Exam.Code:0938
Sub. Code: 33796

2015

B.E. (Electrical and Electronics Engineering)

Eighth Semester

EE-801: Non-Conventional Energy Sources (NCES)

Time allowed: 3 Hours Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.*

x-x-x

I. Answer the following:-

a) What is conservation of energy sources.

b) Give the principle of MHD generator.

c) List the applications of TEGs.

d) Write the redox reaction for hydrogen cell.

e) Where can we find the fossil fuels in India for providing power? List common areas for hydropower source also. (5x2)

UNIT - I

II. With the help of diagrams, derive the relation between Seebeck, Thompson and Peltier effect. How TEGs are different in working from MHDs. (10)

III. What are the properties essential for materials to be used in solar cells. Explain the types of solar collectors and why such devices are important to ensure power generation. (10)

IV. Calculate the hour angle at the surface located at latitude of 80degree South as on 5th May 2024. Define fill factor (FF) and efficiency of solar cell. (10)

UNIT - II

V. With the neat diagram explain the working principle of Fuel cell. Describe the concept of producing electrical energy from a fuel cell. (10)

P.T.O.

VI. How the various types of turbines are linked with the power generation in a wind power plant. List the appropriate regions in India and outside suitable for wind power plants. (10)

VII. Write short notes on:-

a) Geothermal source of energy

b) Gibbs free energy (10)

x-x-x