
VI. SUBJECT - BASICS OF SURGERY

1. Terminology & Importance of Surgery

2. General Surgery:-

Elementary knowledge of: -

Inflammation,

Abscess,

Gangrene,

Ulcers,

Sinus,

Fistula,

Tumors,

Cysts,

Burns & Frost Bite

Wounds,

Dressing of wounds and Bandaging

3. Operative Surgery:-

Elementary knowledge of Surgical instruments, Dressing and suturing material, Sterilization of Instruments,

Basic knowledge of Haemostasis,

Parental injection of drugs and vaccines.

4. Methods and Sites of Administration of Drugs, Injections and Vaccines

VII. SUBJECT - ANIMAL REPRODUCTION

1. Hormones and Reproductive Disorders

1. Hormones of Reproduction in females
2. Puberty and sexual maturity in females.
3. Ostrum, its signs, season, period and cycle, services i.e. Natural service and Artificial Insemination.
4. Pregnancy and the general aspects of its Physiology
5. Gestation periods in various species.
6. Parturition – Normal and Abnormal
7. Placenta – Normal and Removal of Placenta in Retained placenta conditions.
8. Involution of the Uterus
9. Pregnancy Diagnosis in Cattle and Buffaloes
10. Infertility – Malformation in the Male and Female Genital Tracts
11. General aspects of various Reproductive disorders e.g. Abortion, Pyometra, Metritis, Brucellosis, Vibriosis, Trichomoniasis, Granular vaginitis etc
12. Dystokia – Maternal and Foetal Dystokia.

2. Artificial Insemination

- Historical aspect and Advantages of AI.
- General Technique, Personal hygiene and Protective clothing's
- Knowledge of Artificial Insemination, AI Guns, Intra Uterine Gun.
- Related Equipments its cleaning, disinfection, loading and actual practice of AI Technique and site of Artificial Insemination

3. Breeding Bulls –

4. Frozen Semen Technology

- Advantages of Frozen Semen
- Procedure for Freezing Semen
- Preservation of Frozen Semen in Liquid Nitrogen LN2 and Straws
- Cleaning and Sterilization of Apparatus
- Working of common Laboratory Equipments e.g. Microscope, Hot air oven, Autoclave, Instruments, Sterilizer, Refrigerator, and Chemical Balance etc.
- LN2 Containers, its structure, Handling and use in field.

I. SUBJECT - BASICS OF ANATOMY

1. Elementary knowledge of Anatomy (Systemwise)
2. Osteology (Skeleton)
3. Arthrology (including Hoof)
4. Myology
5. Respiratory System
6. Digestive System
7. Angiology (circulatory system)
8. Urogenital system
 - i. Urinary System
 - ii. Reproductive System
Male and Female
9. Neurology (Nervous Systems)
10. Aesthesiology (Sense Organs)

II. SUBJECT - BASICS OF PHYSIOLOGY

1. Elementary knowledge of Physiology (system wise)
2. Introductory cell Physiology
3. Gastro – Intestinal System
4. Respiratory System
5. Circulatory system
6. Introductory Muscle Physiology & Nervous system
7. Urinary System
8. Reproductive System – Male and Female
(Oestrous & Artificial Insemination)
9. Endocrinology
10. Lactation Physiology

III. SUBJECT - ANIMAL HUSBANDRY

1. Animal production & Animal Management
2. Taxonomy and Terminology
3. Handling of Animals and Birds
4. Methods of Approach, Restraining and Casting of Animals
 - a. Rope Halters – Head Rope & Leg Rope
 - b. Bull Nose Ring/Nose Strings
 - c. Mouth Gag
 - d. Casting of Animal
5. Different Body Parts of Cattle, Pigs, Dogs, Poultry etc.
6. Basics of Animal Breeding and Selection
 - a. Breeds of Cattle, Buffalo, Dogs and Cats.
 - b. Basics of Breeding
General Principles of Animal Breeding and Systems of Animal Breeding
 - c. Judging of Cattle
 - d. Selection of Cross Breed Cow
7. Signs of Healthy Animals and Common signs of ill health

