

**SRI VENKATESWARA UNIVERSITY – TIRUPATI**  
**DAIRY SCIENCE (MINOR)**  
**FIRST YEAR – II SEMESTER**  
**(W.E.F. Academic Year 2023 - 24)**

**Course 3: Breeds and breeding of dairy cattle and buffaloes**

Credits -3

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**Unit-1:** Livestock census; Breeds of Dairy cattle, Buffaloes and Goats. Indigenous, Exotic and Crossbred Cattle breeds – classification of Indian breeds of cattle based on utility Classification of Indian breeds of buffaloes – conservation of indigenous local breeds of cattle.(15 Lectures)

**Unit-2:** Anatomy of Udder; Development of udder; Lacto genesis and Galactopoises; Letdown of milk – composition of milk and colostrum – Difference between milk of cows, buffaloes and goats. (10 Lectures)

**Unit-3:** Artificial insemination- advantages and disadvantages. Differences between natural service and artificial insemination. Oestrous cycle; Symptoms of heat in cows and buffaloes. Conception, Pregnancy diagnosis in cattle. Multi-ovulation and embryo transfer technique. Cloning - (15 Lectures)

**Unit-4:** Economic traits of Dairy cattle - factors influencing yield and composition of milk. Methods of selection of dairy animals – progeny testing program. (15 Lectures)

**Unit-5:** Systems of Dairy cattle breeding. Inbreeding, Out breeding, Cross breeding, Grading up. Breeding systems suitable to enhance milk production in India (Cross breeding of cattle and Grading up of buffaloes). (5 Lectures)

**II Semester**

**Course 3: Breeds and breeding of dairy cattle and buffaloes**

Credits -1

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1. Points dairy cow.
2. Identification of different breeds of dairy cattle and buffaloes.
3. Male and female reproductive systems.
4. Symptoms of heat in cow and buffalo.
5. Artificial insemination.
6. Pregnancy diagnosis in cattle.
7. To study the comparative merits of cows and buffaloes; zebu and crossbred cows
8. Differences between swamp and river water buffaloes.
9. Importance of dairy wedges in dairy animal selection.

**Reference Books**

1. Text book of Animal Husbandry - G C Benarjee
2. Hand book of Animal Husbandry - ICAR Edition
3. Principles and practices of Dairy Farm –Jagdish Prasad