

Fruits Canning Technician

1. Department: Botany
2. Title: Fruit Canning Technician
3. Sector: - B.Sc. III (Botany)
4. Year of implementation: 2024-2025

Course Structure

Skill Level	Theory Hours	Practical Hours	Total Hours	Credits	No. of students in batch
6	15	30	45	02	13

Syllabus

Learning Objectives:

This subject is aimed to develop an understanding among the students on

1. Morphology of fruits and vegetables, structure and composition.
2. Post-harvest physiology of fruits and vegetables and their handling.

Theory Syllabus (15Hrs, Credit:01)

Unit I: Introduction and steps in Fruit and Vegetable Canning

Definition, scope, history and equipment in fruit canning; Objectives and techniques of food preservation, canning, classification of cans; Selection of fruits; reasons of spoilage, Precautions in Canning Operations; Factors affecting the process (time and temperature)

Process of Canning Washing; Sorting and grading; Peeling, coring and pitting; Common methods for the peeling of fruit; Cutting/halving/ slicing; Blanching; treatments to prevent browning; Filling in cans; Syruping or brining; Methods of exhausting; Seaming; Coding/Embossing; Heat processing; Types of Cannery- pressure canning and water bath canning; Raw material selection; Canning of Mango and Strawberry

Packaging: Introduction, Methods of packing; Metal Containers, Glass Containers, Rigid Plastic Containers, Retortable Pouches.

Unit II Introduction to Food Safety and Hygiene

Food hygiene; Factors affecting food safety; Food spoilage; Food handling; Cleaning and disinfection; Personal hygiene; Sterilizers; Pest control; Waste disposal; Quality Assurance and defects in canned products; FDA certification.

Practical Syllabus (30 Hrs, Credit:01)

List of Experiments **24 hr**

1. Study of fruit types.
2. Study of types of cans.
3. Study of stabilizers and preservatives used in canning procedure.
4. Study of Canning of Mango
5. Study of Canning of Strawberry
6. Study of quality checking techniques of canned product.

Project/ Field Visits/ Industrial Visit **6 hrs**

Learning Outcomes:

After completing the course, the student will be able to:

1. prepare and maintain work area and process machineries for canning of fruits and vegetables,
2. prepare raw material for canning fruits and vegetables.

Recommended Books:

1. Bhutani R. C., **Fruit and Vegetable Preservation**, Biotech Publishers, 2003.
2. Girdhari Lal, Siddapa G. S. and Tandon G. L., **Preservation of Fruits & Vegetables**, ICAR Press, 1967
3. Singh N. P., **Fruit and Vegetable Preservation**, Oxford Book Company, 2007
4. Srivastava R. P. and Kumar S., **Fruit and Vegetable Preservation**. CBS Publishers, 2017.

BOS Sub Committee:

1. Prof. (Dr.) D. D. Namdas – Chairman
2. Mrs. R. A. Shinde – Member

Expert:

1. Mr. Amar Navgan -Industrial Expert
2. Dr. S. R. Pai – Academic Expert