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53 (FPT 302) PFPP

2017

**PRINCIPLE OF FOOD  
PROCESSING & PRESERVATION**

Paper : FPT 302 (Back)

Full Marks : 100

Time : Three hours

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

Answer **any five** questions out of **seven**.

1. Explain the following :

- (a) Principles of food processing and preservation. 6
- (b) Draw a flowchart on canning process with examples. 10
- (c) Effect of nutrients during blanching. 4

Contd.

2. (a) Draw a neat diagram of Tunnel Dryer and explain its working principles. 8
- (b) Give the advantages and disadvantages of Concurrent Tunnel Dryer and Countercurrent Tunnel Dryer. 8
- (c) Explain the blanching process of fruits and vegetables. 4

3. Differentiate between the following :

5×4=20

- (a) Sterilization and Pasteurization
- (b) Fluidized bed dryer and Cabinet dryer
- (c) Hot packing and Pressure canning
- (d) Water activity and Critical moisture content.
4. (a) Why are food additives, widely used in food industries ? Classify the food additives with examples. 8

- (b) What do you mean by Class-I and Class-II preservatives ? Give few examples. 4
- (c) With the help of a neat diagram explain the working of spray dryer. 8
5. (a) What is Hurdle technology ? What are the principles of this technique ? 5
- (b) Describe the importance of Hurdle technology in food preservation. 5
- (c) How the food is preserved by the use of Irradiation ? 5
- (d) What are the various methods of freezing ? Explain it. 5
6. (a) Define D-Value, Z-Value and F-Value ? Write mathematical expression for each. 6
- (b) The F-value at 121.1°C equivalent to 99.9.1 inactivation of strain of C.botulinum is 1.473 minutes. Calculate the D<sub>0</sub>-Value of these organism. 6

(c) The sterilizing value of a process has been calculated to be an  $F_0$  of 2.88. If each can contain 15 spores of an organism having a  $D_0$  of 1.5 min. Calculate the probability of spoilage from the organism. Assume the  $F_0$ -Value was calculated using the same Z-Value as the organism. 8

7. Explain in detail about the status and scope of beverages in north-east region of our country. 20

