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53 (FPT 302) PFPP

2016

**PRINCIPLES OF FOOD PROCESSING
AND PRESERVATION**

Paper : FPT 302

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. (a) What do you mean by thermal processing? Explain the canning of fruit and vegetables. 2+10
- (b) What is blanching? How it is done? Write the importance of blanching in food (fruit) processing. 1+2+2
- (c) What do you mean by Class-I preservatives? Give examples. 3

Contd.

2. Write short notes on **any five** of the following : 5×4

- (a) Drum dryer
- (b) Aseptic canning
- (c) Flash-18 process
- (d) Spoilage in canned food
- (e) 12 D concept
- (f) Lyophilization
- (g) IMF

3. (a) Why are food additives widely used in food industries? Explain your answer with examples. How are they classified? 10

(b) What do you mean by freezing of foods? What are the different methods of freezing? 10

4. Differentiate between : 4×5
- (a) Sterilization and Pasteurization
 - (b) Quick freezing and Slow freezing
 - (c) Drying and Evaporation
 - (d) Aseptic canning and Hot-filling
5. (a) With the help of a diagram explain the working of spray drier. Explain how it helps in food preservation. 12
- (b) What is dehydration of food? Explain the constant rate period and falling rate period of drying with plotting a drying curve. 8
6. (a) What is food irradiation? In what way it preserves the food material? 10
- (b) With a neat diagram discuss the working principle of Fluidized bed dryer. Also mention the advantages of FBD. 10
7. (a) What is Hurdle technology? Describe the importance of Hurdle technology in food safety and quality. 10

- (b) A suspension containing 3×10^5 spores of organism (A) having a D-value of 2.0 min at 121.1°C and 8×10^6 spores of organism (B) having D-value of 1.0 min at 121.1°C . Calculate the heating time needed for this suspension at 121.1°C to obtain a probability of spoilage of 1/1000.

of
10