



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/B.TECH (FT)/SEM-4/FT-402/2010  
2010**

**PRINCIPLES OF FOOD PRESERVATION**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives for the following :

10 × 1 = 10

- i) The  $D_{121}$  value of an organism A is 5 minutes. If the processing is carried out at 110°C,
- a) it will require more time
  - b) it will require less time
  - c) it will require same time
  - d) it will remain under-processed.
- ii) The freezing time
- a) depends on size and shape of the product
  - b) depends on temperature difference between the food and the freezing medium
  - c) depends on both of these factors
  - d) does not depend on any of these factors.



- iii) Dehydration preserves the food by
  - a) destruction of the organisms
  - b) reduction in water activity
  - c) destruction of the nutrients required by contaminants
  - d) none of these.
- iv) In which of the following preservation methods, the concentration of the solutes increases during preservation ?
  - a) Canning
  - b) Fermentation
  - c) Radiation
  - d) Freezing.
- v) The salt used in sauerkraut production
  - a) adds to taste
  - b) is required for the growth of lactic organisms
  - c) controls contamination
  - d) acts as a buffer.
- vi) Approximate lower limit of  $a_w$  for growth of yeasts is
  - a) 0.75
  - b) 0.98
  - c) 0.52
  - d) 0.88.
- vii) The curing of meat is done for
  - a) preservation
  - b) improvement of colour
  - c) both (a) and (b)
  - d) none of these.
- viii) Cider vinegar is obtained from
  - a) malt
  - b) grape
  - c) apple
  - d) pear.



- ix) Example of Bacteriocin is
- Nisin
  - Thiamin
  - Riboflavin
  - none of these.
- x) Broken heating curve in canning is obtained for
- convection type of heating
  - conduction type of heating
  - shift from convection to conduction type of heating
  - both for convection and conduction types of heating.

### GROUP – B

#### ( Short Answer Type Questions )

Answer any *three* of the following.  $3 \times 5 = 15$

- Discuss about the advantages and disadvantages of preservation by use of chemicals.
- Which are the factors to be considered for cold storage of foods ?
- What is 'flat sour' ? What is 'stack burn' ?  $3 + 2$
- What is the mode of action of ionizing radiation when used for the preservation of food material ?
- What is case hardening ? Write down the effect of dehydration on pigments in foods.  $2 + 3$



**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. Discuss the influence of dehydration on nutritive value of food. What do you know about fluidized bed freezing ?

10 + 5

8. Discuss the steps involved in cheese making with a flow diagram. Give the manufacturing details of soy sauce. What is tofu ?

9 + 5 + 1

9. What do you understand by the term 'hurdle technology' ? Discuss the application of hurdle technology in the preservation of food.

7 + 8

10. Elaborate the principle of 'cold sterilization' of foods. Compare the suitability of different sterilizing agents for this purpose. How can the drawbacks be minimized in such methods ?

6 + 5 + 4

11. Write short notes on any *three* of the following :  $3 \times 5$

- a) Sausage
- b) Sauerkraut
- c) IMF
- d) Triple point of water
- e) Blanching.

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