Fpme.3114

KERALA AGRICULTURAL UNIVERSITY

B.Tech. (Ag. Engg.) 2015 Admission

V Semester Final Examination-January-2018

Renewable Energy Sources (2+1)

Marks:50

Time: 2 hours

I **Fill in the blanks:** **(10x1=10)**

1 Value of solar constant is ----------

2 Bio gas contains----------gases which are combustible.

3 Air mass above earth's atmosphere is ----------

4 ----------circuit converts DC supply to AC supply.

5 ----------type solar collectors can produce temperatures above 100 degree celcius.

Define the following

6 Solar Constant

7 Declination

8 Direct Radiation

9 Solar Collector

10 Anaerobic Digestion

II **Write Short notes on ANY FIVE of the following** **(5x2=10)**

1 Differentiation between renewable energy sources and non renewable energy sources

2 Write short note on Tidal Energy

3 Write a short note on Solar fencing

4 Give the different methods for energy production from biomass.

5 What are the application of wind turbine

6 Explain the principle of pyrolysis

7 Write short note on briquetting

III **Answer ANY FIVE of the following** **(5x4=20)**

1 With a neat Sketch, explain Janatha Model Bio Gas Plant

2 Explain Up-draft gasification with a neat sketch

3 Explain solar photovoltaic water pump with a neat sketch

4 What is the basic principles of solar photovoltaic power generation

5 Explain screw press type briquetting process with a neat sketch

6 What are the site selection criteria for WECS

7 Explain Typical Solar Water Heater system with a neat sketch

IV **Write an essay on ANY ONE of the following** **(1x10=10)**

1 Describe the design procedure for a biogas plant.

2. "Solar Energy in Agriculture"

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