B. Tech.

(SEM. VI) EXAMINATION, 2006-07

FOOD PRESERVATION &
PROCESSING PRINCIPLES

Time : 3 Hours] [Total Marks : 100

Note: (1) Attempt all questions.
(2) All questions carry equal marks.

1 Attempt any four parts of the following: $5 \times 4 = 20$
   (a) Explain the preventive measures to minimize the wastage of foods.
   (b) What are the main causes of quality deterioration and spoilage of foods?
   (c) Enlist the chemical, biological and physical means of food preservation.
   (d) Classify foods according to their pH. Explain the significance of this classification.
   (e) Explain the importance of the number and kind of microorganisms initially present in foods intended to be preserved.
   (f) Antemortem factors affecting postmortem biochemical changes.

2 Attempt any two parts of the following : $10 \times 2 = 20$
   (a) Describe the normal behavior of plant tissues, animal tissue, and non-tissue foods stored at chilling temperature.

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(b) Enlist the adjuncts to chilling temperature in storage of foods. Explain the importance of each adjunct.

(c) Describe the methods of freezing foods. Explain the criteria of selection of a method for particular food.

3 Attempt any two parts of the following: 10x2=20
(a) What are the disadvantages of blanching? How can these disadvantages be minimized?
(b) Describe the improved general method for thermal process evaluation.
(c) Explain the term commercial sterilization of foods and mention the factors on which thermal conditions needed to produce commercial sterility depends.

4 Attempt any two parts of the following: 10x2=20
(a) Explain the principles of freeze concentration and equipment used for this purpose.
(b) Explain the advantages of the application of microwave energy to freeze drying and major reasons for its failure.
(c) Discuss the problem of shrinkage of foods during drying. Suggest ways of overcoming this problem.

5 Attempt any two parts of the following: 10x2=20
(a) Describe the effect of radiation on microorganisms and insect.
(b) Explain the principle of hurdle technology as applied to foods.
(c) Discuss the role of microorganisms in preservation of foods.