Code No.: 3188

FACULTY OF ENGINEERING

B.E. IV/IV Year (EE/Inst.) II Semester (Main) Examination May/June 2011

RENEWABLE ENERGY SOURCES

Elective – II

Time : 3 Hours] [Max. Marks : 75

Answer **all** *questions of* Part A.
Answer **five** *questions from* Part B.

Part A — (Marks : 25)

1. What are the conventional and non conventional energy sources? 2
2. Write the advantages of use of renewable sources of energy. 3
3. Define collector efficiency. 2
4. Distinguish between flat plate and concentrating collectors. 2
5. Define list and drag. 2
6. What are the factors responsible for distribution of wind energy on the surface of earth ? 3
7. How can Geothermal energy be utilized for electricity generation? 3
8. What is Biomass? 2
9. Write the principle of operation of wave power generation 2
10. Distinguish between tidal and wave power generation. 3

Part B — (Marks : 50)

11. (a) Compare Geothermal and Biomass energy sources. 5
    (b) Write short notes on classification of non conventional energy sources. 5
12. (a) What is the principle of conversion of solar energy into heat? 5
    (b) What are the advantages and disadvantages of photo voltaic solar energy conversion? 5
13. Sketch the diagram of Horizontal axis wind turbine, and Explain the functions of its main components. 10

14. Explain various types of Geothermal resources. 10

15. Explain with the help of a diagram, the principle of open cycle OTEC system. 10

16. (a) Explain the limitations of renewable energy sources. 5

(b) Write the Principle of Operation of solar engine. 5

17. Write short notes on any **two** of the following :. $2 \times 5 = 10$

(a) Biomass gasification.

(b) Environmental impacts of OTEC.

(c) Grid Connected solar power satellite.