Normal values and examination sites of
Body Temperature, Pulse, Respiration, Excretion (Dung and Urine), Gestation
Period in different Species, Lactation, Milk Yield, Lactation Length, Inter Calving
Period,
Dry Period
8. Care and Mangement of Cross Breed Cow
 - a. Pregnant Cow
 - b. Freshly Parturated Cow
9. Care and Management of a New Born Calf and Heifer
10. Care and Management of a Breeding Bull
11. Housing of Dairy Animals

Selection of Site
Loose Housing System
Barn System

 - a. Tail to Tail System
 - b. Head to Head System
12. Hygiene and Bio Security

Cleanliness of Cattle Shed
Dipping and Foot Baths
Control of Ecto Parasites

13. General Management Practices

1. Identification of Animals
2. Weighing of Cattle
3. Age Determination
4. Milking, Clean milk Production and Milking Machine
5. Ringing
6. Grooming
7. Dehorning
8. Castration
9. Hoof Trimming
10. Drying Off
11. Culling
12. Clipping
13. Vaccination and Deworming

14. Composition of Milk, Meat and Eggs Its preservation, importance and myths

15. Transportation of Animals

IV. SUBJECT - ANIMAL NUTRITION

1. Classification of Feeds & Fodder
2. Nutritional Elements – water, Proteins, Carbohydrates, Fats, Minerals, Vitamins.
3. Digestion, Metabolism.
4. The Balanced Diet.
5. Maintenance & Production Ration – commonly used for Bulls (Breeding), Bullocks (Draught), In calf, Cows in Milk, Dry Period, Goats , Pigs, Poultry etc.
6. Common fodders and concentrates used for feeding cattle.
7. Classification of Feed Stuffs
Roughages – Succulent and Dry
Concentrates – Energy and Protein rich, special feeds
8. Fodder Production – Varieties of Fodder Crops,
9. Conservation of Fodder Crops and Cultivation of Fodder crops.
10. Feeding of Livestock
Feeding Standards -
Advantages, Types, Nutrient Requirements
11. Computation of Ration
Thumb Rule for Cattle Feeding.

V. SUBJECT - BASICS OF MEDICINE

1. General Medicine

1. General Systemic States and other associated definitions, Body parameters, Respiration, Pulse, Temperature, Blood Parameters.
2. Diseases of Alimentary tract.
 - A) Diseases of oral cavity, Pharynx, Oesophagus, Stomach, Intestine.
 - B) Diseases of alimentary tract of ruminants
3. Diseases of Liver
4. Diseases of Blood
5. Diseases Cardiovascular System
6. Diseases of Urinary System
7. Diseases of Respiratory System
8. Diseases of Nervous System
9. Diseases of Musculoskeletal System
10. Diseases of Skin, Ear and Eye.

2. Special Medicine

1. Mastitis
2. Diseases caused by Nutritional Deficiency
3. Metabolic Disease

3. Diseases caused by Bacteria

Anthrax, Listeriosis, Tetanus, Botulism, ET, E.Coli, Pasteurella, Brucellosis, Tuberculosis, Actinobacillosis, Leptospirosis, B.Q.

4. Diseases caused by Viruses

1. Swine fever
2. Ephemeral Fever
3. FMD
4. Rinderpest
5. Swine Influenza
6. Avian Influenza
7. Japanese Encephalitis
8. Rabies
9. Psuedorabies
10. Canine Distemper
11. Canine Hepatitis
12. Parvo Virus Infection
13. Cow Pox
14. Respiratory Disease Complex in Dog
15. Bovine Respiratory Disease Complex

5. Diseases caused by Fungi

6. Diseases caused by Protozoans

7. Diseases caused by Parasites

Helminths, Cystods, Trematodes

8. Diseases caused by anthropodes.

VIII. SUBJECT - EXTENSION

1. Propaganda and publicity in Exhibitions, Cattle Shows, Fairs, Calf Rallies, Milk Yield competitions etc.
2. Modern methods of propaganda.
3. Duties of STOCKMEN in propaganda and Routine work of Department.
4. Knowledge of Departmental Rules and Regulations Animal Husbandry Schemes in detail.

