53 (FPT 302) PEPP

2015

PRINCIPLES OF FOOD PROCESSING & 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 is food preservation ? What are the main causes of quality deterioration and spoilage of foods ? 4

   (b) What are the basic principles of food preservation ? 4

   (c) Explain the working principles of fluidized bed dryer, with the help of a neat diagram. 8

   (d) Classify the food, according to their pH. Explain the significance of this classification. 4

2. (a) Enlist and explain the different processing steps involved in the canning of fruits and vegetables. 10

(b) What is irradiation? In what way it preserve the food materials? 10

3. (a) Define the term food additives. What are the main classes of food additives? What should be the characteristics of an ideal food additive? 2+5+3

(b) Classify the foods, according to their stability. 5

(c) What are IM foods? How is their moisture content maintained? 5

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

(a) Flash-18 process

(b) IMF

(c) Blanching

(d) Hot packaging

(e) Commercial sterilization

(f) Cold storage.

5. *(a)* Draw a neat schematic diagram of Tunnel dryer and explain its working principles. 8

(b) Discuss the advantages and disadvantages of con-current & counter current tunnel dryer. 4

(c) Explain the working principles of spray dryer and its utility in processing industries. 8

6. *(a)* Explain about the modified atmosphere packaging (MAP) and the controlled atmosphere (CA) storage. 10

(b) What is Hurdle technology ? Describe the importance of Hurdle technology in Food safety & quality. 3+7

7. *(a)* What is lyophilization ? What is the principle of lyophilization ? How food is preserved by freeze drying techniques ? 10

(b) The F-value at 121·1°C equivalent to 99·999% inactivation of strain of C. botulinum is 1·53 minutes. Calculate the D_0-value of this organism. 10
