

KERALA AGRICULTURAL UNIVERSITY

B.Sc (Hons.) Ag. 2012 Admission

Vth Semester Final Examination- January/February -2015

Cat. No: Engg.3103

Marks: 80

Title: Protected Cultivation and Post Harvest Technology (1+1)

Time: 3 hours

I(a) Fill in the blanks

(5x1=5)

1. Maximum cooling can be achieved in a green house while using _____ cooling system
2. Safe moisture content of paddy for storage over one year is _____.
3. Stone separator works based on the difference in _____.
4. The thickness of the greenhouse cladding film used commonly in India is _____.
5. Energy required for change of state from liquid to vapour at constant temperature is called _____.

(b) Define the following

(5x1=5)

1. Blanching
2. Sorting
3. Greenhouse effect
4. PAR
5. Physiological maturity

II. Write short notes on Any ten of the following

(10x3=30)

1. Even span and uneven span type green houses
2. Rittinger's law
3. What is pre-cooling? What are the different types of pre-cooling?
4. Differentiate constant rate drying and falling rate drying
5. Classification of green house based on Utility and material of construction
6. Cyclone separator
7. Cooling methods in a green house
8. Differentiate drying and dehydration
9. Methods by which carbon dioxide level inside a greenhouse is maintained
10. Minimal processing of fruits and vegetables
11. Equipments used in greenhouses
12. Applications of greenhouses

III. Write short essays on Any Six of the following

(6x5=30)

1. What is HACCP? Explain the different principles?
2. Explain different types of dryers?
3. Differentiate between destructive and non destructive sampling. What are the principles involved?
4. Derive the drying equation
$$\frac{M-M_e}{M_0-M_e} = e^{-k\theta}$$
5. Methods used to control temperature and humidity in greenhouses

6. Working principles used in threshers

7. Classification of green houses based on shape with neat sketches

8. Explain hysteresis? What is the difference between bound moisture and unbound moisture?

IV. Write essays on Any One

(1x10=10)

1a. What are the different factors affecting storage?

1b. Explain the different types of storage structures?

Or

2a. Explain the factors to be considered in site selection and orientation of green houses?

2b. Explain the environmental parameters to be controlled inside a greenhouse?