

2023

**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.*

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1. a) What do you understand by the term food preservation? 2  
b) Why do we need to preserve food? 3  
c) Write the various principles of food preservation. 5  
b) Describe the various steps involve in canning of fruits and vegetables. 10
2. a) Write a few sentences about sterilization of food. 5  
b) What is pasteurization? How it is done? 2+3  
c) Calculate the D-value of an organism that show 100 survivors from an initial inoculum of  $5 \times 10^5$  spores after 10 min of thermal treatment at  $121.1^\circ\text{C}$ . 10
3. Write short notes on the followings 5x4  
a) Cabinet dryer 5  
b) Kiln dryer 5  
c) Tunnel dryer 5

- d) Intermediate moisture foods (IMF) 5
4. a) Classify the foods based on their pH. 5  
 b) Classify the foods based on their perishability. 5  
 c) Discuss the various factors that affect drying rate 5  
 d) What is food spoilage? How does food get spoilt? 2+3
5. a) Describe the working principle of fluidized bed dryer (FBD) by giving a schematic diagram. 10  
 b) Discuss the various steps of spray drying techniques. 10
6. Differentiate between the followings  
 a) Critical moisture content (CMC) and Equilibrium moisture content (EMC) 7  
 b) Ascetic Canning and Hot-filling 7  
 c) MAP and CAP 6
7. a) Discuss the working principle of drum dryer by giving clean diagram. 10  
 b) Write the advantages and disadvantages of drum dryer. 5  
 c) Differentiate between double and twin drum dryer. 5
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