

MFT302 Dairy Technology

Teaching Scheme Lectures: 3hrs./week Tutorials: 1 hr./week Credits: 4	Examination Scheme Internal Assessment Marks [IAM]: 30 [Class Test: 12, Teachers assessment: 6, Attendance: 12] End Semester Marks [ESM]: 70
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Course Objective:

1. To impart knowledge about processing of milk and its products and legislation for the quality control of milk and milk products.

Detailed Syllabus

Module 1
<p>Introduction: Physicochemical properties of milk, Platform tests, Chemical composition and nutritive value of milk, Factors affecting composition of milk. Importance of milk industry in India: Collection, chilling, transportation, cream separation, standardization, pasteurization, sterilization, homogenization, packaging, storage and distribution of fluid milk, Ultra high temperature processed milk.</p> <p>Preparation of various types of milks: Toned, homogenized, fortified, reconstituted and flavored milk. Technology of fermented milk products: Principles and practices of manufacture, packaging, storage and marketing of Dahi, cultured butter milk, acidophilus Milk etc.</p>
Module 2
<p>Cheese: Manufacture of hard, semi-hard, soft and processed cheeses. Storage, grading and marketing of cheese, cheese defects and their control. Butter: Manufacture, packaging, storage and marketing of butter; butter defects and their control, margarine.</p>
Module 3
<p>Technology of frozen milk products: Classification, manufacture, packaging, storage and marketing of ice cream, ices, sherbet etc. defects of frozen products and their control. Technology of evaporated and dried milk: Manufacture of evaporated milks and milk powders. Packaging, storage, defects and their control. Technology of condensed milk: Manufacture of condensed milks, Packaging, storage, defects and their control.</p>
Module 4

Technology of dairy by products: Utilization of skim milk, buttermilk and whey for the manufacture of casein, lactose etc. Technology of indigenous milk products: Principles and practices of manufacture, packaging, storage and marketing of ghee, Khoa, Chenna, shrikhand, paneer, rasogulla, gulab jamun and Milk based foods Preparation of soft curd milk, vitaminized milk, standardized milk, filled milk and imitation milk.

Module 5

Sanitary aspects of dairy plant building, equipment and their maintenance. Disposal of dairy plant waste. Application of membrane technology in dairy industry.

Suggested Reading

1. Dey, Sukumar. 1994. Outlines of Dairy Technology. Oxford Univ. Press, New Delhi.
2. Considine, D.M. Ed. 1982. Foods and Food Production Encyclopaedia, VNR, New York.
3. Robinson, R. K. (2 vol. set). 1986. Modern Dairy Technology Elsevier Applied Science, UK.
4. Rosenthal, I. 1991. Milk and Milk Products. VCH, New York.
5. Warner, J.M. 1976. Principles of Dairy Processing. Wiley Eastern Ltd. New Delhi.

COURSE OUTCOMES

After completing the course, students will be able to:

1. Composition and types of milk and milk products.
2. Processing of cheese
3. Technology of various frozen milk products.
4. Technology of dairy by products utilization
5. To understand membrane technology and sanitary aspects of dairy plant building, equipment with disposal of dairy plant wastes

