

KERALA AGRICULTURAL UNIVERSITY

B.Tech (Food.Engg) 2011 Admission
VIIth Semester Final Examination- January-2015

Cat. No: Fdpr.4107

Title: Storage and Preservation Technology (1+1)

Marks: 80

Time: 3 hours

Answer the following

I Fill up the blanks

(5x 1=5)

1. In _____ gas composition is maintained throughout the storage
2. Rat proof cones are provided in a grain storage structure at a height of _____.
3. Vacuum packaging is an example of _____.
4. Wall to stack in 500 ton grain warehouse should be _____ m
5. Janssen's formula is used to measure lateral pressure in a _____ bin

II Define the following

(5x 1=5)

1. Bulk storage
2. Plane of rupture
3. ITK
4. MAP
5. Grain dust

III Answer any TEN questions

(10x3=30)

1. Explain requirements of grain storage.
2. What are the merits and demerits of irradiation?
3. Discuss role of temperature and relative humidity during storage.
4. Write a note on respiration of grains.
5. Write a note on factors responsible for spoilage of grains.
6. Explain deep bin.
7. Write Rankin's equation for lateral pressure estimation.
8. Write a note on factors to be considered in design of storage bin.
9. Explain hermetically sealed storage.
10. Explain importance of artificial drying in storage.
11. Explain any one improved storage structure.
12. Differentiate modified and controlled atmosphere storage.

IV Answer any SIX questions

(6 × 5 =30)

1. Discuss in detail about spoilage mechanism of fruits and vegetables.
2. Discuss refrigeration load calculations.
3. Explain principle and application of MAP.
4. Discuss with neat sketch moisture migration in storage bins.
5. Explain with neat sketch bukari type storage structure.
6. Discuss ITK for storage.
7. Explain in detail about zero energy cooling chamber.
8. Explain CA storage system.

V Answer any ONE question

(1 × 10 =10)

1. Design a cold storage to store 1000 tonne of apples. Make suitable assumptions
2. Derive an expression for determining lateral pressure in storage bin using Janssen's formula
