

Code : R7410209

R07**IV B.Tech I Semester (R07) Supplementary Examinations, May 2012****NON CONVENTIONAL SOURCES OF ENERGY****(Common to Electrical & Electronics Engineering and Mechanical Engineering)****Time: 3 hours****Max Marks: 80****Answer any FIVE questions****All questions carry equal marks**

1. (a) What are the advantages and limitations of renewable energy sources?
(b) With neat diagram, explain the working of sun – shine recorder.
2. (a) Draw and explain the power generating system illustrating the use of flat plate collector.
(b) Explain the concentrating collectors with neat diagrams.
3. (a) Explain different methods of storing solar energy.
(b) Explain the working of photo voltaic energy conversion with a neat diagram.
4. (a) What are the various characteristics of the wind? Discuss them in detail.
(b) Discuss the advantages and disadvantages of horizontal and vertical axis wind mills.
5. (a) What are the advantages of anaerobic digestion? Explain.
(b) Explain the types of bio-gas digesters in detail.
6. (a) Explain the various methods to extract geothermal energy.
(b) What are the specific environmental effects if the geothermal source of energy is used for the power generation?
7. (a) What is mini- hydel development? Classify mini hydel power stations.
(b) What are the advantages, limitations and operational difficulties encountered in OTEC plants?
8. (a) Discuss the working of thermoelectric generators in detail.
(b) Write short notes on Carnot cycle.
