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53 (FPT 302) PFPP

2014

## 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.*

1. (a) What do you mean by thermal processing of food? Enlist and explain the different processing steps involved in the canning of fruits and vegetables. 2+10
- (b) Discuss the role of micro-organisms in preservation of foods. Explain spoilage in canned foods. 4+4

Contd.

2. (a) Define the term food additives. Discuss about various types of food additives. What should be the characteristics of an ideal food additive? 2+6+4

(b) The F-value of  $121.1^{\circ}\text{C}$  equivalent to 99.99% inactivation of strain of *Clostridium botulinum* is 2.56 minutes. Calculate the  $D_0$ -value of this organisms. 8

3. (a) What do you mean by freezing of foods? Differentiate between quick and slow freezing. 3+4

(b) What is blanching? Write the importance of blanching in fruits processing. 2+3

(c) What do you mean by Class-I preservatives? Give examples. 4

(d) What do you mean by pasteurization? Write the name of reference microorganism of pasteurization. 3+1

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

(a) Freeze drying

(b) Flash-18 process

- (c) Commercial sterilization
- (d) Hot packing
- (e) Thawing of food
- (f) MAP.
5. (a) With the help of a neat diagram explain the working of spray drier. How it helps in food preservation? 10+2
- (b) Explain drum drying process. 8
6. (a) Describe food preservation by irradiation technique. 7
- (b) What do you mean by fermentation? Give examples of a fermented food. 5
- (c) What is case hardening? What are the conditions for case hardening? 2+2
- (d) What is Hurdle technology? How this technique is better? 2+2
7. (a) What is dehydration? Explain the constant rate period and falling rate period of drying by a curve. 2+8

- (b) What are the basic principles in food preservation? 5
- (c) Discuss working principle of fluidized bed dryer. 5