SEMESTER 2nd

MINOR COURSE

FST222N: FOOD SCIENCE & TECHNOLOGY (PRINCIPLES AND TECHNOLOGY OF FOOD/FRUITAND VEGETABLE PROCESSING)

CREDITS: THEORY-4 PRACTICAL - 2

Objectives/Expected Learning

- *To acquaint the students about the scope of food processing of industry in India*
- *To make students understand about the principles and methods of preservation fruits and vegetables*

THEORY (4 CREDITS)

Unit – 1 (15 HOURS)

Introduction to Fruits and Vegetables

- Definition and classification of fruits and vegetables
- Nutritional Significance of fruits and vegetables
- Production and post-harvest losses in fruits and vegetables
- Maturity and ripening of fruits and vegetables
- Post-harvest physiology of fruits and vegetables, respiration and transpiration

Unit-2 (15 HOURS)

Spoilage and Packaging of Fruits and Vegetables

- Spoilage of fruits and vegetables and its causes
- Postharvest handling of fruit and vegetable
- Packaging requirement of fruits and vegetables: Types of packaging materials used in fruits and vegetables.
- Storage of fruits and vegetables. Refrigerated and hypobaric storage, CA storage
- Minimal processing of fruits and vegetables

Unit –3 (15 HOURS)

Processed Products of Fruits and Vegetables

- Principle of preservation of fruits and vegetables
- Processed products of fruits and vegetables (jam, jelly, marmalade, juice, nectar, candy, sauce, chutney and pickles).
- Tomato products: Puree, ketchup and cocktail.

Unit – 4 (15 HOURS)

Preservation Technologies

- Quality evaluation of fruit and vegetable base processed products
- Basic concept in drying, dehydration, freezing and canning of fruits and vegetables.
- Requirements for fruit and vegetable-based processing plant.
- Plant layout and design for fruit and vegetable-based processing plant.
- Waste management in fruit and vegetable industry.

PRACTICALS (2 CREDITS: 60 HOURS)

1. Preparation of lemon squash
2. Preparation of jam and preserves.
3. Preparation of tomato sauce/ketchup
4. Preparation of fruit and vegetable pickle
5. Preparation and preservation of fruit juice.
6. Drying of bottle gourd.
7. Preparation of syrup & brine solutions.
8. Cut out analysis of canned fruits & vegetables.
9. Project formulation for a fruit and vegetable-based processing plant.
10. Quality evaluation of processed products: TSS, acidity.
11. Sensory evaluation of products