



CVM UNIVERSITY

Aegis: Charutar Vidya Mandal (Estd.1945)

FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Dairy Technology)

Semester: IV

Course Code: 202200403

Course Title: Indian Dairy Products

Course Group: Professional Core Course

Course Objectives: To provide students in depth knowledge on status and significance of traditional Indian milk products and know the methods of preparation and enhancement of shelf life of the prepared products by preservation methods

Teaching & Examination Scheme:

Contact hours per week			Course Credits	Examination Marks (Maximum / Passing)				
Lecture	Tutorial	Practical		Theory		J/V/P*		Total
				Internal	External	Internal	External	
3	0	2	4	50 / 18	50 / 17	25 / 9	25 / 9	150 / 53

* J: Jury; V: Viva; P: Practical

Sr. no.	Content	Hours
1	Introduction Indian Dairy Products Definition of Traditional Indian Dairy Products, Status, Scope & Challenges of Traditional Milk Products, Pattern of milk utilization in India, Swot Analysis of Traditional Dairy Product Sector, Classification of Traditional Dairy Products, Concentrated / partially desiccated products, Heat and acid coagulated products, Fermented products, Fat rich products, Frozen products, Cereal based puddings, Indian milk confections, Refreshing beverages, Miscellaneous products	08
2	Concentrated Whole Milk Products Classification of types, standards methods of manufacture and preservation factors affecting yield of khoa. Physico-chemical changes during manufacture and storage of khoa. Mechanization in manufacture of khoa, Thin film scraped surface heat exchanger (TSSHE), Inclined scraped surface heat exchanger (ISSHE), Chemical Quality of Khoa, Yield of Khoa, Factors Affecting Quality of Khoa, Physico-Chemical Changes in milk during Khoa making, Improving Shelf Life of Khoa: Packaging, Thermal treatment, U.V. irradiation, Chemical preservation, Chemical and Microbial Changes in Khoa During Storage. Burfi, Peda and Milk cake: Product description, compositional profile and manufacturing; Kalakhand and Gulabjaman: Product description, compositional	12



	profile and manufacturing; Rabri and Basundi: Product description, process description, factors affecting yield, physico-chemical changes during manufacture	
3	Coagulated Milk Product Chhana: Product description of Chhanna, standards method of manufacture, packaging, preservation and associated defects, Preparation of chhana from buffalo milk. Chhana-based sweets: Rasogolla – Product description, preparation, quality, packaging and shelf life, Sandesh – Varieties, method of preparation, quality, packaging and shelf life, Preparation of Rasomalai, Rajbhog, Pantooa, Chhana Podo, Mechanization of manufacturing process, advances in preservation and packaging of sweets. Paneer: Product description, standards, methods of manufacture, Recent developments in paneer manufacture, yield, composition, factors affecting quality, packaging and shelf life	12
4	Fermented Dairy Products Dahi – Methods of preparation, quality, packaging, shelf life and defects, Misti dahi – method of preparation, quality, packaging and shelf life, defects, Chakka – Product description, method of preparation, Shrikhand – Methods of production, packaging and shelf life, Lassi and Chhachh/Mattha (Country Buttermilk) – Methods of manufacture, packaging and shelf life, defects	09
5	Miscellaneous Indian Dairy Products Raita, Kadhi, Dahiwada and, Convenience formulations for traditional dairy products, Microbiological quality and safety aspects of traditional dairy products	04
	Total	45

List of Practicals / Tutorials:

1	Preparation of Khoa
2	Preparation of Peda/Barfi
3	Preparation of Kalakand/Gulabjamun
4	Preparation of Basundi/Rabri
5	Preparation of Chhana
6	Preparation of Sandesh/Rasogolla
7	Preparation of Paneer
8	Preparation of Shrikhand
9	Preparation of Mishti Doi
10	Chemical analysis of khoa, chhana and paneer

Reference Books:

1	A textbook of Traditional Dairy Products, Dr. Pandurang Gangasagare, Oxford Book Company
2	Fermented Milk and Dairy Products, Anil Kumar Puniya, CRC Press



3	Technology of Indian Milk Products, R. P. Aneja, A Dairy India Publication
4	Outlines of Dairy Technology, De, S , Oxford University Press, New Delhi.
5	Milk Products of India, Anantakrishnan, C.P. and Srinivasan, M.R., ICAR Publications. New Delhi.
6	Indian Dairy Products, Rangappa, K.S. and Achayya, K.T. ,Asia Publishing House, New Delhi.

Supplementary learning Material:

1	http://ecoursesonline.iasri.res.in/course/view.php?id=123
2	https://ebooks.inflibnet.ac.in/ftp04/chapter/traditional-indian-dairy-products-chhana-based-sweetmeats/

Pedagogy:

- Direct Classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Interactive methods
- Seminar/Poster presentation

Internal Evaluation:

Teacher may consider some components for the continuous evaluation where individual component weightage should not exceed 20%.

Suggested Specification table with Marks (Theory) (Revised Bloom's Taxonomy):

Distribution of Theory Marks						R: Remembering; U: Understanding; A: Application, N: Analyze; E: Evaluate; C: Create
R	U	A	N	E	C	
15%	25%	20%	20%	15%	5%	

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcomes (CO):

Sr. No.	Course Outcome Statements	%weightage
CO-1	Able to prepare a great assortment of dairy products such as Khoya, Burfi, Peda, Gulabjamun, Sandesh, Rasogolla, Kheer, Rabri etc.	25
CO-2	Understand the standard methods of manufacture of different dairy-based products	20
CO-3	Know the advances in preservation and packaging of products.	20
CO-4	Able to prepare a Chhana and Chhana Based Sweets	20
CO-5	Able to prepare a fermented dairy product	15



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Curriculum Revision:	
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