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Reg. No. : .....

Name : .....

Fifth Semester B.Tech. Degree Examination, December 2014
(2008 Scheme)
08.506 (Elective – I) (d) : NEW AND RENEWABLE SOURCES OF ENERGY (E)

Time : 3 Hours Max. Marks : 100

Instructions *: Answer* ***all*** *questions from Part – **A** and* ***one full*** *question from* ***each*** *Module of Part – **B**.*

PART – A

1. Describe the working of Vapour Compression System.
2. Explain the working of a solar furnace.
3. What are primary and secondary energy sources ?
4. What are the main features of flat-plate collectors ?
5. How wave energy is different from tidal energy ?
6. What type of turbine is best suited for micro hydro plants ? Explain.
7. Write a brief note on double basis tidal power conversion system.
8. Differentiate between biogas and biomass.
9. How is energy harnessed from alcohol ?
10. Explain fermentation related to biomass energy. **(10×4=40 Marks)**

PART – B

Module – I

11. a) Briefly explain pyrheliometer. 5

    b) With neat circuit diagram, explain the design, fabrication and performance of flat plate collectors. 15

OR

12. Explain the principle of photovoltaic conversion. What are its advantages ? Also give the different applications. 20

Module – II

13. Explain the wind energy technology. With the help of neat diagrams, explain the wind turbine configuration. 20

OR

14. With schematic diagram, describe the open cycle OTEC system and closed cycle OTEC system. 20

Module – III

15. Describe how a biomass conversion take place. Explain some of the conversion technologies available in our country. 20

OR

16. Write notes on :

    a) Fuel cell

    b) Hydrogen energy

    c) Nuclear fusion

    d) Power from satellite station. 20