

# **TECHNOLOGICAL AND ENGINEERING ASPECTS OF ICE CREAM PLANT**

## **Background**

Ice cream is a highly delicious, nutritious and wholesome milk product that appeals to all segment of people. The advances in science and technology have also paved ways to innovative methods in providing more varieties, in more appealing shapes and forms with higher energy efficacy and with more precision through automatic controls. Indian dairy industry is one of the largest in the world and Indian ice cream industry is still at a nascent stage as the per capita consumption in India is just 300 ml as compared to 22 liters in developed countries like US and Japan. Ice cream industry is growing at 12 to 15% rate with promising future and hence improving knowledge and skills of dairy professionals can greatly contribute in making superior quality novel ice creams.

## **Objectives**

- To provide in depth knowledge about manufacturing aspects of various ice creams
- To understand the the functional raw ingredients involved and commercial aspects of producing different icecream
- To provide knowledge of recent developments in ice cream industry

## **Contents**

The programme makes an effort to facilitate participants to understand the course from theoretical and practical aspects of:

Technological parameters involved in preparing ice cream mix.

Parameters for selection of raw ingredient as well as other functional ingredients for the production of various types of value added ice creams and frozen desserts.

Freezing of ice cream in batch and continuous freezers.

Various defects associated with production, transportation and storage of ice creams and frozen desserts.

## **Participants**

The programme is perfectly designed both for dairy personnels working in the dairy plants as well as for those from non-dairy background who intent to start the business of ice cream and frozen desserts. The participants are awarded with a certificate on successful completion of training programme.

## **Programme Schedule for Technological and Engineering Aspects of Ice Cream Plant**

<b>Day</b>	<b>Topic</b>
1	Registration and Inauguration
	Ice cream - nutrients composition and energy value
	Dairy Ingredients for ice cream
	Lunch Break
	Ice cream plant piping and instrumentation design and layout
	Preparation of ice cream mixes- calculations
2	Food safety and HACCP aspects in Ice cream
	Non - Dairy Ingredients for ice cream-1
	Technological aspects of preparation of ice cream
	Quality problems encountered in ice cream industry

Day	Topic
	Lunch Break
	Salient features and Engineering Aspects of Ice cream freezers
	Calculations-rebalancing of ice cream mix and overrun
3	Chocolate, fruit and nut ice creams
	Non Dairy Ingredients for ice cream-2
	Role of stabilizers, emulsifiers and functional ingredients in Ice cream and frozen desserts
	Soft serve ice cream and frozen yoghurt
	Lunch Break
	Soft serve ice cream and Frozen yoghurt (Practical)
4	Technology of Sherbets, Ices and Kulfi
	Refrigeration requirements in ice cream industries
	Lunch Break
	Design of refrigeration system
	Practical- Sherbets, Ices and Kulfi
5	Packaging of ice cream and frozen desserts
	Defects in ice cream and frozen desserts
	Lunch Break
	Recent advances in ice cream
	Study of equipments used in ice cream making, care and maintenance
6	Product Development and R&D aspects in Ice cream
	Engineering Aspects and salient features of packaging machines used in Ice cream Industry
	Lunch Break
	Sensory evaluation of ice cream
	Valediction and Feedback

**Languages Supported:** English

**Due to unforeseen circumstances, course dates may change/ get cancelled in some cases. Prior confirmation is therefore, a must before participating in any program.**

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