

# **LABORATORY PRACTICES IN DAIRY AND FOOD PLANT**

## **Background**

Practicing laboratory personnel in the dairy plant needs an understanding of basic theoretical concept and practical aspects of laboratory techniques commonly used in a dairy plant. This will upgrade the knowledge and skills of the laboratory personnel and hence the human resource efficiency of organization will improve.

In the view of this, programme is aimed to provide a broad understanding of chemical and microbiological analysis of milk and milk products along with the practical know how to the laboratory personnel. The pedagogy would emphasis participative learning through lectures and insights into practical knowledge through hands-on-experience.

## **Objectives**

To provide knowledge of Laboratory techniques used in a dairy plant.

To help the participants in developing skills for their effective functioning in a dairy plant.

To help the participants in appreciating quality related issues in the organization.

To help the participants in improving their performance.

## **Contents**

The Programme makes an effort to facilitate participants to understand the concept of chemical, microbiological and packaging materials analysis from the theoretical and practical point of view. This includes:

Chemical analysis of milk and milk products

Microbiological analysis of milk and milk products

Analysis of packaging materials for dairy products

Analysis of water and dairy effluents.

## **Participants**

The programme is specifically designed for laboratory personnels working in the dairy plants. The participants are awarded with a certificate on successful completion of the training programme.

<b>Programme Schedule for Laboratory Practices in Dairy and Food Plant</b>	
<b>Day</b>	<b>Topic</b>
1	Quality Assurance in Dairy Industry
	TQM in Dairy Industry
	Lunch Break
	Essentials of QA Laboratory
	Sensory Evaluation of Milk and Milk Products
2	Chemical Analysis of Milk (Theory) Clot on boiling test, Titratable acidity, Alkaline phosphatase test, Fat, SNF, Protein and Casein estimation, pH, Creaming index, Turbidity Test.
	Testing of Packaging Materials for Milk and Milk Products (Theory)
	Lunch Break
	Chemical Analysis of Milk (Practical)
	Testing of Packaging Materials for Milk and Milk Products (Practical): Bursting strength, tensile strength, GSM, Film gauge, Piercing.
3	Chemical Analysis of Milk Products- I (Theory): Dahi, Shrikand, Cream, Butter, Ghee & Ice Cream
	Chemical Analysis of Milk Products- II (Theory): Cheese, Paneer, Khoa, Condensed Milk, Milk Powder
	Lunch Break

<b>Programme Schedule for Laboratory Practices in Dairy and Food Plant</b>	
	Chemical Analysis of Milk Products - I (Practical)
	Chemical Analysis of Milk Products - II (Practical)
4	Microbiological Analysis of Milk (Theory): Sampling, preparation of media, micro flora in milk, dye reduction test, standard plate count, coliform count
	Microbiological Analysis of Milk Products (Theory): Sampling, preparation and selection of dilutions, microbiological standards, sterility - rinse, swab count, standard plate count, coliform count, yeast and mold count
	Lunch Break
	Microbiological Analysis of Milk (Practical): Raw and Pasteurized Milk - MBRT, SPC, Coliform, Sterilized Milk / UHT Milk - Spore Count
	Microbiological Analysis of Milk Products (Practical): Analysis of butter, ice cream, Paneer, SMP - Standard plate count, coliform count, yeast and mold count
5	Microbiological Analysis of Water and Dairy Effluents (Theory): Micro flora and water, Methods of analysis, BOD in Dairy Effluents and its estimation
	Microbiological Analysis of Water and Dairy Effluents (Practical): Water-MPN Coliform-SPC, Effluent - BOD
	Lunch Break
	Calibration of Glass ware / Instrument and Chemical Analysis of Water and Dairy effluents (Theory)
	Calibration of Glassware / Instrument and Chemical Analysis of Water and Dairy effluents (Practical)
6	Role of QA in Quality Systems and HACCP
	Quality problems encountered in Dairy Industry
	Lunch Break
	Feedback and Valediction

**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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