

Code: R7410209

R07

B.Tech IV Year I Semester (R07) Supplementary Examinations, May 2013

NON CONVENTIONAL SOURCES OF ENERGY

(Common to EEE and ME)

Time: 3 hours

Max. Marks: 80

Answer any FIVE questions
All questions carry equal marks

- 1 (a) What is the importance of solar power in the present energy crisis in the world?
(b) What is the difference between a pyrliometer and pyranometer?
- 2 (a) What are the applications of solar flat plate collectors?
(b) What are the advantages and disadvantages of concentrating collectors over flat plate collectors?
- 3 (a) What are the various methods of storing solar energy?
(b) Discuss in detail any two of the solar energy storage methods.
- 4 (a) What are the basic requirements for locating a wind power plant? Which factors affect the size of the wind power plant?
(b) Discuss the advantages and disadvantages of horizontal axis and vertical axis wind mills with neat sketches.
- 5 (a) What is biogas? How is it produced?
(b) Explain in detail about anaerobic digestion and the different phases and the processes involved in it.
- 6 (a) Explain the potential of geothermal resources in India.
(b) Explain the geothermal power generation. What environmental considerations are taken while generating electricity with this plant?
- 7 (a) Explain with a neat sketch the energy extraction techniques from tidal waves.
(b) The efficiency of power plant working on OTEC system is very less. However, the secondary advantages make it commercially attractive. Discuss.
- 8 (a) What do you mean by direct energy conversion?
(b) Explain Seebeck, Peltier and Joule-Thompson effects.
(c) What is figure of merit?
