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Question Paper Code:UA103

B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024

Professional Elective

Agricultural Engineering

21AGV103 - PROCESS ENGINEERING OF FRUITS AND VEGETABLES

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which gas is commonly used in controlled atmosphere storage of fruits and vegetables CO1-U
(a) Hydrogen (b) Carbon dioxide (c) Nitrogen (d) Oxygen
2. What is the amount of chlorine is used in washing the fruits CO1 -U
(a) 100 ppm (b) 300 pm (c) 200 ppm (d) 400 ppm
3. Which state is the largest producer of fruits in India CO1 - U
(a) Maharashtra (b) Madhya Pradesh (c) Andhra Pradesh (d) Tamil Nadu
4. Which enzyme is used for clarification of fruit juice CO1 - U
(a) Proteases (b) Celluloses (c) Lipase (d) Ribonuclease
5. Which of the following is known to result in the highest quality of foods amongst all drying techniques CO1 - U
(a) Freeze drying (b) Cold pasteurization (c) Irradiation (d) Dehydration
6. What is the most significant effect of chilling CO1 - U
(a) Solidification of fats (b) Solidification of proteins
(c) Denaturation of proteins (d) Denaturation of fats
7. Which of the following is not the chilling injury symptom CO1 - U
(a) Skin pitting (b) Water-soaking (c) De-greening (d) Cuts

8. What is the best temperature to store fresh fruit CO1 - U
 (a) 0 to 10°F (b) 3 to 5°F (c) 20 to 30°F (d) 32 to 55°F
9. Which organic acid present in apple CO1-U
 (a) Malic Acid (b) Citric Acid (c) Tartaric Acid (d) Benzoic Acid
10. Which of the following is the critical factor in dehydration CO1-U
 (a) Water activity (b) Time (c) Temperature (d) Technique

PART – B (5 x 2= 10 Marks)

11. Suggest any four preservation method for tomato products. CO1 -U
12. Describe Blanching process CO1 -U
13. Why grading important and how are vegetable like peas graded. CO1 -U
14. Aseptic processing and packaging of fruit juices CO1 -U
15. FPO specifications for pickles CO1 -U

PART – C (5 x 16= 80 Marks)

16. (a) State the function of ethylene during ripening of banana and describe its mechanism. CO1- U (16)
 Or
 (b) Comment on vegetable spoilage due to micro-organism and suggest suitable control methods. CO1- U (16)
17. (a) Illustrate design and preparation of Canning Process flow chart in fruit and vegetables. CO1- U (16)
 Or
 (b) Illustrate design and preparation of Dehydration Processing flow chart. CO1- U (16)
18. (a) Discuss two methods for incorporating spice in standard products like sauces, ketchup and advantage of each step. CO2- U (16)
 Or
 (b) Innovative Preservation Technology for the Fresh Fruit and Vegetables. CO2- U (16)

19. (a) Apply the procedure method for preparation of fruit juice beverages CO3- App (16)
- Or
- (b) Describe the complete method for commercial manufacture of strawberry jam, how much fruit, sugar and additives required making one ton of jam CO3- App (16)
20. (a) Elaborate the Indian food regulation and quality assurance. CO1- U (16)
- Or
- (b) Describe the Method for preparation of fruit juice beverages CO1- U (16)

