KERALA AGRICULTURAL UNIVERSITY
B.Sc (Hons.) Ag.Degree Programme 2013 Admission
VIth Semester Final Examination- July-2016

Cat. No: Engg.3204
Title: Renewable Energy(1+0)

Marks: 50
Time: 2 hours

I Define/Fill in the blanks/ Choose the correct answer: (10 x 1 = 10)

1. Value of Solar constant is estimated as ....
2. Power developed by a windmill is directly proportional to ....
3. Name an instrument each, used for measuring global radiation and beam radiation..............
4. Write two main constituents of biogas.
5. The method used to convert the brackish water into potable water using sun's rays is called _____
6. CPC is a _____ type of solar collector. (point focusing/ line focusing/ non focusing)
7. Silicon solar cells have an operating efficiency in the range of _____
8. Contours of constant wind power are called _____
9. HAWT is _____
10. A farm labour can develop an average power output of ....hp

II Write short notes/answers on any FIVE: (5 x 2= 10)

1. Define cut-in speed and tip speed ratio
2. Geothermal energy
3. Bio diesel
4. Greenhouse gas emission
5. Define the different types of energy by giving suitable examples.
6. Pyrolysis
7. Global radiation

III Answer ANY FIVE questions: (5 x 4 = 20)

1. Explain the merits and demerits of floating drum type and fixed dome type biogas plants.
2. What are the advantage of focusing type water heater over flat plate collector?
3. What is B20 designate? How is ethanol produced from agricultural produce?
4. What factors should be considered while selecting a site for installation of a wind mill?
5. What is a solar pond? Explain its working and use.
6. Describe the process of manufacture of bio diesel from jatropha oil.
7. Draw a neat sketch and describe the working of an updraft gasifier.

IV Write an essay on any ONE: (1 x 10= 10)

1. Explain the constructional details of Floating type biogas plant with a neat diagram?
2. What are the different solar energy applications? Explain any one of it with a neat sketch.