

20FT022 - Fermented and Non-Fermented Beverages

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L	T	P
45	15	-

WA/RA	SSH/HSB	CS	SA	S	BS
15	30	-	5	5	-

Course Description and Objectives:

The aim of the Master's course Fermented and Non-Fermented Beverages is to enable students to solve technological problems in the field of beverage technology in industrial practice. This course emphasizes on the utilization of seasonal fruits for beverage production so as to reduce its wastage. By the end of the semester students will be able to understand the various equipment's, process and regulatory requirements for beverage industry.

Course Outcomes:

Upon successful completion of this course student should be able to:

- understand the role of various ingredients used in beverage processing.
- formulate ingredients and propose suitable methods for manufacturing of alcoholic and non-alcoholic beverage
- assess and control the processing and quality parameters of beverages

SKILLS

- ✓ Efficient in preparation of commonly consumed beverages from seasonal fruits.
- ✓ Judge the quality of raw-materials.

ACTIVITY:

Development of blended beverage and shelf life study of the product Predict the physiochemical changes during processing.

UNIT - I

Introduction and ingredients: Scope and status of beverages in North East region and in India. Definition of beverage, study of ingredient like sweeteners, emulsifier, coloring agent, flavoring agent, stabilizer.

UNIT - II

Technology for non-alcoholic beverages: Raw materials quality and handling. Equipment and machinery for carbonated beverages, water treatment, syrup preparation, containers and closures, handling of empty containers and cleaning, carbonation, filling, inspection and quality control.

UNIT - III

Technology for non-carbonated beverages: Raw materials quality and handling. Technology, specification, equipment and machinery for instant tea and coffee, fruit juice-based beverages, milk and whey-based beverages.

UNIT - IV

Technology for alcoholic beverages: Raw materials quality and handling. Technology, equipment and machinery for Wine, Beer, Whiskey, Brandy, and Rum. Cereal Fermentation.

UNIT - V

Packaging and storage of different beverages. Sanitation in beverage industry. Waste utilization of beverage industries.

TEXT BOOKS:

1. Hardwick WA. 1995. Handbook of Brewing. Marcel Dekker.
2. Hui YH. et al 2004. Handbook of Food and Beverage Fermentation Technology. Marcel Dekker.
3. Priest FG & Stewart GG. 2006. Handbook of Brewing. 2nd Ed. CRC.
4. Richard P Vine. 1981. Commercial Wine Making – Processing and Controls. AVI Publ.

REFERENCE BOOKS:

1. Varnam AH & Sutherland JP. 1994. Beverages: Technology, Chemistry and Microbiology. Chapman & Hall.. Varnam AH & Sutherland JP. 1994. Beverages: Technology, Chemistry and Microbiology. Chapman & Hall.
2. Woodroof JG & Phillips GF. 1974. Beverages: Carbonated and Non Carbonated. AVI Publ.