

2021

**MODERN FRUITS & VEGETABLES PROCESSING  
TECHNIQUES**

Full Marks: 100

Time: Three hours

*The figures in the margin indicate full marks for the questions.*

*Answer any five questions.*

1. a) Write short notes on the following minimal processing methods for the preservation of fresh fruits. 5+5=10
  - (i). Natural preservatives
  - (ii). Ultrasound
  
- b) Describe the principle of HPP and state the application of HPP. Mention the advantages and disadvantages of HPP. 10
  
2. a) Explain about the application of enzymes in apple juice clarification process with proper flow chart. 10
  
- b) Mention the functions, classification and examples of following food additives: 5+5=10
  - (i). Thickeners and stabilizers
  - (ii). Emulsifiers



3. a) Explain about any two tests for determining the end point in Jam/Jelly making. 4
- b) Describe about any two theories about the gel formation in Jellies. 6
- c) Provide the technological flow chart for the manufacturing of following fruit based products: 5+5=10
- (i). Cordial
- (ii). Fruit preserve.
4. a) Explain in detail about the production process of pickle with proper flow chart. 10
- b) Define food hygiene in current use. How hygiene conditions can be maintained in food plant/factory? 2+8=10
5. a) How colour can be measured for any food sample. Explain the detail mechanism. 10
- b) Define texture. Explain how texture of a food material can be determined with different parameters 10
6. a) What is food adulteration and food adulterant? State the types of adulterations? 2+4=6

b) State and Explain the adulterants and method of detection for the mention types of food items 2+4=6

i) Dairy food items (any two)

ii) Spices ( any two)

c) Define with mathematical representation: 2\*4=8

i) Chroma

ii) Hue

iii) Whiteness index

iv) Yellowness index

7. a) Define sanitation. State the ten sanitary design principles followed in food palnt/factory 1+10=11

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b) Discuss about three types of sanitizers with two specific examples of each type 3\*3=9

