

SWAMI RAMANAND TEERTH MARATHWADA UNIVERSITY,  
NANDED

SYLLABUS

**of**

**B.Sc. – I Year  
(Semester Pattern)**

**DAIRY SCIENCE**

**Effective from June 2013**

## **B.Sc. First Year DAIRY SCIENCE**

### **Objectives: -**

The course is planned to acquaint the students with

- I. Farming aspects in livestock and poultry so as to prepare themselves for future prospectus
- II. Geographical distribution & trends in population growth
- III. Role in national economy
- IV. Their socio-economic aspects
- V. Adaptations and Livestock Farming in India
- VI. Sanitary and hygienic conditions in Animal farm
- VII. Establishment of Dairy Farm
- VIII. Study of various diseases and disorders in livestock
- IX. First Aid Measures
- X. Care and management of Farm Animals

## **Practical – Paper V**

### **Practicals**

1. Morphology of Cattle, buffalo and poultry.
2. Linear body measurements, body wedges and estimation of body weight.
3. Study of Cattle breeds.  
Milch breeds – Sahiwal, Sindhi, Gir.  
Dual Purpose breeds – Hariana, Ongale, Tharparkar, Kankrej, Deoni.  
Draught breeds – Amritmahal, Kangayam, Khillar, Redkandhari, cross breeds,  
Exotic breeds – H.F., Jersey, Brown Swiss.
4. Study of buffalo breeds.  
Murrah, Nagpuri, Surti, Jaffarabadi, Mehsana, Marathwadi.
5. Study of Sheep breeds.  
Temperate Himalayan – Gaddi, Bhakarwal.  
North Western Region –Chokla, Merwari.  
Southern Region – Deccani, Nellore.  
The Eastern Region – Chotta Nagpuri, Ganjam.  
Exotic Breeds – Merino, Rambouillet.
6. Study of Goat Breeds  
Jamunapari, Barbari, Beetal, Surti, Osmanabadi, Sangamneri, Bangal,  
Exotic Breeds - Angora, Sannen, Alpine.
7. Study of Poultry Breeds.
8. Study of Pig breeds.
9. Study of Common appliances used on the animal farms.
10. Casting, restraining and handling of farm animals.
11. Cleaning and sanitation of farm premises.
12. Milking.
13. Recording, pulse, Temperature, Respiration, Heartbeat.
14. Preparation of drugs and medicines like Ointments, liniments, bolus, electuaries,  
drenching.
15. Injection and vaccination.
16. Pathological tests: for : Mastitis.

17. Poultry housing equipments.
18. Grading of eggs.
19. Farm layouts.
20. Farm records.
21. Aging / Dentition
22. Students visits: Vet. hospital, Goat and Sheep, Buffalo, Poultry farm, Hatchery and Dairy farm.

## **List of Equipments, materials for Practicals**

### **Models/Charts /Photographs of Livestocks Breeds.**

- ❖ Bull nose ring.
- ❖ Bull- leader.
- ❖ Bull-holder.
- ❖ Castrator.
- ❖ Muzzle.
- ❖ Casting rope.
- ❖ Dehorner.
- ❖ Branding Set.
- ❖ Tattooing set.
- ❖ Various types of tags.
- ❖ Leg bands, ring bands.
- ❖ Various types of brushes.
- ❖ Various types of sanitizers, disinfectants.
- ❖ Thermometer, Stethoscope.
- ❖ Digital balance.
- ❖ Equipments and materials for preparation of various drugs.
- ❖ Glucometer, Haemoglobinometer, glass wares and equipments for various pathological tests.
- ❖ Poultry house equipments, candling equipments.
- ❖ First-aid materials and equipments, drugs.
- ❖ Farm records.
- ❖ Housing models.
- ❖ Injection-vaccination equipments.

