Model Question

Sixth Semester B. Tech. Degree Examination
(2013 Scheme)
13.606.9: NEW ENERGY SYSTEMS (MP)- EL 2

Time: 3hrs **Max. Marks: 100**

Answer all questions in part A

PART –A

(Each question carries 2 marks)

1. Is renewable energy the best reuse for contaminated land or a mine site?
2. Explain Seebeck thermoelectric effect.
3. Explain the effect of bio-fouling in OTEC plants.
4. Explain one method of solar radiation measurement.
5. Explain a thermoionic generator.
6. Explain polarization of cells.
7. What is a solar pond?
8. Describe any two geothermal source.
9. Enumerate the different components of a fossil fuel cell.
10. Describe an alkali-metal-high temperature battery.

(2 x 10 =20Marks)

PART B

Answer any one full question from each module in part B
(4 x 20 =80Marks)

MODULE 1

11. Give an account of the working of a closed cycle MHD power generator. ***20Marks***

OR

12. (a) What are the factors to be considered for selection of materials for thermo-electric generator. *(8 marks)*
    (b) Explain the working principle of a photo-voltaic cell. *(12 marks)*

MODULE 2

13. Explain with suitable sketch the various methods of plasma heating and confinement adopted in nuclear fusion reactors. ***20Marks***

OR

14. (a) Illustrate the different types of solar energy collectors *(10 marks)*
    (b) Explain any two non-electrical application of solar energy. *(10 marks)*

MODULE 3

15. (a) Explain the different basin arrangements possible in a tidal energy conversion system. *(6 marks)*
(b) Explain anopen cycle OTEC system and a hybrid cycle OTEC plant. *(14 marks)*

OR

16. Compare and contrast between horizontal axis and vertical axis power conversion systems. ***20Marks***

MODULE 4

17. (a) Explain the various methods of hydrogen production, storage and transportation. ***20Marks***

OR

18 (a) Compare continuous and batch type digesters. *(12 marks)*
(b) Explain the KVIC plant. *(8 marks)*