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53 (FPT 302) PFPP

2018

**PRINCIPLE 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*** given.

1. (a) What are the main causes of quality deterioration and spoilage of foods ?
5
- (b) Classify foods according to their pH. Explain the significance of this classification.
3+2
- (c) Write the advantages of Irradiation process over other traditional processes in preservation of foods. 5

(d) What are the disadvantages of blanching? How can these disadvantages be minimized? 3+2

2. (a) Describe the role of microorganisms in preservation of foods. 7

(b) Describe the effect of radiation on microorganisms and insects. 7

(c) Explain the principle of hurdle technology as applied to foods. 6

3. (a) How do you prepare canned pineapple? Explain the steps. What type of can would you use and why? Discuss the importance of exhausting and cooling steps. 8+2+2

(b) Define Fermented food. How do shelf life of food increases by fermentation? Write advantages of fermented food. 2+3+3

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

(a) Preservatives

(b) IQF

(c) IMF

(d) Drum dryer

(e) Water activity.

5. (a) Write detailed technical notes on principle of food preservation by sugar and salt. 8

(b) Define the term food additive. What should be the characteristics of an ideal food additive? Explain about the various classes of food additives along with their uses in food industry. 2+3+7

6. (a) Define D-value and Z-value. How do you determine F-value in canning? What is 12D concept in canning? 3+3+3

(b) The F-value at 121.1°C equivalent to 99% inactivation of strain of *C. botulinum* is 1.256 minutes. Calculate the D₀-value of these organisms. 3

(c) Discuss in detail about pasteurization and sterilization of food. 8

7. (a) Write the basic principles of Food Preservation. 5

(b) With the help of line diagram, explain the working of spray dryer. Also write advantages of dried products. 12+3