

# 16FT401 BEVERAGE TECHNOLOGY

Hours Per Week :

L	T	P	C
3	-	2	4

Total Hours :

L	T	P	WA/RA	SSH/HSB	CS	SA	S	BS
45	-	30	5	40	-	-	5	5



## Course Description and Objectives:

This course deals with different types of beverages, their manufacturing and processing technologies. The objective of this course is to enable students to describe and characterize production methods of both alcoholic and non-alcoholic beverages, basic concepts of their quality parameters and use of laboratory techniques to analyze and measure important physicochemical parameters of beverages.

## Course Outcomes:

The student will be able to:

- gain knowledge about different categories of beverages.
- understand the techniques involved in the production of different beverages.
- know physicochemical properties of beverages.
- understand quality standards and specifications of beverages.

## SKILLS:

- ✓ *Use laboratory techniques to analyze and measure important physico-chemical parameters of beverages.*
- ✓ *Prepare flow chart for industrial production of beverages*
- ✓ *Select proper ingredients for preparation of beverages*
- ✓ *Perform subjective and objective quality analysis.*

**ACTIVITIES:**

- Draw flowsheet for industrial production of beverages.
- Identify flavor component in different beverages.

**UNIT - 1****L-9**

**INTRODUCTION:** Types of beverages, Their importance, Status of beverage industry in India, Manufacturing technology for juice-based beverages, Synthetic beverages.

**UNIT - 2****L-9**

**CARBONATED AND NON CARBONATED BEVERAGES:** Technology of still, Carbonated, Low-calorie, Dry beverages, Isotonic and Sports drinks, Role of various ingredients of soft drinks, Carbonation of soft drinks.

**UNIT - 3****L-9**

**SPECIALTY BEVERAGES:** Specialty beverages based on tea, Coffee, Cocoa, Spices, Plant extracts, Herbs, Nuts, Dairy and Imitation dairy-based beverages.

**UNIT - 4****L-9**

**ALCOHOLIC BEVERAGES:** Types, Manufacture, Quality evaluation, Role of yeast in beer and other alcoholic beverages, Ale type beer, Lager type beer, Technology of brewing process, Equipments used for brewing and distillation, Distilled spirits, Fermented fruit beverages: Wine, Types of wines, Equipment required, Preparation, Problems. Sparkling clear wine Champagne, Cider, Fortified wines: Sherry, Vermouths, Orange wine, Perry, Tokay, Port, Cashew wine/ Brandy (Fenni), Neera, Toddy, Arrack, Different distilled spirits, Their source and alcohol percentages.

**UNIT - 5****L-9**

**PACKAGED DRINKING WATER-** Definition, Types, Manufacturing processes, Quality evaluation, Raw and Processed water, Methods of water treatment, BIS quality standards of bottled water, Mineral water, Natural spring water, Flavored water, Carbonated water.

**LABORATORY EXPERIMENTS****LIST OF EXPERIMENTS**

Total Hours: 30

1. Chemical and microbiological analysis of raw water quality.
2. Preparation of regional fruit juices.
3. Preparation of whey-based beverages.
4. preparation of iced and flavoured tea beverage.
5. Preparation of carbonated and noncarbonated soft drinks.
6. Preparation of wine and beer.
7. Preparation of soymilk, fruit milkshakes, herbal beverages.
8. Visit to relevant processing units.

**TEXT BOOKS:**

1. W. A. Hardwick, "Handbook of Brewing", 1<sup>st</sup> edition, Marcel Dekker, 1995.
2. Y. H. Hui, "Handbook of Food and Beverage Fermentation Technology", 2<sup>nd</sup> edition, Marcel Dekker, 2004.

**REFERENCE BOOKS:**

1. F. G. Priest and G. G. Stewart, "Handbook of Brewing", 2<sup>nd</sup> edition, CRC, 2006.