

LECTURE SCHEDULE

Department: Dairy Technology

Course No. - DTT-212

Course Title: Cheese Technology

Credit Hrs- 5 (3+2)

Course Teacher: Dr. Sanjeev Kumar

Theory

S. No	Topics to be covered	No. of classes
1	Origin and history of development of cheese manufacture	02
2	Status and scope of cheese in India and abroad.	02
3	Definitions, Standards (FSSAI & Codex alimentary).	02
4	Classification of cheese and scientific basis of Cheese making.	02
5	Quality of milk for cheese making.	01
6	Pre-treatments of milk.	01
7	Clarification, Standardization in cheese making.	02
8	Pasteurization, in cheese making.	01
9	Bactofugation used in cheese industry.	01
10	Various additives used in manufacture of cheese.	02
11	Preservatives used in cheese making.	02
12	Rennet preparation and properties.	01
13	Rennet substitutes, advantages & demerits.	02
14	Factors affecting rennin action	01
15	Technology for manufacture of Cheddar cheese	02
16	Curing and Ripening changes in Cheddar cheese and precautions during curing .	01
17	Common defects, Causes, & prevention of Cheddar cheese.	01
18	Technology for manufacture of Gouda cheese.	01
19	Common defects, Causes, & prevention of Gouda cheese.	01
20	Technology for manufacture of Swiss cheese.	02
21	Common defects, Causes, & prevention of Swiss cheese.	01
22	Technology for manufacture of Mozzarella cheese (Acid method ,St. culture method, Chemistry of stretching).	02
23	Common defects, Causes, & prevention of Mozzarella cheese.	01

24	Technology for manufacture of Cottage cheese.	02
25	Common defects, Causes, & prevention of Cottage cheese. Recent development.	01
26	Technology for manufacture of Enzyme modified cheese (EMC).	02
27	Flavourings of cheese.	01
28	Technology for manufacture of processed cheese, and FSSAI Standard.etc	01
29	Mechanization and automation in cheese processing.	02
	Technology for manufacture of cheese spread, FSSAI standard.	01
31	Manufacture of processed cheese foods. FSSAI standard.	01
	Total	45

Practical (DTT- 212)

S. No	Practical to be covered	No. of classes
1	Familiarization of equipments, accessories used in cheese making.	02
2	Determination of Casein Content by Formal Titration.	02
3	Numerical standardization for manufacture of Cheddar Cheese.	02
4	Standardization numerical for manufacture of ,Gouda Cheese.	01
5	Standardization numerical for manufacture of Mozzarella Cheese.	02
6	Visit of Patna Dairy project Plant for Paneer making Section/ Rohtas Cheese Plant.	02
7	Preparation of Starter Culture for Cheese making.	02
8	Assessing the quality of starter culture for cheese making.	02
9	Sensory analysis of Mozzarella cheese Determination of proteolysis in	02
10	Manufacture of Mozzarella cheese.	02
11	Analysis of Mozzarella cheese (fat, moisture acidity).	02
12	Determination of FFA in cheese and QC, Patna Dairy project Plant.	02
13	Sensory analysis of Processed cheese Analysis of Processed cheese (fat, moisture, acidity).	02
14	Analysis of Processed cheese (fat, moisture, acidity).	02
15	Standardization numerical for manufacture of Processed cheese spread.	01
16	Standardization numerical for manufacture of processed cheese food.	01
	Total	29

Suggested Readings:

1. Microbiology and biochemistry of cheese and fermented milk. Law, B A, Ed. London: Blackie Academic and Professional
2. Cheese and fermented milk foods, Kosikowski, Frank, New York: F.V. Kosikowski and Associates.
3. Cheese: Basic technology Davis, J. G. London: J and A Churchill.
4. Cheese and fermented milk foods Kosikowski, F New York: F V Kosikowski and Associates.
5. Cheese making science and technology Eck, Andre New York: Lavoisier Publishing Company.
6. Cheese chemistry physics & microbiology Fox, P.F Maryland: Aspen Publishers Inc.
7. Cheese rheology and texture Gunasekaran, S Boca Raton: CRC Press.
8. Cheese: Chemistry, Physics and Microbiology Fox, P F, Ed. Etc Amsterdam: Elsevier.
9. Fundamentals of Cheese Science Patrick, F.fox etc New York. – Springer
10. Basics of mozzarella cheese making Upadhyay, K G Anand: Gujarat Agricultural University.
11. Essentials of cheese making Uppadhyay, K G Anand: Gujarat Agricultural University.