Register Number……..

M.E. DEGREE EXAMINATIONS: DECEMBER 2009

First Semester

ENERGY ENGINEERING

EEG501: Energy Conversion Systems

Time: Three Hours **Maximum Marks: 100**

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. Explain the principles of Energy conservation.
2. What is Carnot efficiency?
3. Explain the Basic principles thermo electric power generation?
4. What is see beck effect?
5. What is meant by secondary batteries?
6. What is photovoltaic effect?
7. What are the methods of energy storage system?
8. Give the types of electrical energy storage systems.
9. Classify the types of fuel cells.
10. Differentiate battery and fuel cell.

PART B (5 x 16 = 80 Marks)

11. (a) Explain the strilling cycle with Pv and Ts diagram.

(OR)

(b) Explain the Carnot cycle.

12. (a) Explain the working of thermo ionic converters.

(OR)

(b) Explain the thermoelectric refrigerator.

13. (a) What are the different arrangements of storage battery? Describe briefly.

(OR)

(b) Explain the storage of hydrogen energy.

14. (a) Explain the lead acid battery storage system.

(OR)

(b) Explain the thermal energy storage system.

15. (a) What is the fuel cell? Describe the principle of operation of a fuel cell with reference to H_2 O_2 cell.

(OR)

(b) Explain the Hydrogen fuel cells.

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