

Code No: R1621352

R16**SET - 1****II B. Tech I Semester Supplementary Examinations, May - 2019****RENEWABLE ENERGY SOURCES**

(Agricultural Engineering)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answer **ALL** the question in **Part-A**3. Answer any **FOUR** Questions from **Part-B****PART -A**

1. a) Differentiate between beam and diffuse solar radiation (3M)
- b) Explain the term solar distillation? (2M)
- c) What is the difference between Biomass and Biogas? (3M)
- d) List the various applications of Geothermal energy (2M)
- e) Define the following: (2M)
i) Tidal movement ii) Tidal current
- f) Explain the need for Direct Energy Conversion (2M)

PART -B

2. a) Explain with a neat circuit the working of Angstrom type Pyrheliometer. (7M)
- b) Enumerate the different types of concentrating type collectors and why orientation is needed in concentrating type collectors. (7M)
3. a) List the factors on which the Energy storage system depends to obtain the Optimum capacity (7M)
- b) Compare between horizontal and vertical axis windmills (7M)
4. a) What are the main problems in Straw fermentation? How are they minimized? (7M)
- b) List the advantages of Anaerobic digestion (7M)
5. a) Explain the nature and different categories of geothermal resources (7M)
- b) What are the difficulties in the large scale utilization of geothermal energy? What development could increase the role of geothermal energy in future? (7M)
6. a) Write the advantages of closed OTEC cycle over Open OTEC cycle (7M)
- b) Explain why a site selection criteria is important for OTEC system (7M)
7. Write Short notes on the following: (5M + 5M + 4M)
i) Characteristics of Fuel Cells ii) Advantages of MHD systems
iii) Thermo electric materials