

GENERIC ELECTIVE COURSE
GE FT06: Processing of Plant Foods

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITE OF THE COURSE

Course title & code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Theory	Tutorial	Practical/Practice		
Processing of Plant Foods	4	3		1	XII Pass	

Learning Objectives

1. To understand the concept of processing of plant food.
2. To understand the processing of fruits, vegetables, cereals, pulses and oilseeds.
3. To understand the processing of various spices, tea, and coffee.

Learning Outcomes

After completing this course, students will be able to:

1. Understand different methods of fruit and vegetable processing.
2. Understand technical knowhow of Cereals, pulses, and oilseeds processing
3. Understand the processing of various spices, tea, and coffee

SYLLABUS

THEORY

(Credits 3; Hours 45)

UNIT I: Technology of Fruits & Vegetables

20 Hours

This unit will focus on the preservation and processing of fruits and vegetables. Students will also learn about the techniques involved in processing fruit juices, jams, pickles, and tomato products, and shelf stability.

- Introduction & importance of fruit & vegetable preservation, history and need of preservation
- Canning and bottling of fruits and vegetables: Selection of fruits and vegetables, process of canning, containers of packing, spoilage in canned foods
- Processing and preservation of fruit juices and beverages
- Processing and preparation of jams, jellies and marmalades, defects in jelly
- Pickles- processing and types
- Tomato products, tomato puree, paste, ketchup and soup

UNIT II: Technology of cereals, pulses and oilseeds

15 Hours

This unit will focus on the technology of cereals, pulses, and oilseeds, covering aspects such as milling of wheat and rice, processing of pulses, milling of millet, and extraction and refining of oils from oilseeds.

- Wheat - Types, milling, flour grade
- Rice- Variety, milling, parboiling
- Pulses- Dry and Wet milling
- Millet- Variety, milling
- Oilseeds- extraction of oils and refining

UNIT III: Spices and plantation products

10 Hours

This unit will focus on the processing and properties of major and minor spices, extraction of essential oils and oleoresins, and the processing techniques involved in tea and coffee production.

- Spices- processing and properties of major and minor spices
- Essential oils and oleoresins
- Tea and coffee: processing

PRACTICAL **(Credit 1; Hours 30)**

- Physical characteristics of wheat
- Determination of bulk density, true density and specific gravity of legumes and oilseeds.
- Study of cooking quality of rice
- Estimation of degree Brix: Acid ratio
- Cut out analysis of any plant food can
- Preparation of Jam
- Preparation of tomato products
- Dehydration and Rehydration of fruits or vegetables
- Qualitative estimation of adulteration in spices

Essential Readings

1. Girdharilal., Siddappa, G.S and Tandon, G.L. (2009). Preservation of fruits & Vegetables. New Delhi: ICAR.
2. Kent. N.L. (2003). Technology of Cereal. 5th Ed. Pergamon Press.
3. Chakraverty A. (2018) Post Harvest Technology of Cereals, Pulses and Oilseeds, revised ed. Oxford & IBH Publishing Co. Pvt Ltd.
4. Srilakshmi. (2018). Food Science, 8th Edition. New Age International Ltd.

Suggested Readings

1. Thompson, A.K., (2003). Fruits and vegetables; Harvesting, handling and storage. Blackwell Publishing.
2. Manay, S. and Shadaksharawami, M. (2020). Foods: Facts and Principles. New Age Publishers.
3. Ranganna S. (2017). Handbook of analysis and quality control for fruits and vegetable products. Tata Mc Graw-Hill publishing company limited, Second edition.
4. Srivastava, R.P. and Kumar, S. (2006). Fruits and Vegetables Preservation- Principles and Practices. 3rd Ed. International Book Distributing Co.