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53 (FPT 302) PFPP

2013

(December)

**PRINCIPLES OF FOOD PROCESSING
& PRESERVATION**

Paper : FPT-302

Full Marks : 100

Pass Marks : 30

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 food? 5
- (b) Explain working principle of Fluidized bed dryer. 5
- (c) Classify the food according to their *pH*. Explain the significance of this classification. 5

Contd.

- (d) What is blanching ? What are the advantages and dis-advantages of blanching ? 5
2. (a) What is irradiation ? In what way it preserves the food materials ? 10
- (b) Enlist and explain the different processing steps involved in the canning of fruits and vegetables. 10
3. Write short notes on (*any four*) of the following : 5×4
- (a) Hot packing
- (b) Food preservation by Sugar and Salt
- (c) Aseptic canning
- (d) Flash-18 process
- (e) Commercial sterilization
- (f) Cold storage.
4. List out the classification of drying equipment and with a neat sketch explain the working of a spray dryer for milk processing. 10+10
5. (a) Define the term food additives. What are the main classes of food additives ? What should be the characteristics of an ideal food additives ? 2+5+3

- (b) What are IM Foods ? How is their moisture content maintained ? 5
- (c) Classify the foods according to their stability. 5
6. (a) What is Hurdle technology ? Describe the importance of Hurdle technology in food preservation. 3+7
- (b) The F-value at 121.1°C equivalent to 99.9999% inactivation of spore of *C. botulinum* is 1.53 minutes. Calculate the D_0 value of this organisms. 5
- (c) What do you understand by modified and controlled atmosphere storage ? 5
7. (a) Explain working principles of freeze dryer and its utility in processing industry. 10
- (b) Draw a neat schematic diagram of Tunnel dryer and explain its working principle. Discuss the advantages and dis-advantages of concurrent and counter current tunnel dryer. 7+3
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