines with neat sketches
b) Explain integration of wind farms to electrical networks.

5. What is anaerobic digestion? What are the factors affecting generation of gas in biodigestors?

6. What is OTEC system? Explain open and closed cycles of operation of OTEC systems

7. What is wave energy? How it is trapped? Explain the operation of various wave energy conversion devices with neat sketches

8.a) Classify Geo thermal resources. Explain the operation of Hot-Dry Rock systems.
b) Discuss about the prime movers used in geothermal energy extraction.

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