KERALA AGRICULTURAL UNIVERSITY

B.Tech. (Food Engg.) 2014 Admission
VI Semester Final Examination – July - 2017

Cat. No: Fden 3108 Marks: 50
Title: Energy for Food Industries (1+1) Time : 2 hours

I. Fill up the blanks /Define: (10 x 1=10)

1. Wind, solar, biomass and tidal are the examples of ---------- energy.
2. A pyrheliometer is used to measure ---------- of direct solar radiation.
3. The material of plant and animal base is called as ----------
4. The percentage of methane in biogas is ----------
5. The standard value of solar constant is ----------
6. Solar Constant.
7. Non-renewable energy.
8. Heat energy recovery.
9. Waste heat utilization.
10. Gasifier.

II. Write short notes on ANY FIVE: (5x 2=10)

1. Classify the biomass gasifiers.
2. List the materials generally used for sensible heat storage.
3. What are the advantages and disadvantages of renewable energy sources?
4. What do you mean by fixed dome type of biogas plant.
5. What do you mean by solar cell and photo-voltaic effect?
6. What is energy auditing and write its importance?
7. Classify the wind mills.

III Write answers on ANY FIVE: (5 x 4=20)

1. Explain with a neat sketch the solar water heating system.
2. Describe a basic photo-voltaic system for power generation.
3. Explain in brief the factors affecting biogas production.
4. Describe in detail about the rice husk gasifier with a neat labeled sketch.
5. Write a short note on performance evaluation of a furnace.
6. Write about the estimation of energy inflow-outflow and economics of a fruit processing industry.
7. Explain the pumping of water using wind energy.

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

1. Application of wind energy in generation of electricity with illustrations.
2. Energy generation from vegetable and municipal solid waste.

****