

**MAJOR BASED ELECTIVE I - FOOD PRESERVATION AND BAKERY**

**UNIT – I**

- a. Review of the basic Principles behind food preservation: Ascopsis, removal, anaerobic conditions: Types of spoilages and methods of preventing them.
- b. Preservation of fruits as Sugar concentrates, Jam, Jelly, Marmalade, preserves, candies, crystallized or glazed fruits, Factors affecting and jelly formation.

**UNIT – II**

- a. Preservation by use of low temperature:
  1. Refrigeration – Principles working system: cold storage defects.
  2. Freezing
    - a. Principles of freezing
    - b. Methods of freezing
    - c. Advantages and disadvantages.
- b. Preservation by drying and dehydration: Principles involved.
  1. Methods of drying and dehydration
  2. Pre-treatment of foods
  3. Factors affecting

**UNIT – III**

- a. Preservation by use of High temperature - Canning
  - 1 .Canning Process.
    1. Principles involved.
    2. Spoilages encountered
    3. Aseptic Canning.
- b. Preservation by using Chemicals.
  - 1 Mechanism of microbial inhibition
    1. Inorganic and Organic preservatives
    2. Antibiotics
    3. Developed preservatives.
- c. Radiation method of preservation of foods
  1. Principles involved.
  2. Sources of radiation, Units of radiation dosimetry
  3. Applications of irradiation
  4. Effect on food constitutions
  5. Micro wave heating

## **UNIT – IV**

### a. Food Packages:

1. Definition of packaging
2. Package functions
3. Packaging materials – specific uses
4. Requisites of good packages.
  - i. Attractiveness (Colour, Label, printed literature)
  - ii. Protective strength/durability
  - iii. Consumer convenience
  - iv. Economy

### b. Pickling : Principles, types & spoilages encountered in pickles.

## **UNIT – V**

### a. Introduction of bakery – Definition, Principle and Classification of baked products, Major/Minor equipments required to start a small bakery unit.

### b. Role of major and minor ingredients in baking:

1. Role of flour (gluten), fat and egg in baking
2. Leavening agents – Definition, types (Physical biological and chemical) and role in baking.
3. Sugar – Sources, types and role in baking.
4. Role of minor ingredients – milk, water and salt.

### c. Preparation of bakery items:

1. Bread : Types, methods, faults, bread diseases and improvers
2. Cake : Ingredients, types, methods and faults frosting/cake decorations
3. Biscuits and cookies : Ingredients, types, methods.

## **Reference:**

1. Lal.B.Siddappa, G.G.& Tandon, G.N.19 67: Preservation of fruits and vegetables ICAR, New Delhi.
2. Dearosier, N.W., 1975: The Technology of Food preservation, AVU Publishing co., West Port, Connecticut.
3. Potter, N.N. 1973: Food Science, The AVI Publishing Co., West Port, Connecticut.
4. Peckham, C.G. 1969: Foundation of food preparation.
5. Hughes, O., 1971: Introductory foods.