Semester IV

Advances in Food Technology

Unit I

**Historical Development and Eras of Modern Food Processing:** Recent Advances in Baking Industry, Evaluation and Optimization of Thermal Heating, Aseptic Processing, UHT Processing


Unit II

**Advances in Non Thermal Processing of foods:**
Biopreservation
Ultrasoundization
High Hydrostatic Pressure Processing
Pulsed Electric Processing
Ohmic Heating

Unit III

**Advances in Fortification (Complementation and Supplementation):**
Techniques of Food Fortification

**Advances in use of Radiation and Microwaves in Processing of Food**
Neutraceuticals, GM Food

Unit IV

**Encapsulation:** Design and Structure of Microcapsules
Technique of Micro Encapsulation, Advantages and Application of Encapsulation

Unit V

**Fractionation of Fat**
Supercritical Carbon Dioxide Extraction

**Introduction to Food Biotechnology:** Application on Food Processing
Food Packaging

Unit I
Different Forms of Food Packages: Primary Packaging and Secondary Packaging

Unit II
Materials Used for Packaging: Different types of Paper, Paperboard, Co Extrusion, Lamination and Thermo Formed Semi Rigid Containers, Aluminum Cans, Glass Containers and PET
Various Processes of Packaging and Packaging Equipment: FFS Systems, Aseptic Packaging, Shrink Wrapping, Overwraps

Unit III
Process of Secondary Packaging: Shipping Containers, Pallets, Containerization (Refrigerated and Non Refrigerated Containers), Containers used in Road, Rail, Sea and Air Transport

Unit IV
Quality Control:
Evaluation of Packaging Materials, Toxicity, Corrosion Prevention, Shelf Life Testing, Minimization of Transport Losses, Hazards in Handling and Storage and Packaging and their minimization

Unit V
Packaging Laws and Regulations
Latest Advancement in Food Packaging: A general Overview.

FT 403 Lab Course on Food Packaging (Practical)
Research Documentation
Application of Software for Statistical Analysis
Development of Product
Food Labelling
Testing of Tin Plates
Testing of packaging films
Determination of Shelf Life
Determination of Water Activity
Use of Word Processing Software for Creating Reports
Introduction to Computer Using PC Tutor

FT 404 Project Evaluation and Presentation