## List of Reference Books: -

1. A text Book of Animal Husbandry by- G.C. Banerjee
2. Advances in Dairy animal Productions by- Mudgal
3. Animal Husbandry and Rural Development by- Kar
4. Commercial Poultry and broiler Farming by-Chauhan
5. Commercial Poultry Nutrition by-Lesson
6. Dairy cattle and Milk production by- Eckles
7. Disease of Animal Transmissible to man by-Thypliyal
8. Fundamentals of Animal Hygiene and Epidemiology by- Thypliyal
9. Handbook Animal Diseases by - Bhattacharjee
10. Handbook of Poultry Feeding and Management by – Banday
11. Instant veterinary Drug Index by – Dabax
12. Poultry Economics Projects by – Narhari
13. Poultry Diseases of Farmers by – Vegad and Suresh
14. Handbook of Veterinary Physicians by – Sapre
15. Swine production by – ICAR
16. Handbook of Animal Husbandry by – ICAR
17. Goat Productions by – FAO
18. Livestock and Poultry Production by – Singh & Moore
19. Animal Husbandry and Dairy Science by – Jagdish Prasad
20. Dairy Bovine Production by – C.K. Thomas & NSR Sastry
21. Treaties and Treatment Vol.I & II by – Srinivasn
22. Livestock Health and Housing by – David and Peter
23. Dairy Cattle Science by – Ensmiger
24. Veterinary Medicine by – Blood and Handerson
25. Principles and Practices in Dairy farm Management by – Jagdish Prasad
26. A Student Laboratory Manual of Veterinary Physiology by – Sharma
27. A Handbook of Veterinary Physician by – V.A. Sapre
28. A text book of Animal Science by – A. U. Bhikane, S.B. Kawitkar
29. Reading material for MCQ by – K. G. Dande & Gayakwad

## **DAIRY SCIENCE**

### **General Outline of the Course at B.Sc.I<sup>st</sup> Year**

#### **SEMESTER-I**

<b>Sr. No.</b>	<b>Class</b>	<b>Paper No.</b>	<b>Title of the Paper</b>	<b>Max. Marks</b>
01	B. Sc. I year	I Theory	Dairy farming in India	50
		II Theory	Sheep, Goat, Poultry and Pig Farming.	50

#### **SEMESTER-II**

<b>Sr. No.</b>	<b>Class</b>	<b>Paper No.</b>	<b>Title of the Paper</b>	<b>Max. Marks</b>
02	B. Sc. I year	III Theory	Farm Animal Management	50
		IV Theory	Farm Animal Health Management	50

#### **ANNUAL PATTERN**

<b>Sr. No.</b>	<b>Class</b>	<b>Paper No.</b>	<b>Title of the Paper</b>	<b>Max. Marks</b>
03	B. Sc. I year	V – Practical	Practical's based on paper I, II, III, IV	100

#### **Workload :**

- i) Theory Paper :- Three periods per week per paper.
- ii) Practical Paper :- One practical of Three periods per week per batch.

# **DAIRY SCIENCE**

## **SEMESTER – I (PAPER-I)**

**Title : Dairy farming in India**

- Unit - I** ❖ Introduction to Dairy farming in India. **10 Periods**
- ❖ History of Domestication of Dairy animals.
  - ❖ Taxonomic classification of Dairy animals.
  - ❖ Animal Husbandry in India – present and future.
  - ❖ Common terminologies used in Animal husbandry.
- Unit -II** ❖ Animal husbandry regions in India. **14 Periods**
- ❖ Animal adaptation and behavioral patterns.
  - ❖ Cattle & Buffalo ; their production potential, role in national Economy.
  - ❖ Study of Dairy farming systems in India. Cattle development, through five year plans.
- Unit –III** ❖ Establishment of Dairy farm. **10 Periods**
- ❖ Selection of site.
  - ❖ Arrangement of farm buildings.
  - ❖ Different structures and their location and space requirement and housing materials.
  - ❖ Capital – Types, ways of raising.
- Unit –IV** ❖ Types of housing for Dairy animals. **10 Periods**
- ❖ Water supply, light & ventilation, Drainage system.
  - ❖ Recycling of waste.
  - ❖ Maintenance of sanitary and hygienic conditions on farm.





