Code No: RT21352   **R13**   SET - 1

II B. Tech I Semester Supplementary Examinations, October/November - 2018
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 **THREE** Questions from **Part-B**

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PART-A

1.	a)	What are the applications of solar energy?	(3M)
	b)	Explain about solar pond in brief.	(4M)
	c)	How the biogas is used in IC engines.	(4M)
	d)	What are the advantages of double flash system?	(4M)
	e)	Explain in brief about tubular turbine.	(4M)
	f)	Explain the merits for a thermo electric generator	(3M)

PART-B

2. a) How solar air collectors are classified and explain. (9M)
    b) What are the advantages and disadvantages concentrating collectors over flat plate collectors? (7M)

3. a) What is the principle of solar photovoltaic power generation? Explain about solar cell with neat diagram? (8M)
    b) Explain abut vertical axis wind mills with neat diagrams. (8M)

4. a) Explain the factors affecting biodigestion. (8M)
    b) Explain about janata type of biogas plants. (8M)

5. Explain about liquid dominated (high temperature) systems, with a neat diagram and give its importance (16M)

6. a) Explain about Closed cycle OTEC system with neat diagram. (9M)
    b) A tidal power plant of the simple single basin type has a basin area of 30×10^6 m^2. The tide has a range of 12 m. The turbine, however, stops operating when the head on it falls below 3 m. Calculate the energy generated in one filling(or emptying) process, in kilowatt hours if the turbine generator efficiency is 0.73. (7M)

7. a) Explain about the MHD generators. (8M)
    b) Write the advantages of MHD systems. (8M)