



Total number of printed pages:2

2021

PRINCIPLES OF FOOD PROCESSING AND PRESERVATION

Full Marks: 100

Time: Three hours

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

Answer any five questions.

1. a) What do you understand by term "Food Preservation"? 2
b) List the various principle of food preservation. 3
c) Write the importance of blanching process? How blanching process is performed? 4
d) Differentiate between "Sterilization" and "Pasteurization" process 3
e) Explain the various steps of canning of foods. 8

2. Explain the working principle of the following dryers with a neat diagram.
 - a) Fluidized dryer 6
 - b) Tunnel dryer 8
 - c) Drum dryer 6

3. a) What is "Case Hardening"? How can we overcome from this? 5
b) Define 'D' value (Decimal reduction time) and 'Z' value. 4
c) The F value at 121.1°C equivalent to 99.9% inactivation of stain of *C. botulinum* is 1.23 minute. Calculate the Do value of these organisms. 5
d) Calculate the D value of the organism that show 50 survivors from an initial inoculum of 5×10^6 spores after 10 minutes at 121.1°C. 6

4. a) With the help of a neat diagram explain the working of spray dryer? How it helps in food preservation? 8

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| b) | Write the advantages and dis-advantages of spray dryer. | 4 |
| c) | Classify the foods based on their pH, and give examples. | 4 |
| d) | How pH of the food plays important role in food preservation. | 4 |
| 5. | a) Indicate preservation techniques for pickles and canned juice, and explain how it is done? | 10 |
| | b) Explain working principle of freeze dryer & its utility in food processing industry. | 10 |
| 6. | Write short notes on the following | 5x4=20 |
| | a) Flase-18 process | |
| | b) Hot-packing | |
| | c) Asepsis | |
| | d) Aseptic canning | |
| 7. | a) What are the main causes of quality deterioration and spoilage of foods? | 5 |
| | b) Write short notes on Food Irradiation? What types of food materials are subjected to irradiation? In what way it preserves food materials? | 15 |

