

Code: ME6T6D

III B.Tech - II Semester – Regular Examinations – May 2015

**ALTERNATIVE SOURCES OF ENERGY
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1. a) Discuss the potential of renewable energy sources in India. 7 M
b) With neat sketch explain the working principle of Pyreheliometer. 7 M
2. a) Explain briefly about the performance of Solar Flat plate collector. 7 M
b) With neat sketch explain the working principle of any one type of Line focusing type of collectors. 7 M
3. a) Explain operation and description of Non convective solar pond. 7 M
b) Explain Solar Photovoltaic energy conversion system and give its applications. 7 M
4. a) With neat diagram explain the working of horizontal axis wind mill. 7 M

- b) Write short notes on site selection characteristics of wind power plant. 7 M
5. a) Explain in detail the thermo-chemical digestion process. 7 M
- b) Explain the working of biogas plant with neat sketch. 7 M
6. a) Explain the internal structure of earth with neat sketch. 7 M
- b) With neat sketch explain the vapour dominated geothermal power plant and give its advantages and disadvantages. 7 M
7. a) Explain OTEC technique with sketch and give its merits and demerits. 7 M
- b) Write short notes on double basin tidal energy conversion technique. 7 M
8. a) Define “Faraday’s law” and explain the open cycle MHD generator. 7 M
- b) Discuss advantages and disadvantages of Thermo-electric power generation system. 7 M