

KERALA AGRICULTURAL UNIVERSITY
B.Sc.(Hons.) Agriculture – 2007 Admission – VIth Semester
Final Examination – June - July 2010

Cat. No. : Engg 3204

Title : Renewable Energy (1+0)

Max. marks: 80

Time : 3 hours

- I Fill up the blanks** (10x1=10)
1. Value of Solar constant is estimated as -----.
 2. Average Bet's limit is assumed to be -----.
 3. Water pumping windmills require a wind velocity in the range of -----.
 4. Power developed by a windmill is directly proportional to the -----.
 5. In India's energy consumption pattern, -----energy plays a major share.
 6. The 3.75 MW capacity ----- tidal energy project is a technology demonstration project and India's first initiative in this direction.
 7. ----- is an instrument which measures beam radiation.
 8. Cow dung can produce -----m³ of biogas from 1 kg of feed stock.
 9. ----- is called 'Stored solar energy' resources.
 10. Tidal energy is extremely site specific and requires mean tidal height differences greater than ----- and also favourable topographical conditions,
- II Write Short notes on** (Any ten) (10x3=30)
- | | |
|---------------------------------|----------------------------|
| 1. Reflective collector | 7. Greenhouse gas emission |
| 2. Sunshine recorder | 8. Hydrogen energy |
| 3. Geothermal energy | 9. Solar pond |
| 4. Solar photovoltaic principle | 10. Producer gas |
| 5. Bio diesel | 11. HAWT |
| 6. Pyrolysis | 12. VAWT |
- III Write short essays on** (Any six) (6x5=30)
1. What are the advantages of Floating type biogas plant over fixed type?
 2. What are the advantages of focusing type water heater over flat plate collector?
 3. Explain the working principle of solar pump with a neat diagram?
 4. What is B20 designate? How ethanol is produced from agricultural produce?
 5. What is solidity? Explain the advantages of a high solidity wind mill?
 6. How do we get electricity from water?
 7. What is the difference between tidal energy and wave energy electricity generation?
 8. What are the pros and cons of biomass utilization?
- IV Write essay on any one** (10x1=10)
1. Explain the constructional details of Floating type biogas plant with a neat diagram?
 2. What are the solar energy applications? Explain any one of it with a neat sketch.