Exam.Code:0944
Sub. Code: 33908

2055
B.E. (Mechanical Engineering)
Eighth Semester
MEC-802: Non-Conventional Energy Source

Time allowed: 3 Hours **Max. Marks: 50**

NOTE: Attempt <u>five</u> questions in all, including Question No. I which is compulsory and selecting two questions from each Part.

x-x-x

Q1. (a) Define solar insulation. 2*5=10

(b) What do you understand by two-axis tracking concentrator?

(c) What do you mean by 'Aperture area' of the collector?

(d) What is biomass energy?

(e) What do you mean by seawater desalination system?

PART A

Q2. (a) Explain salient points relating to radiation spectrum emitting form sun and the earth. 5

(b) Write your perspective on the energy planning issues aiming to bridge the gap between the energy demand and energy supply situation in India. 5

Q3. (a) Discuss the advantages and disadvantages of focussing collectors over flat plate collectors. 5

(b) Discuss the principle of collection of solar energy in a solar still with a neat sketch 5

Q4. (a) Make a comparison between fixed dome and floating dome biogas plants. 5

(b) Discuss counter current and co-current gasifiers. 5

PART B

Q5. Discuss, in detail, various components of wind energy conversion system and their function. 10

Q6. Describe with the help of a schematic diagram the working of liquid and vapor dominated geothermal plant. 10

Q7. (a) Write short note on the following: Single basin tidal plant. 5

(b) Discuss the working of open and hybrid cycle OTEC system. 5

x-x-x