

LECTURE SCHEDULE

Department: Dairy Chemistry

Course No. - DTC-221

Course Title: Chemistry of Dairy Products Credit Hrs-3 (2+1)

Course Teacher: Dr. Binita Rani

Theory

S. No.	Topics to be covered	No. of Classes
1	Chemical composition and legal standards of milk products.	01
2	Chemistry of creaming and factors affecting the same.	01
3	Ripening and neutralization of cream.	02
4	Theories of churning and factors affecting the same.	02
5	Butter colour.	01
6	Ghee: Physico-chemical changes during manufacture.	02
7	Hydrolytic and oxidative deterioration, their causes, prevention and role of antioxidants.	02
8	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Khoa.	01
9	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Paneer.	01
10	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Dahi.	01
11	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Channa.	01
12	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Lassi.	01
13	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Chakka.	01
14	Physico-chemical changes in milk constituents during manufacture and storage of traditional dairy product: Shrikhand.	01
15	Chemistry of cheese: milk clotting enzymes.	02
16	Enzymatic coagulation of milk, biochemical changes during ripening.	02
17	Physico-chemical changes during preparation and storage of concentrated milk products.	02
18	Physico-chemical changes during preparation and storage of dried milk products.	02
19	Physico-chemical changes during processing and storage of ice cream and frozen desserts.	02
20	Role and mechanism of stabilizers and emulsifiers in ice cream.	02
	Total	30

Practical (DTC-221)

S. No.	Practical to be covered	No. of Classes
1	Cream: Estimation of fat and acidity.	01
2	Butter: Estimation of fat & moisture content.	01
3	Butter: Estimation of curd and salt content.	01
4	Determination of lactose in sweetened condensed milk.	01
5	Determination of sucrose in sweetened condensed milk.	01
6	Milk powder: Estimation of moisture & fat.	01
7	Milk powder: Estimation of ash & solubility.	01
8	Milk powder: Estimation of acidity.	01
9	Milk powder: Estimation of bulk density.	01
10	Ice cream: Estimation of fat and total solids.	01
11	Estimation of moisture, fat and salt content in cheese.	01
12	Khoa/paneer: Estimation of moisture and fat.	01
13	Estimation of protein content in milk products and protein rich dairy products using Kjeldahl method.	02
	Total	14

Suggested Reading:

1. Text book of dairy chemistry by Mathur MP, Datta R.D. & Dinakar, P 2005, ICAR Publ., New Delhi
 2. Outlines of dairy chemistry by Sukumar De, 2017 OXFORD University press New Delhi.
 3. Fundamentals of dairy chemistry by Webb, B.H, Johnson, A. H. & Alford, J.A. 1965. AVI Publ. Co., New York.
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