



KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Food Engg) 2018 Admission
VI Semester Final Examination- -October 2021

Fden. 3208

Energy for Food Industries (1+1)

Marks: 50

Time: 2 hours

(10x1=10)

I Fill up the blanks

1. A liquid flat plate collector is usually held tilted in a fixed position, facing _____ if located in the northern hemisphere.
2. Solar photovoltaic cells are made of-----
3. Photovoltaic energy is the conversion of sunlight into-----energy.
4. The hour angle is equivalent to -----° per hour.
5. A device that uses solar radiation to remove moisture from a substance is known as -----
Solar dryer

State whether the following statements are true or false

6. Solar radiation flux is usually measured with the help of a Pyranometer.
7. Wind energy is indirect method of Solar energy utilization.
8. Carbon di oxide is a green house gas.
9. Fossil fuel is a non renewable source of energy.
10. Straight draft is a type of a bio gasifier.

II Write short notes on ANY FIVE of the following

(5x2=10)

1. Define solar constant. What is its value?
2. Define zenith angle.
3. What are the applications of solar energy?
4. Enlist the limitations of renewable energy sources.
5. What are the types of wind mills?
6. What are the advantages & disadvantages of PV solar energy conversion system?
7. What is pyrolysis?

III Answer ANY FIVE of the following

(5x4=20)

1. What are the advantages & disadvantages of concentrating collectors over flat plate type collectors?
2. Write short notes on solar distillation with neat diagram
3. Write short notes on Energy from vegetable waste
4. Discuss on down draft gasifier.
5. Discuss the performance and fuel efficiency of traditional and improved furnaces.
6. Briefly discuss the components of basic solar pumping system
7. Write short notes on solar drying of agricultural products.

IV Write an essay on ANY ONE of the following

(1x10=10)

1. Write short notes on different types of solar energy collectors with neat diagrams
2. Discuss about horizontal axis wind mills with neat diagrams.
