

Code: 9A02706

B.Tech IV Year I Semester (R09) Regular & Supplementary Examinations December 2015

RENEWABLE ENERGY SOURCES

(Electrical & Electronics Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 (a) Explain the working of sun shine recorder with a neat sketch.
(b) Explain the extraterrestrial and terrestrial solar radiation.
- 2 (a) Describe the basic components of flat plate collector with a neat sketch.
(b) What are the advantages and disadvantages of concentrating collectors over a flat-plate collector?
- 3 (a) Explain the phase change energy storage in brief along with the materials.
(b) Write short notes on photovoltaic energy conversion systems.
- 4 (a) Discuss the various performance characteristics of wind.
(b) Briefly explain the significance of Betz limit.
- 5 (a) Classify the biogas digesters and also explain working of any one of them.
(b) Write short notes on biogas for IC engines.
- 6 (a) Briefly explain the social and environmental aspects of geothermal energy.
(b) Explain the harnessing techniques of geothermal energy.
- 7 (a) What is the source of tidal energy? What is the minimum tidal range required for practical power plant?
(b) List out the advantages and disadvantages of OTEC systems.
- 8 Write short notes on:
(a) Carnot cycle.
(b) Limitations of DEC.
