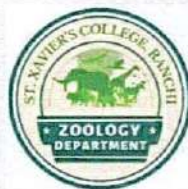
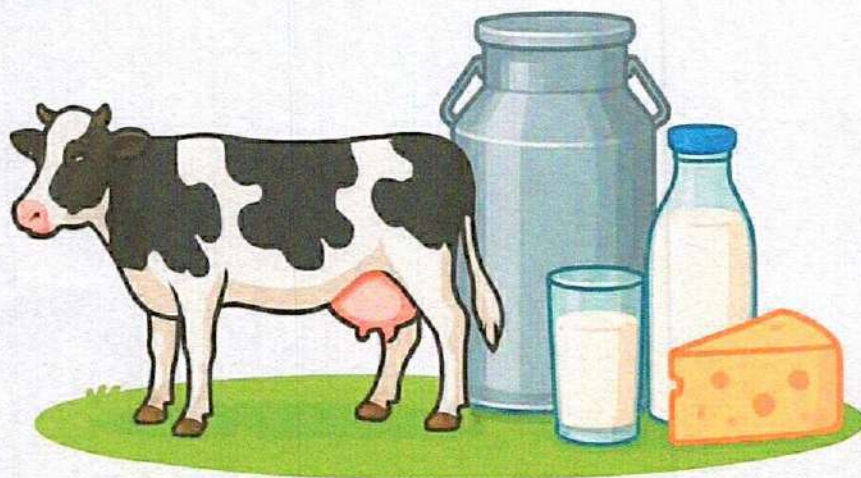




**DEPARTMENT
OF ZOOLOGY**



**ADD-ON CERTIFICATE
COURSE IN
DAIRY
TECHNOLOGY**



**ST. XAVIER'S
COLLEGE
RANCHI**

St. Xavier's College, Ranchi

Department of Zoology

Add-on Certificate Course in Dairy Technology (30 Hours)

Special Focus: Dairy Sector in Jharkhand

Duration: 30 Hours

Mode: Classroom + Practical

Target Group: Students of science stream

Course Objectives:

1. To introduce the basic principles of dairy technology and milk processing.
2. To provide awareness of the dairy industry in Jharkhand, including key challenges and opportunities.
3. To demonstrate essential skills in milk testing, hygiene, and small-scale processing.
4. To promote value addition and entrepreneurship in the rural dairy sector.

Course Structure & Modules:

Module No.	Module Title	Duration	Mode
1	Introduction with special reference to Jharkhand	2 hrs	Classroom
2	Basics of Milk Composition, Quality & Adulteration	3 hrs	Classroom
3	Clean Milk Production and Handling Practices	2 hrs	Classroom
4	Introduction to Processing of Milk and Local Dairy Products	4 hrs	Classroom / Demonstration
5	Value Addition, Packaging, and Marketing in Rural Dairy	2 hrs	Classroom
6	Government Support & Entrepreneurship in Jharkhand's Dairy Sector	2 hrs	Classroom
7	Practical	15 hrs	Laboratory

Module Highlights:

✓ Module 1: Dairy Sector in Jharkhand

- Status of milk production and consumption in Jharkhand
- Indigenous cattle and dairy cooperatives (e.g., Medha Dairy)
- Scope for rural dairy entrepreneurship

✓ Module 2: Milk Quality & Adulteration Tests

- Milk composition: Fat, SNF, water
- Use of lactometer, alcohol test, organoleptic testing
- Simple adulteration detection techniques

✓ Module 3: Clean Milk Production

- Importance of hygiene in milking and transport
- Personal and equipment hygiene
- Simple cooling and preservation techniques

✓ Module 4: Processing of Milk

- Small-scale production of curd, paneer, ghee, khoa
- Low-cost processing equipment overview
- Traditional vs modern techniques

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✓ Module 5: Value Addition & Marketing

- Flavored milk, lassi, butter, and sweets
- Packaging methods for shelf life and hygiene
- Branding and local market linkages

✓ Module 6: Government Support & Entrepreneurship

- Schemes: DEDS, Rashtriya Gokul Mission, NABARD
- Role of cooperatives and SHGs
- How to start a small-scale dairy unit in Jharkhand

✓ Module 7: Practical

- Pasteuriser, homogenizer, freezer, cream separators, milk sampling equipment – their principles and designs. [2]
- Determination of specific gravity, fat, SNF, TS, Acidity and pH in milk and their significance in interpretation. [2]
- MBR test. [2]
- Phosphatase activity in Milk. [2]
- Common adulterants in milk and their detection techniques [2]
- FIELD VISIT – VISIT TO DAIRY FARM/INTERNSHIP, SUBMISSION OF REPORT [5]

Learning Outcomes:

After completing the course, participants will be able to:

1. Understand basic milk handling and quality testing techniques.
2. Follow hygienic practices in dairy production.
3. Identify local opportunities for processing and selling dairy products.
4. Use simple equipment to produce common dairy items.
5. Access relevant government schemes for starting dairy enterprises.

Assessment & Certification:

- Participation & attendance (min 80%)
- Practical demonstration (40%)
- Final quiz or oral test (60%)

Certificate will be awarded by the St. Xavier's College, Ranchi

Course Director

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Course Co-ordinator

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