

**4<sup>th</sup> SEMESTER**  
**FOOD TECHNOLOGY**  
**(PROCESSING OF FRUITS AND VEGETABLES)**  
**SKILL ENHANCEMENT COURSE (SEC)**

**PFV420S HANDLING AND STORAGE OF FRUITS AND VEGETABLES**

**CREDITS: THEORY: 2, PRACTICAL: 2**  
**MAX MARKS: THEORY: 30, PRACTICAL: 30**  
**MIN MARKS: THEORY: 12, PRACTICAL: 12**

**THEORY (2 CREDITS)**

**UNIT-I**

- Fruits - Definition and classification
- Vegetables- Definition and classification
- Composition of major fruits and vegetables
- Production trends in major fruits and vegetables of J&K
- Importance of fruits and vegetables in human diet
- Postharvest loss assessment in different fruits and vegetables.
- Importance scope and constraints of fruit and vegetable processing in India and J&K.
- Layout of a processing plant.

**UNIT-II**

- Harvesting of fruits and vegetables
- Maturity-indices of fruits and vegetables
- Steps involved in post-harvest handling of fresh fruits and vegetables
- Storage of fruits and vegetables
- Concept of cold chain management of horticulture produce
- Controlled atmospheric storage

**PRACTICALS (2 CREDITS):**

1. Identification of various fruit and vegetable varieties
2. Determination of maturity indices of fruits and vegetables: Days from full bloom (DFFB), Starch-iodine ratio, Brix-acid ratio
3. Pack-house operations of apple
4. Determination of moisture content, TSS, acidity and firmness of fruits and vegetables
5. Identification of spices and additives in fruits and vegetables.
6. Physiological loss in fruits and vegetables
7. Cleaning and maintenance of equipment
8. Visit to Controlled atmosphere store / banana ripening unit

**SUGGESTED READINGS:**

1. Siddappa, G.S., Tendon, G. L. (2009). Preservation of Fruits and Vegetables. ICAR, Publications, New Delhi.
2. Srivastava, R.P. and Kumar, Sanjeev (2019). Fruit and Vegetable Preservation- Principles and Practices. 3<sup>rd</sup> Ed. CBS, Publishers, New Delhi
3. Rehman, M. S. (2020). Handbook of Food Preservation. CRC Press
4. Vaclavic, V. A. and Christian, E.W., (2020). Essentials of Food Science, 4<sup>th</sup> Edition. Springer International Publishers, London.