

DIPLOMA IN DAIRY MANAGEMENT **(SECOND SEMESTER)**

Week No.	Reference Learning outcome	Professional Skills (Trade Practical) With Indicative Hours	Professional Knowledge (Trade Theory)
1-2	Recognize Different breeds of Cows & buffaloes	1. Visit to different dairy Farms. (30 HRS) 2. Recognize different breeds of cows and buffaloes. External anatomy of cow and buffalo (30 HRS)	Present status and future prospects of dairy industry. Role of dairy animals in India farming. Important India and exotic dairy breeds of cattle and buffaloes, their origin, distribution and characteristics.
3-6	Carryout various tests by collecting milk sample.	3. Chemical quality of milk. Reception weightment and sampling of milk. (30 HRS) 4. Platform tests for milk. Sampling of milk and milk products for microbiological and chemical analysis (30 HRS) 5. Preservation of milk sample for Chemical (30 HRS) 6. Analysis, Sensory evaluation of milk (25 HRS)	Pricing of milk, composition of milk, Factors affecting Composition of milk, nutritive value of milk. Sensory and physio-Chemical properties of milk. Types of micro – organisms present in milk and their relation with public health. Grading and testing of milk for quality.
7-10	Deterimine the specific gravity of milk samples and carry out test using various testing techniques.	7. Study of an immersion coller, plate chiller, surfaces cooler and farm milk cooler. (30 HRS) 8. Study of filters & clarifiers of milk and various parts of separator. (30 HRS) 9. Different SNF test for milk. Determination of specific gravity of milk by lactometer. (15 HRS) 10. Determination of titratable acidity of milk. (15 HRS)	Functioning of BMC milk reception, different methods of chilling and storage, handling of milk at BMC, modes of transportation of chilled milk straining, filtraton and clarification of milk. Principle of cream separation. Sampling procedures and testing the quality of milk at reception dock, chilling center, maintenance of milk receipt register
11	Count different types of microorganisms and milk	11. Identification and counting of different types of	Milk borne disease. Pathozenes and causative

	samples.	microorganisms. Presumptive test. (30 HRS)	organism. Water borne disease, air borne disease zoonotic diseases.
12-16	Prepare sterilized toned and doubled toned mlk followed by packing. Prepare of butter ghee and other dairy products.	12. Packaging of milk in bottles, cans and sachets (10 HRS) 13. Preparation of toned and Double Toned milk. (10 HRS) 14. Prepration of flavored milk and chocolate milk. (10 HRS) 15. Preparation of sterilized milk by Batch Methods (15 HRS) 16. Preparation of butter (10 HRS)	Method of preparation of flavored, chocolate and sterilized milk ghee butter etc. and various milk products problems of storage, transportaion and marketing of dairy products.
17	Groom & wash the animals along with cleaning & sanitation of sheds.	17. Grooming and washing of animals cleaning & sanitation of sheds (30 HRS)	Animal's response to environment changes protection against heat & cold. Farm washes, availability collection and utilization. Disposal of dead animals.
18-24	Prepare, feed and fodder for dairy	18. Identification of various feeds, fooders, feed supplements and additives in different seasons. (30 HRS) 19. Identification of animals feed adulterants by physical methods. Grinding and mixing of feed ingredients (30 HRS) 20. Calculation of feed and fodder requirements for various categories of dairy animals viz. Growing, heifers, bull calves , bulls pregnant cows lactating cows etc. (30 HRS) 21. Visits to feed laboratory and cattle feed manufacturing units. Feeding and watering of calves, heifers, pregnant & lacyating cows and bulls. (30 HRS) 22. Visit to markets for assessing availability and	Importance of feeding of dairy animal. Classification of feeds. A. Roughages – leguminous and - non – leguminous - succulent and dry B. Concentrates – energy and protein feed C. Feed supplements- minerals and vitamins. Classification of nutrients and their role in animal body, water, carbohydrates, proteins, lipids minerals and vitamins. Feeding of various categories of dairy animals, pregnant and newly calved cows new born calf, growing calves, helpers bull, calves lactating coes, dry cows and bulbs. Methods of purchasing

		<p>knowing prices of feed ingredients (30 HRS)</p> <p>23. Cleaning and fumigation of feed stores. Storing of prepared feed (30 HRS)</p> <p>24. Mixing of feed ingredients packaging of mineral and concentrate mixture storing of prepared feed. (30 HRS)</p>	<p>procurement of feed ingredients and their physical evaluation. Compounding of feeds objectives, advantages, methods and machinery for compounding. Major nutritional disorders and their preventive – milk fever , grass tatan, rickets, bloat etc.</p> <p>Packaging and forwarding of feeds – materials for packaging methods of packaging and transportation.</p> <p>Storage of concentrates – storage types, space requirement, cleaning and fumigation of stores precautions in use of pesticides.</p>
25	Handle the new born calf and its sanitation etc.	25. Care of new born calf/ handling of new born calf, its sanitation cutting and sealing of naval cord (30 HRS)	Economic characters of dairy animals. Control of dairy animals. Improvement through breeding.
26	Plan the floor arrangement for different animal houses.	26. Drawing sketch of floor plan for different animal houses. (30 HRS)	Principles and design of animal housing. Location and layout of animal sheds. Sanitation in dairy farm
27-28	Maintain of records, balance sheet and other related documents used in dairy industry.	27. Handling of audio – Visual Aids. (25 HRS) 28Case study of a milk co-operative Society and dairy entrepreneur. (35 HRS)	Dairy Economics in large and small size dairy farm. Accounts keeping, Maintenance of registers & Records, preparation of Balance Sheets etc. Marketing of milk and milk products.
29	Common animal diseases and their management.	29. Black quarter (BQ) FMD rabies blue tongue titans milk fever mastitis bovine ephemeral fever (30 HRS)	Black quarter (BQ) FMD rabies blue tongue titans milk fever mastitis bovine ephemeral fever (symptoms diagnosis treatment, prevention and control)