

## **OBT554 PRINCIPLES OF FOOD PRESERVATION**

### DETAILED SYLLABUS

#### **OBJECTIVE:**

- The course aims to introduce the students to the area of Food Preservation. This is necessary for effective understanding of a detailed study of food processing and technology subjects.

#### **UNIT I FOOD PRESERVATION AND ITS IMPORTANCE**

Introduction to food preservation. Wastage of processed foods; Shelf life of food products; Types of food based on its perishability. Traditional methods of preservation

#### **UNIT II METHODS OF FOOD HANDLING AND STORAGE**

Nature of harvested crop, plant and animal; storage of raw materials and products using low temperature, refrigerated gas storage of foods, gas packed refrigerated foods, sub atmospheric storage, Gas atmospheric storage of meat, grains, seeds and flour, roots and tubers; freezing of raw and processed foods. retort pouch packing, Aseptic packaging.

#### **UNIT III THERMAL METHODS**

Newer methods of thermal processing; batch and continuous; In container sterilization-canning; application of infra-red microwaves; ohmic heating; control of water activity; preservation by concentration and dehydration; osmotic methods

#### **UNIT IV DRYING PROCESS FOR TYPICAL FOODS**

Rate of drying for food products; design parameters of different type of dryers; properties of airwater mixtures. Psychrometric chart, freezing and cold storage. freeze concentration, dehydrofreezing, freeze drying, IQF; calculation of refrigeration load, design of freezers and cold storages.

#### **UNIT V NON-THERMAL METHODS**

Super Critical Technology for Preservation - Chemical preservatives, preservation by ionizing radiations, ultrasonics, high pressure, fermentation, curing, pickling, smoking, membrane technology. Hurdle technology,

#### **OUTCOMES:**

On completion of the course the students are expected to

- Be aware of the different methods applied to preserving foods.

#### **TEXT BOOKS:**

1. Karnal, Marcus and D.B. Lund "Physical Principles of Food Preservation". Rutledge, 2003.
2. VanGarde, S.J. and Woodburn. M "Food Preservation and Safety Principles and Practice". Surbhi Publications, 2001.

SSLC, HSE, DIPLOMA, B.E/B.TECH, M.E/M.TECH, MBA, MCA

*Notes*

*Syllabus*

*Question Papers*

*Results and Many more...*

Available @

[www.Binils.com](http://www.Binils.com)

3. Sivasankar, B. "Food Processing & Preservation", Prentice Hall of India, 2002.
4. Khetarpaul, Neelam, "Food Processing and Preservation", Daya Publications, 2005.

**REFERENCES:**

1. Rahman, M. Shafiur. "Handbook of Food Preservation". Marcel & Dekker, 2006.
2. Zeuthen, Peter and Bogh-Sarensen, Leif. "Food Preservation Techniques". CRC / Wood Head Publishing, 2003. 3
- . Ranganna, S. "Handbook of Canning and Aseptic Packaging". Tata McGraw-Hill, 2000.