

**CERTIFICATE COURSE**

**IN**

**Fruits & Vegetable Preservation**

**Atal Bihari Vajpayee Vishwavidyalaya**

**Bilaspur (C.G.)**

**(A State University, Established by the Government of  
Chhattisgarh)**

### **Programme Learning Outcome:**

This programme is expected to impart higher level knowledge and understanding about how to preserve fruits & vegetables.

### **Eligibility Criteria**

Any student, who has cleared Senior School Certificate Examination (Class XII).

### **Fees Structure and Registration:**

One time registration/tuition fees of Rs. 5000/- The registration can be on the basis of merit probability in the month of July and January every year. The total no. of seats available in the course will be 30 only and, it will be allotted on first come first basis.

### **Course Duration**

The course is expected to be completed in the span of 3month/ 12 week. Minimum attendance of 75% is required in the classes for appearing in the examination.

### **Course Learning Outcome:**

To introduce students about food industry's waste management.

Objective:

1. I identify various types of fruits and vegetables and explain their nutritive value.
2. Understand the fragile nature of fruits and vegetables and causes for their damage.
3. Explain various methods of preservation for fresh fruits and vegetables.
4. Get to know the value-added products made from fruits and vegetables.

### **Examination & Evaluation Scheme**

The candidate's performance shall be assessed on the combined performance in the online test, project work and internal assessment. The candidates will be required to appear in external examination of 75 marks and 25 marks will be based on internal assessment. The qualifying criteria will be total 40%. Candidate is allowed to appear in the second attempt, if he/she is unable to qualify the same in the first attempt as per ordinance.

### **Certification**

The candidates successfully qualifying the course shall be awarded with a certificate issued by the University.

### Detailed Syllabus:

<b>Module 1</b>	Introduction to fruits and vegetables Fruits: Definition, elementary knowledge on types of fruits (fleshy and dry) with local /common examples. Vegetables: Definition, elementary knowledge on types of vegetables (root, leafy, stem, flower and fruit) with local/ common examples. Importance of fruits and vegetables in human nutrition. Concept of perishable plant products – maturation and spoilage.
<b>Module 2</b>	Preservation of Fruit. 1. Fruits – ripening and biological aging; storage and preservation concerns. 2. Preservation of fresh fruits at room temperature and in cold storage. 3. Fruit preservation at room temperature as juices, squashes and syrups.
<b>Module 3</b>	Preservation of fruits by application of heat; making of fruit products (jams, jellies and fruit slices in processing factories). Preservation by dehydration (Eg. banana chips), application of sugar (Eg. mango candy), application of salt (pickling). Fruit preservation by freezing – storage at the lowest temperatures.
<b>Module 4</b>	Preservation of vegetables. Vegetables – losses after harvesting and causes; problems in handling and storage. Modern methods of packaging and storage to reduce losses. Trimming of vegetables and packing in cartons; dehydration technique -factory processing.
<b>Module 5</b>	Making of vegetable products (flakes/chips of potato and onion; garlic powder). Frozen vegetables – Carrots, Cauliflower, Okra and Spinach.Preservation of sliced vegetables in factories by canning and bottling.

### Books Recommended:

1. Giridharilal, G. S. Siddappa and G.L.Tandon(2007) Preservation of Fruits and Vegetables, Indian Council of Agri. Res., New Delhi
2. Srivastava, R.P., and Sanjeev Kumar (2019) Fruit and Vegetable Preservation : Principles and Practices, CBS Publishers & Distributors Pvt., Ltd., New Delhi
3. Thompson, A.K. (1995) Post Harvest Technology of Fruits and Vegetables. Blackwell Sci.,U.K.
4. Verma, L.R. and V.K. Joshi (2000) Post Harvest Technology of Fruits and Vegetables. Indus Publ., New Delhi