



## Rajarshi Shahu Mahavidyalaya, Latur

(Autonomous)

### Department of Biotechnology

**Course Type: SEC-I**

**Course Title: Food Processing Technology**

**Course Code: 101BIO1601**

**Credits: 02 (01+01)**

**Max. Marks: 50**

**Lectures: 45 Hrs.  
(15Th + 30P)**

#### Learning Objectives:

- LO 1. To understand objectives of food and beverage processing.
- LO 2. To learn the classification of food based on their characteristics.
- LO 3. To understand the morphology of fruits.
- LO 4. To learn the methods of preparation of juice, syrup, crush and blended beverages
- LO 5. To understand the composition of fruits.
- LO 6. To learn the methods of preparation of juice and syrup.
- LO 7. To understand the storage of fruits.
- LO 8. To learn the methods of preparation of crush and blended beverages.

#### Course Outcomes:

After completion of course the student will be able to-

- CO 1. acquire knowledge of food processing.
- CO 2. gain the methodologies for the preparation of jam and jelly.
- CO 3. acquaint the knowledge of processing and importance of barley and rice.
- CO 4. adapt the manufacturing method of bread and cake.
- CO 5. gain the methodologies for the preparation of marmalade and pickling.
- CO 6. acquire knowledge of beverage processing.
- CO 7. acquaint the knowledge of processing and importance of sorghum and millet.
- CO 8. adapt the manufacturing method of cookies and chocolate.

Unit No.	Title of Unit & Contents	Hrs.
<b>I</b>	<b>Food &amp; Beverage Processing</b>	<b>03</b>
	1. Definition; Objectives; Scope of food processing industries.	
	2. Classification of food – Perishable and Semi Perishable Food their characteristics.	
	3. Beverage: Definition, Importance & Classification of Beverages.	
	<b>Unit Outcomes:</b>	
	UO 1. Acquire knowledge of food and beverage processing.	
	UO 2. Discuss the classification of food based on their characteristics.	

<b>II</b>	<b>Fruit Processing</b>	<b>04</b>
	<ol style="list-style-type: none"> <li>1. Jam, Jelly &amp; Marmalade – Definition, Selection of fruits, Ingredients used and their role.</li> <li>2. Types of Dehydration of fruits.</li> </ol>	
	<p><b>Unit Outcome:</b></p> <p>UO1. Gain the methodologies for the preparation of jam, jelly, marmalade and pickling.</p> <p>UO 2. Explain the types of dehydration of fruits.</p>	
<b>III</b>	<b>Cereals and Legume Processing</b>	<b>04</b>
	<ol style="list-style-type: none"> <li>1. Introduction to cereal grain and its morphology.</li> <li>2. Processing and importance of Barley, Rice, Sorghum, Millet.</li> <li>3. Classification and types of legumes and oilseeds.</li> </ol>	
	<p><b>Unit Outcomes:</b></p> <p>UO 1. Acquaint the knowledge of processing and importance of barley, rice, sorghum and millet.</p> <p>UO 2. Describe the Classification and types of legumes and oilseeds</p>	
<b>IV</b>	<b>Bakery and Confectionery</b>	<b>04</b>
	<ol style="list-style-type: none"> <li>1. Importance of bakery and confectionery in food industry.</li> <li>2. Flours and equipment's used in bakery and confectionery.</li> <li>3. Different types of breads and their uses.</li> </ol>	
	<p><b>Unit Outcomes:</b></p> <p>UO 1. Adapt the manufacturing method of bread, cake, cookies and chocolate.</p> <p>UO 2. Discuss the equipment's used in bakery and confectionery</p>	
<b>V</b>	<b>Practicals (Included in above 04 units)</b>	<b>30</b>
	<ol style="list-style-type: none"> <li>1. Preparation of Malt</li> <li>2. Preparation of regional fruit juice</li> <li>3. Preparation of Jam</li> <li>4. Preparation of Jelly</li> <li>5. Preparation of Pickles from Fruits and Vegetables</li> <li>6. Preparation of Sauce from Fruits and Vegetables</li> <li>7. Preparation of Millet Idli</li> <li>8. Preparation of Idli</li> <li>9. Preparation of Cake</li> <li>10. Preparation of Cookies</li> <li>11. Preparation of Chocolate</li> <li>12. Preparation of Plain Bread</li> </ol>	

	13. Preparation of Milk bread	
	14. Visit to Food Industry	

**Learning Resources:**

1. Food Processing and Nutrition, Bender, A.E., Academic Press, London, 1978.
2. Food Science, Potter, N.N., CBS Publishers, ND, 2002.
3. Food Science, Srilakshmi, B., New Age International Pvt. Ltd., ND, 2001.
4. Food Processing: Principles & Applications, Ramaswamy H & Marcotte M. Taylor & Francis, Boca Raton, 2006.
5. Foods: Facts & Principles, Manay, N.S., Wiley Eastern Ltd., ND, 2008.
6. Food Processing Technology: Principles & Practices, Fellows, Woodhead Publishing Ltd., England, 2005.
7. Advances in Cereal Science: Implications to Food Processing and Health Promotion, Vieno Piironen and Joseph Awika, ACS Symposium Series, 1089.
8. Technology of Functional Cereal Products, B R Hamaker, Woodhead Publishing Series in Food Science, Technology and Nutrition. 2007.
9. Chocolate science and Technology, Emmanuel Obene, Wiley–Blackwell, 2010.
10. A professional text to bakery and confectionary, John Kingslee, New Age International Publication, 2019.