

**Elective Course – V : FOOD PRESERVATION AND PROCESSING**

**Unit-I**

Food Preservation: Principles and methods - Perishable, semi-perishable and non-perishable foods - Methods of preservation - Temporary preservation - Asepsis, low temperature, antiseptics, pasteurization, electromagnetic radiation - Permanent preservation - Sterilization processing by heat, effect of acidification and antiseptics.

**Unit-II**

Preservation by salting, Preservation by sugar syrup - Preservation by concentration - Preparation of Jam Jelly - Role of pectin in Jam - Preservation by chemicals: Benzoic acid, parabenzene, sulphur-di-oxide, sulphites, nitrites diethylpyrocarbonates (DEPC), hydrogen peroxide, chlorine and CO<sub>2</sub>.

**Unit-III**

Processing - Methods - Wet heating method by cookers. Microwave heating method - Processing of fruits and fruit products - Canning of fruits - Preparation of fruit juices - Squashes - Cordials - Preservation by antibiotics and irradiation.

**Unit-IV**

Vegetable and vegetable products - Canning of vegetables and pickles. Baked products: Classification of wheat - hard wheat, soft wheat, durum wheat, flour preparation, baking formulation, processing. Milk and milk products: butter, ghee, lassi, unfermented milk products, condensed milk, cheese, ice-cream and milk powder.

**Unit-V**

Food additives: Definitions, preservatives, antioxidants - colouring agents, emulsifier, stabilizers and thickening, bleaching and maturing agents, clarifying agents, anti-foaming agents, function of additives. Food adulteration - Adulterants and simple detection techniques - Food grades - Standards, laws and regulations.

**References**

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- Giridharilal, Siddappa, G. S. and Tandon, G. L. (1990). Preservation of Fruits and Vegetables, CFTRI, Mysore.
- Lal, B., Siddappa, G. B. and Tandon, G. N. (1967). Preservation of Fruits and Vegetables. ICAR Publication, New Delhi.
- Manorajan Kalia and Sangita Sood. (1992). Food Preservation and Processing. Department of Food Science and Nutrition, College of Home Science. Himachal Pradesh Agricultural University, Palampur.
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**Note: No Practical for this paper.**