



CVVM
UNIVERSITY

Aegis: Charutar Vidya Mandal (Estd.1945)

FACULTY OF ENGINEERING & TECHNOLOGY

Effective from Academic Batch: 2022-23

Programme: Bachelor of Technology (Dairy Technology)

Semester: V

Course Code: 202200502

Course Title: Milk Procurement Management and Human Nutrition

Course Group: Professional Core Course

Course Objectives: To acquaint the students about dairy farm management practices, cattle breeds, milking and significance of milk as nutrition for humans

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

Detailed Syllabus:

Sr.	Contents	Hours
1	Introduction to Animal Husbandry: Distinguishing characteristics of India and exotic breeds of dairy animals and their performance. Systems of breeding and methods of selection of dairy animals. General dairy farm practices - Identification, dehorning, castration, exercising, grooming, weighing. Care of animals at calving and management of neonates. Management of lactating and dry cows and buffaloes.	5
2	Milking methods: Methods of milking, milking procedure and practices for quality milk production. Dairy farm records and their maintenance. Systems of housing dairy animals and maintenance of hygiene and sanitation at dairy farm premises. Common disease problems in dairy animals, their prevention and control.	7
3	Cattle Feed: Feed nutrients required by animal body. Feed resources for milk production and their nutritive values. Digestive system of ruminants and measures of feed energy. Nutrients requirements for growth and milk production. Feeding standards,	6
4	Cattle reproductive health: Structure and function of mammary system. Milk secretion and milk let-down. Male and female reproductive system. Estrus and reproductive cycle, Ovulation, fertilization, gestation, parturition, pregnancy diagnosis. Artificial insemination and embryo transfer and their role in animal improvement introduction to	8



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	biotechniques in dairy animal production.	
5	Nutrition and balanced diet: Fundamentals of human nutrition, concept of balanced diet, nutrient requirements of different age groups.	5
6	Nutritional Value of milk: Methods of evaluation of nutritive value of food and nutritional value of cow, buffalo and human milk, biochemical composition and energy value of foods with special reference to milk and dairy products.	5
7	Nutrition and safety aspects of milk and milk products: Nutrition, digestion and absorption, Vitamins (structure and function), Hormones (structure and function), Milk intolerance and hypersensitivity, Safety aspects of food additives, toxic elements, antibiotics, radionuclides in milk and milk products.	5
8	Functional foods: Nutraceutical, antioxidants, food toxins, anti-nutritional factors, probiotics and cultured dairy products. Biochemical aspect of post-harvest storage specifically food spoilage.	4
	Total	45

List of Practicals/Tutorials:

1	Farm visit to observe Handling and restraining of dairy animals. External body parts and judging of cows and buffaloes. Feeding and management practices of calves.
2	Preparation of silage and identification of common feeds and fodders
3	Evaluation of efficacy of different methods for cleaning and sanitation of milking equipments.
4	Demonstration of semen collection, processing and artificial insemination.
5	Estimation of Protein (Biuret method /Lowry method).
6	Estimation of calorific value of food items.
7	Identification of Proteins (albumin, gelatin, peptone).
8	Identification of Mono, Di and Polysaccharides.
9	Planning and preparation of high protein, low fat and specialized diets.
10	Detection of antibiotic/toxin in food products.

Reference Books:

1	Principles & Practices of Dairy Farm Management, Jagdish Prasad, Kalyani Publishers; 8th edition (1 January 2016), ISBN-10 : 9327264304
2	Handbook of Animal Husbandry- Indian Council of Agricultural Research, New Delhi
3	Banerjee, G.C. 1998. A Textbook of Animal husbandry. Oxford and IBH Publ. Co. Ltd., New Delhi.

Supplementary learning Material:

1	https://www.dairyfarmguide.com/
2	https://a.storyblok.com/f/191310/5464089c69/dairy_farm_management_training_manual_and_guideline.pdf
3	Handling and restraining of dairy animals https://youtu.be/k5CQ83YHwbM
4	http://ecoursesonline.iasri.res.in/course/view.php?id=103



5 <https://www.coursera.org/learn/dairy-production>

Pedagogy: Following one or more points can be incorporated as relevant pedagogy methods.

- Direct classroom teaching
- Audio Visual presentations/demonstrations
- Assignments/Quiz
- Continuous assessment
- Interactive methods
- Seminar/Poster Presentation
- Industrial/ Field visits
- Course Projects

Internal Evaluation:

The internal evaluation comprised of written exam (40% weightage) along with combination of various components such as Certification courses, Assignments, Mini Project, Simulation, Model making, Case study, Group activity, Seminar, Poster Presentation, Unit test, Quiz, Class Participation, Attendance, Achievements etc. where individual component weightage should not exceed 20%.

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

Distribution of Theory Marks in %						R: Remembering; U: Understanding; A: Applying; N: Analyzing; E: Evaluating; C: Creating
R	U	A	N	E	C	
10%	50%	20%	10%	10%	0%	

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.	Course Outcome Statements	%weightage
CO-1	Dairy farm management practices	20
CO-2	Cattle reproduction, breeding, calving, nutrition, feeding	30
CO-3	Concept of balanced diet, calorific value, functional foods	20
CO-4	Significance of milk for human nutrition	30

Curriculum Revision:

Version:	1.0
Drafted on (Month-Year):	October-2022
Last Reviewed on (Month-Year):	-
Next Review on (Month-Year):	-