53 (FPT 302) PFPP

2018

PRINCIPLE OF FOOD PROCESSING AND 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*** *given.*

1. *(a)* What do you understand by the term "canning" ? Enlist and explain the different processing steps involved in canning of fruits and vegetables. 14

   (b) Calculate the D value of the organism that show 30 survivors from an initial inoculums of 5×10^6 spores after 10 minutes at 250°*F*. 6

2. Write technical short notes on the following : 5×4

(a) Food preservation using sugar and salt

(b) Radiation preservation of food

(c) Freeze drying

(d) Pasteurization.

3. (a) With the neat sketch, explain the principles and working of a spray dryer for milk processing. 10

(b) Explain the fermentation process in detail. 10

4. (a) Discuss the working principle of Fluidized Bed Dryer (FBD). 8

(b) How can you define water activity ? How water activity is different from moisture content ? 2+3

(c) What are the main causes of quality deterioration and spoilage of foods ? 3

(d) Write down the principles of food preservation. 4

5. *(a)* What is dehydration ? Explain the chemical changes take place during food dehydration. 2+3

(b) What are IM foods ? How is their moisture content maintained ? 2+3

(c) How do sulphur compounds function as preservatives ? What are their disadvantages ? 3+2

(d) Classify foods according to their pH. Explain the significance of this classification. 5

6. *(a)* Define the term food additives. What should be the characteristics of an ideal food additives ? Briefly discuss the various types of food additives. 2+5+8

(b) Discuss the role of microorganism in preservation of foods. 5

7. *(a)* What is hurdle technology ? In what way it preserves food materials ? Give some examples. 3+6+3

(b) Describe the effect of radiation on microorganisms and insects. 8
