KERALA AGRICULTURAL UNIVERSITY

B.Sc Hons (Ag) 2010 Admission

VI th Semester Final Examination- July /August -2013

Cat. No: Engg.3204 **Marks: 80**

Title: Renewable Energy (1+0) **Time: 3 hours**

I. Fill up the blanks **(10x1 = 10)**

1. Efficiency of diesel engine varies between _____ %.
2. A pair of bullocks can develop an average power out put of _____ hp.
3. Plant matter created by process of photosynthesis is called _____.
4. Biogas contains _____ % of methane.
5. The minimum speed of wind required to operate a wind mill is _____ km/h.
6. Solar energy is considered as packets of energy, called _____ .
7. Tides are basically generated by the _____ between Earth and Moon.
8. The fuel produced through biomass gasification process is called _____ .
9. The wing in the ministry of India to develop and deploy new and renewable energy for supplementing the energy requirements of the country is _____ .
10. Biodiesel is produced from oils or fats using _____ process.

II. Write short notes on ANY TEN **(10x3 = 30)**

1. Tidal energy.
2. Inexhaustible energy.
3. Bio gas.
4. Solar refrigeration system.
5. Biomass gasification.
6. Solar fencing.
7. Tip speed ration of wind mill.
8. Flat plate collector
9. List the different types of gasifiers.
10. Importance of transesterfication in energy production.
11. Green house effect.
12. Advantages of briquettes.

III. Write short essays on ANY SIX **(6x5 = 30)**

1. Conditions for biogas production.
2. Working of Solar photovoltaic cells.
3. Focusing of solar plate collectors.
4. Liquid bio-fuels.
5. Differentiate pyrolysis and fermentation.
6. Differentiate biodiesel and bio ethanol
7. Different types of biogas plants.
8. Differentiate producer gas and LPG.

IV. Write essay on ANY ONE **(1x10 = 10)**

1. Explain the components of wind mill. How do you asses the performance of wind mill.

2. Explain the working of solar pumping system and its energy conversion with neat sketch.