Total number of printed pages: 02

PG/1st/PFET 1111

2023

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) What is minimal processing? What is the need of minimal processing? What are the sanitizers used in fruit proceeding. Explain the functions of any two. 1+2+7

   b) How PEF works in food preservation. Explain its working principle. 10

2. a) Explain the role of enzymes in berry and apple juice processing with proper flow chart. 10

   b) What are the average composition of BOD and suspended solids from food industries 4

   c) Mention the different types of waste from food industry with waste description, process type and end products. 6

3. a) State and explain the adulterants and method of detection for the mention types of food items. 2+12

   b) Dairy food items (any two)

   ii) Oil and fats (any two)

   iii) Food grains (any two)

   iv) Spices (any two)

   b) List out the effects of minimal proceeding in various biomolecules of fruits. 6

4. a) Describe about any two theories about the gel formation in Jellies. 6

   b) Provide the technological flow chart for the production of Marmaladc. 4

   c) Define food hygiene in current use. How hygiene conditions can be maintained in food plant/factory? 2+3=5

   d) How solid wastes are treated in food plant? Define compost and state the benefits of compost to the environment and agriculture. 1+1+3

5. a) How CCP in HACCP program can be determine with a decision tree. 4

b) How colour can be measured for any food sample. Explain the detail mechanism. 8

c) Define texture. Explain how texture of a food material can be determined with different parameters 8

6. a) Explain any two primary and secondary treatment for waste water treatment 5+5

b) Define food adulteration and adulterant. 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: 1*4=4

i) Chroma

ii) Hue

iii) Whiteness index

iv) Yellowness index

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

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

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