Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1087154

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024
Seventh Semester
Agricultural Engineering
U20AG724 – FRUITS AND VEGETABLES PROCESSING
(Regulation 2020)

Time: Three Hours | Maximum: 100 Marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)

1. How can spoilage of perishable fruits and vegetables be minimized?

2. What are two primary factors that contribute to post-harvest losses in fruits?

3. Describe the advantages of grading fruits and vegetables?

4. Describe the advantages of preventing fruits and vegetable.

5. Define thermal and non Thermal techniques of food preservation.

6. Explain juice membrane separation process, and how does it function in fruit juice production?

7. How fluidized dryer methods used in the drying of fruits and vegetables?

8. What are the advantages of using osmotic dehydration for drying fruits and vegetables?

9. Recall the purpose of waxing fruits after harvesting?

10. How does Controlled Atmosphere (CAP) storage benefit fruit preservation, and what are the key factors that are controlled during this process?

PART – B (5 x 16 = 80 Marks)

11. (a) Appraise the various equipment and technologies used to control or enhance fruit ripening in post-harvest handling. (16)

(OR)

(b) Discuss the cellular components of horticultural crops and analyze how technological advancements have utilized these components to improve crop quality, storage, and processing. (16)

12. (a) Construct the significance of precooling in maintaining the quality of fruits and vegetables, and analyze different precooling methods with their advantages and limitations. (16)

(OR)

(b) Explain the principles, types, and operational mechanisms of peeling equipment used for fruits and vegetables, and evaluate the advantages, limitations. (16)

13. (a) Compare thermal and non-thermal preservation techniques used for vegetables, discussing their mechanisms, applications, advantages, and limitations in maintaining vegetable quality and extending shelf life. (16)

(OR)

(b) Organize the quick freezing preservation methods for fruits and explain the mechanisms, techniques, advantages, and limitations. (16)

14. (a) Inspect the construction and operational procedure for foam mat drying in fruit and vegetable preservation. Discuss the components involved, the drying process, and the advantages and limitations of this method. (16)

(OR)

(b) Discuss the process of dehydration in fruit products; detailing the different methods and How do these methods help in preserving the nutritional quality, texture, and flavor of fruits? (16)

15. (a) Discuss the process and importance of low-temperature storage for vegetables. How does it help in preserving the quality, shelf life, and nutritional value of vegetables? (16)

(OR)

(b) Explain the concept of Modified Atmosphere Packaging (MAP) for fruits and vegetables. Discuss its working principle, types of packaging systems and its role in extending the shelf life and preserving the quality of fresh produce. (16)

--------xxxx--------