

Subject : Food Science and Technology

Principles of food processing [4+2]

Unit I:

- Definition of food technology, food science, food preservation
- Classification of foods on basis of shelf life, pH, origin
- Different types of food spoilage viz. microbiological, biochemical and physical and their effects on food quality
- Importance of food processing and preservation

Unit II

- Preservation by low temperature: Refrigeration systems
- Freezing process, slow and fast freezing, Types of freezers
- Storage and thawing of frozen food
- Preservation by high temperature: Pasteurization, sterilization and canning
- Principles of preservation by drying and dehydration

UNIT-III

- Principle of preservation by sugar and salt
- Preservation of foods by chemical preservatives. Types of chemical preservatives used in different products
- Intermediate moisture food(IMF)
- Fermentation and its types

Unit-IV

- Food irradiation
- Microwave heating
- Aseptic processing
- Membrane processing

Practicals

1. Identification of common microbial disorders of foods-Black mold rot, green mold rot, yeast growth and bread mold.
2. Drying of vegetables
3. Preparation of pickles
4. Preparation and preservation of apple jams
5. Visit to food industries to study pasteurization, sterilization and canning

References

1. Food processing technology by P.fellows.
2. The technology of food preservation by desrosier.
3. Food science by N.N potter
4. Introduction to food science and technology by Stewart

5. Handbook of food preservation by M.shafiur Rahman.

SMALL SCALE PROCESSING OF FRUITS AND VEGETABLES-SEC [2+2]

Unit I

- Composition and nutritive value of fruits and vegetables
- Processed products of fruits and vegetables(Jam, Jelly, marmalade, juice, sauces, chutney and candy)
- Storage of fruits and vegetables-Controlled atmospheric storage and refrigeration
- Post-harvest changes in fruits and vegetables

Unit II

- Tomato products-Juices, paste, puree, ketchup, cocktail
- Processing of mushroom
- Drying and dehydration of fruits and vegetables
- Freezing and canning of fruits
- Packaging requirement of fruits and vegetables

- **PRACTICALS**

- Preparation of syrup and brine solution
- Cut out analysis of canned fruit and vegetables
- Preparation of preserve
- Preparation of tomato sauce and ketchup
- Preparation of apple jam
- Preparation of mixed pickle