KERALA AGRICULTURAL UNIVERSITY

B.Tech (Agrl.Engg.) 2013 Admission

VIIth Semester Final Examination-January-2017

Cat. No: Phpt.4108.   Marks: 50.00

Title: Storage Engineering(2+0)   Time: 2 hours

I Fill up the blanks/True or False   (10x1=10)

1. Soils are ------------ storage system.
2. ----------- gas is used as an inert gas in packaging.
3. ----------- storage gas composition is maintained throughout the storage.
4. Stack to stack distance in 500 ton grain warehouse should be ----------- m.
5. Temperature inside silos can be controlled by -----------

True or False

6. In godown, space for inspection and disinfection of stacks is provided which is generally about 30%.
7. The fruit ripening is due to the production of acetylene.
8. Pressure inside the vacuum packaging is less than atmospheric pressure.
9. A minimum thickness of silo wall is kept as 75 cm.
10. Bukari is a traditional storage structure.

II Write short notes/answers on any FIVE of the following   (5x2=10)

1. Briefly explain the factors affecting fruit spoilage.
2. Write a note on functional requirements of storage.
3. Write a note on mechanical ventilation in grain storage.
4. Explain shallow bin.
5. Explain modified atmosphere storage.
6. Explain any one traditional storage structure.
7. Explain working of screw conveyor with neat sketch.

III Write short answers on any FIVE   (5x4=20)

1. Discuss in detail about factors to be considered in storage of perishables.
2. Explain principle and application of CAS.
3. Discuss control of temperature and humidity in storage bin.
4. Design a RCC silo for storing one tone of grains.
5. What are the advantages of metal bins over RCC silo?
6. Discuss design and working of pneumatic conveyor.
7. Explain artificial drying methods in storage.

IV Write essay on any ONE   (1x10=10)

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

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