

M.TECH FOOD TECHNOLOGY**II Semester Examination 2019****Course Code- MFTG- 207****Course Title - Food Storage and Distribution Management****TIME: 3 hours****Max. Marks: 75****Attempt all the questions****(1) (a) State true or false:****(1x5=5)**

- i. Grain is a poor insulator.
- ii. Metabolic processes such as respiration and ripening rates are sensitive to temperature.
- iii. Relative humidity within a package is not affected by WVTR of the packaging film.
- iv. The atmosphere in a modern CA store is constantly analysed for CO₂ and O₂ levels using an infrared gas analyser.
- v. Capacity of 'Bukhari storage structure' is 3.5 tonne to 18 tonne.

(b) State the following:**(1x10=10)**

- i. insecticides is specially targeted against the larval life stage of an insect.
- ii. is given as an antidote for pets or humans accidentally or intentionally exposed to anticoagulant poisons.
- iii. Name any two fumigants.....
- iv. Design of deep bins is usually based on theory.
- v. Mention two principle stored grain insects.....
- vi. A bin whose relative dimension are such that the plane of the rupture strikes the opposite wall before it meets the grain surface is known as.....
- vii. Rural structure commonly used in eastern and southern parts of India.....
- viii. is the hypothetical plane above which all grains were to slide down when bounding wall is moved
- ix. Fans are rated by manufacturers according to their ability to deliver air against different pressures
- x. is the measurement of a material's ability to absorb or release water

2) Write short notes on any three of the following:**(5x3 =15)**

- a) Aeration Fans and its types
- b) Levels of Storage
- c) Difference between CAS and MAP
- d) Rodenticides and its types
- e) Air tight storage

3) Answer any two of the following:**(7.5x2=15)**

- a) Describe in detail the different rural storage structures. Illustrate with diagrams
- b) Discuss the different design considerations for designing of warehouse for bag storage?
- c) Explain the factors of spoilage and changes occurring in food grains during storage.
- d) Briefly discuss the different transportation methods in horticultural chains and importance of traceability systems in cold storage.

Q4. Discuss any three of the following:**(5x3=15)**

- a) Factors affecting MAP of fresh produce
- b) Factors affecting respiration rate and respiration quotient in MAP
- c) Role of scrubbers in CAS
- d) Desirable characteristics of storage structure

Q5. Answer any three of the following:**(5x3=15)**

- a) Pre-cooling is one of the most essential value-added activities in the horticultural chain. Justify the statement.
- b) Explain the handling operations at various stages of chain, between producer and consumer.
- c) State the principle of working of fumigant, its resistance and application in grain storage
- d) Discuss briefly the scope of application of insecticides in warehouses
- e) Discuss the disorders resulting from poor temperature management in cold storage?