

**II Year I Semester**  
**DAIRY CATTLE NUTRITION**

**THEORY**

**(60 Lectures)**

**(4 Credits)**

**Unit 1:** Classification of Feeds and Fodders. Importance of proteins, fats and carbohydrates in livestock feeding. (15 Lectures)

**Unit 2:** Conservation of Fodder – Hay and Silage. (10 Lectures)

**Unit 3:** Feeding standards; Balanced rations for Dairy cattle; Feeding practices of Dairy cattle i) Soiling (ii) Ensiling, (iii) Pasturing, (iv) Hay feeding, (v) General feeding practices with regard to management. (20 Lectures)

**Unit 4:** Types of Fodder varieties-legumes and non-legumes, seasonal and perennial fodder crops. Cultivation practices of fodder crops-Para grass, Hybrid Napier, Berseem, Cow pea, Jowar. (10 Lectures)

**Unit 5:** Utilization of agricultural and industrial by- products for livestock feeding. Enrichment of poor quality roughages – Urea treatment of paddy straw.(5 Lectures)

**Practical:**

**(2 Credits)**

1. Identification of feeds and fodders.
2. Computation of rations.
3. Hay making.
4. Silage making.
5. Estimation of dry matter of feed or fodder

**Reference books**

1. Animal Nutrition in the Tropics - S K Ranjhan
2. Text book of Animal Husbandry - G C Benarjee
3. Principles and practices of Dairy Farm – Jagdish Prasad
4. Animal Nutrition and feeding practices – Dr Surendra K .Ranjhan
5. Animal Nutrition - K S Singh
6. Dairy Chemistry and Animal Nutrition – M M Roy

*MdJ*

**II Year II Semester**  
**DAIRY DEVELOPMENT AND CO-OPERATIVES**

**THEORY**

**(60 Lectures)**

**(4 Credits)**

**Unit 1:** Advantages of Dairying. Principals involved in successful dairying. Systems of dairy farming- Mixed farming and Specialized dairy farming. (10 Lectures)

**Unit 2:** Methods of procurement of milk; Transportation of milk; Pricing of milk, Marketing of milk. (10 Lectures)

**Unit 3:** Cooperative Dairying- Structure of Dairy cooperatives; Primary milk producer's cooperative society; District milk producer's cooperative union; objectives and functions.

**(20 Lectures)**

**Unit 4:** Dairy development programs implemented in India. Operation Flood Program. (10 Lectures)

**Unit 5:** Economics of maintaining Dairy farm- income and expenditure. Estimating the production cost of milk. (10 Lectures)

**Note: On Farm training for two weeks is compulsory during II Year II semester. Students need to submit report at II Semester Practical Examination for Evaluation and award of marks (weightage 20%)**

**Practicals:**

**(2 Credits)**

1. Record keeping
2. Preparation of project reports for various sizes of dairy farm
3. Calculations on cost of milk production
4. Calculating the cost of milk production: exercises for various sizes of farms.

**Reference books :**

1. Dairy Management in India - Madhan Mohan
2. Principles and practices of Dairy Farm – Jagdish Prasad
3. Text book of Animal Husbandry – G C Benarjee