Exam.Code:0938
Sub. Code: 6695

2054

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 are the different non conventional energy sources and how they can be utilized?

b) Give the characteristics of photovoltaics.

c) Give the operating characteristics of fuel cell.

d) List the major requirements in materials for choosing wind turbines.

e) Name the geothermal provinces in India. (5x2)

UNIT - I

II. What is the significance of direct energy conversion systems? Explain this type of conversion in detain using any application. (10)

III. For the specifications of MHD generators given as plant area 0.1 m^2, distance between plates 0.5m, flux density 3Wb/m^2, average gas velocity of 10^3 m/s, gaseous conductivity 10 mho/m, calculate the open circuit voltage and maximum power output? (10)

IV. a) List the advantages and disadvantages of flat plate and concentrated type of solar collector. What is concentration ratio and how it is calculated. Give the numerical value of this ratio for both types of solar collectors.

b) Calculate the monthly average of daily extra terrestrial radiation on 5th May 2024 for the surface located at a latitude of 40 degree west. (2x5)

P.T.O.

UNIT - II

V. Explain the construction, working and operational characteristics of MCFC. (10)

VI. Explain the working principle and construction of a tidal generator. Explain the phenomena that takes place during electricity generation through low and high tides. (10)

VII. Write short notes on:-

a) Francis turbine

b) Energy conservation (2x5)

x-x-x