R09

Code: 9A02706

B.Tech IV Year I Semester (R09) Supplementary Examinations, May 2013

RENEWABLE ENERGY SOURCES

(Electrical and Electronics Engineering)

Time: 3 hours Max Marks: 70

Answer any FIVE questions
All questions carry equal marks

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1. (a) Explain the spectral irradiance of solar radiation.
   (b) With the aid of a sketch explain the working of a pyrheliometer.

2. (a) Describe the functioning of a flat plate collector with a line diagram.
   (b) Explain the advantages and disadvantages of concentrating collectors over flat plate type collectors.

3. Explain the principle, construction and working of non convective solar pond.

4. (a) What are the different wet processes used in bio mass conversion? Explain.
   (b) What are the different dry processes used in bio mass conversion? Explain.

5. (a) Estimate the energy potential in hot dry rock geothermal resource. What are the difficulties in extraction for power production?
   (b) What are the main applications of geothermal energy?

6. (a) How do you classify wind mills? Explain about any one type with neat sketches.
   (b) Describe with a neat sketch the components of a horizontal axis type aero generator.

7. (a) Discuss the various equipment for the establishment of an off shore OTEC system.
   (b) The efficiency of power plant working on OTEC system is very less. However, the secondary advantages make it commercially attractive. Discuss.

8. What is the basic principle of direct energy conversion system? Describe briefly the working of a thermo electric generator. Explain Seebeck, Peltier, Joule and Thomson effects.

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