# **DAIRY SCIENCE**

## **SEMESTER – I (PAPER-II)**

**Title : Sheep, Goat, Poultry and Pig farming.**

- Unit - I ❖ Sheep and Goat farming : Introduction. 08 Periods**
- ❖ History of Domestication.
  - ❖ Common terminologies in relation to Sheep and Goat.
  - ❖ Taxonomic classification.
- Unit -II ❖ Role of Sheep and Goat is national economy. 10 Periods**
- ❖ Study of Housing systems for Sheep and Goat.  
Tethering system, Indoor system.
  - ❖ Maintenance of sanitary and hygienic and Conditions on Sheep and Goat farm.
- Unit –III ❖ Poultry farming : Introduction. 14 Periods**
- ❖ History of domestication.
  - ❖ Common terminology in relation to poultry.
  - ❖ Taxonomic classification.
  - ❖ Role of poultry in national economy.
  - ❖ Poultry Housing systems.
  - ❖ Free range system.
  - ❖ Semi range system.
  - ❖ Intensive system.
- Unit –IV ❖ Introduction to Pig farming. 10 Periods**
- ❖ Common terminologies in relation to pigs.
  - ❖ Role of Pigs in national economy.
  - ❖ Housing systems of Pig.
  - ❖ First aid measures for farm animals.



# **DAIRY SCIENCE**

## **SEMESTER – II (PAPER-III)**

**Title : Farm Animal Management.**

- Unit - I ❖ Principles of general management. 15 Periods**
- ❖ Functions and tools of management.
  - ❖ Study of General management practices of animals : Grooming, Drying off, control of bad habits, castration, dehorning, Deworming, trimming, shoeing, shearing, docking, dipping.
  - ❖ Identifications marks.

**12 Periods**

- Unit -II ❖ Cattle and buffalo management – calf raising, heifer management, management of pregnant, parturient, lactating and dry Cows, buffaloes, and breeding bull, summer management of buffalo.**

**10 Periods**

- Unit –III ❖ Sheep and Goat management – management of lambs and kids.**
- ❖ Management of pregnant, parturient and lactating doe and Ewe.
  - ❖ Management of Buck and Ram.

**08 Periods**

- Unit –IV ❖ Poultry and Pig management – chick management, management of growers, layers, broilers, hatchery management, cannibalism.**
- ❖ General management practices to Pigs.



# **DAIRY SCIENCE**

## **SEMESTER – II (PAPER-IV)**

**Title :- Farm Animal Health Management.**

- Unit - I ❖ Introduction to sick animals. 10 Periods**
- ❖ Study of healthy conditions in animals.
  - ❖ Common terminologies used in animal treatment ; like ointment, purgatives & laxatives, tonics, lotions, emulsion, astringent, liniments, enema, disinfectants.
  - ❖ Classification of Animal diseases.
  - ❖ Immunology : Definition, concept, types.
- Unit -II ❖ Study of diseases of economic importance (With reference to causative organism, pathogenesis, etiology, symptoms, prevention, treatment and control measures) FMD, RP, HS, BQ, Anthrax, Brucellosis. 14 Periods**
- ❖ Dystokia, prolapse of uterus and vagina.
  - ❖ Deficiency disease : Rickets.
  - ❖ Diseases of Lactating cows : Mastitis, Milk fever, Ketosis.
- Unit –III ❖ Diseases of calf : Pneumonia, calf scores, diarrhea, Joint ill, Naval ill, Worm infestation. 10 Periods**
- ❖ Parasitic and protozoan diseases : Theilariasis, Babesiosis, Trypanosomiasis, Trichomoniasis.
  - ❖ Control of Ecto and Endo parasites of animals.
- Unit –IV ❖ Diseases of sheep and Goat : PPR, blue tongue. 10 Periods**
- ❖ Diseases of pigs : swine fever / Hog cholera.
  - ❖ Diseases of poultry : Ranikhet, Coccidiosis, marek's, Gumboro, salmonellosis.

