

Exam.Code:0943
Sub. Code: 7070

1078
B.E. (Mechanical Engineering)
Seventh Semester
Elective – I
MEC-705(c): Renewable Energy Sources

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
 - a) Differentiate between renewable and non-renewable energy resources.
 - b) Define beam, diffuse and total radiation.
 - c) What is solar constant?
 - d) What is biomass? In what form, biomass can be used?
 - e) What do you understand by spring and neap tides? (5x2)

UNIT – I

- II. a) Explain the significance of energy consumption as a measure of prosperity.
- b) Describe the working of an instrument used for the measurement of beam radiation with neat sketch. (5,5)
- III. a) Discuss the advantages and disadvantages of focussing collectors over flat plate collectors.
- b) Explain the principle of working of solar pond. (5,5)
- IV. a) How does biomass conversion take place?
- b) Explain, with the help of neat sketch working of floating drum type biogas plant. (5,5)

UNIT – II

- V. What do you understand by biomass gasification? Explain the working of Downdraft and Updraft gasifiers. (10)

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(2)

- VI. Describe the working of wind energy conversion system with main components. (10)
- VII. a) Explain various important factors to be considered for selecting a site for power generation from geothermal energy.
- b) Explain the working of single pool tidal system. (5,5)

x-x-x