List of State Schemes

- i. Kamdhenu Scheme (Amended)
- ii. Scheme for Cattle Feed Subsidy
- iii. Scheme for Incentives to Milk Producers
- iv. Pashupalan Scheme
- v. Green Fodder Scheme
- vi. Dairy Equipment Scheme
- vii. Infrastructure Development Scheme
- viii. Dairy Kits Scheme
- ix. Financial Assistance for Infrastructure of Poultry Farm Scheme.
- x. Financial Assistance for rearing of Broilers, Layers and Low input Technology Birds.
- xi. Subsidy for Transport of Poultry Feed
- xii. Varah Palan Scheme.
- xiii. Interest Subsidy on loans for Agriculture and Allied activities.
- xiv. The Goa Stray Cattle Management Scheme 2013 (Modified)
- xv. The Goa Small Animal Rescue Management Scheme 2014.

List of Centrally Sponsored Scheme

- i) Supply of Backyard Poultry Units Scheme
 - ii) Supply of Milch Animals under WGDP
 - iii) Renovation of Cattle Shed under WGDP
 - iv) Livestock Insurance Scheme
5. Preparation and submission of Reports
 6. Knowledge of Audio Visual Aids
 7. Dairy Societies in the State.
 8. Cooperative Societies.
 9. Silage making.

IX. SUBJECT - POULTRY PRODUCTION

1. Introduction

1. Importance of poultry farming as in independent Entrepreneurship, Subsidiary Business as a source of income
2. Importance of Proper Breeds/Strains of chicken for Eggs/Meat Production.
3. Broiler Poultry farming
4. Layer Poultry Farming
5. Selection of suitable Breed/Strain and sources of their availability

2. Poultry Houses

1. Selection of site for construction of poultry shed
2. Systems of Rearing
3. Details of construction of poultry House including reduction cost by using locally available material
4. Floor space, Watering space and feeding space requirement for different age group of chicken under each system of rearing
5. Requirement of nest space for laying and types of material used for the same.
6. Importance of Ventilations in Poultry House and Temperature in Summer, Winter and Rainy Season
7. Importance of Artificial Light in a Poultry House.
8. Litter Management.

3. Basics of Anatomy and Physiology of Fowl

4. Brooding of Day Old Chicks

- ✓ Various Electric or Gas Brooders suitable for Brooding day old chicks of Backyard Poultry in rural areas as well as commercial farms.
- ✓ Importance of proper Brooding temperature and ventilation of day old chicks.
- ✓ Preparation of Brooder before arrival of chicks.
- ✓ Arrangement of Feeders, Waters, Guards etc.
- ✓ Systems of feeding, Watering etc.
- ✓ Emergency arrangements incase of Electric Failure

5. Feed and feeding

- Importance of feeding Balanced Ration Under Intensive housing of chicken. Elementary knowledge regarding composition of balanced Ration.
- Identification of commonly used feed ingredients in Poultry Ration.
- Preparation of ready to feed Ration through use of Poultry Feed Concentrates and locally available Maize, Rice Bran etc.
- Feed requirements of chicken of different-ages (Chicks, Growers, Layers) in Layers (Starters and finishes) in Boilers.
- Importance of providing extra Shell Grit (Oyster Shell) to Laying hens.

6. Management, Vaccination and Important Diseases of Poultry

- Deworming, Debeaking, Shifting, Grading, Culling procedures
- Eggs and its composition
- Nutritive value of Egg
- Fertile and Non Fertile Eggs
- Preservation of Eggs and Factors affecting keeping quality
- Chick Replacement Programmes

- Importance of Disinfection and Bio – Security measures in Poultry Sheds
- Vaccination Programme of Boilers
- Vaccination Programme of Layers
- Elementary knowledge regarding important diseases of Poultry e.g. Ranikhet, Gumborow, Fowl Pox, Infectious, Bronchitis, Infectious Langryo trachitis, Coryza, CRD, E. Coli, BWD, Pullorum (Salmonellosis) Marck's Disease, Aflatoxicosis, Brooder's Pneumonia etc.

7. Marketing of EGGS & MEAT

- Economics of Poultry
- Collection, Packing, Storage and Transportation of Eggs and Meat
- Feed Conversion ratio
- Record Keeping in Poultry

8. Backyard Poultry Farming

Breeds of LITB – Low Input Technology Birds
 Characteristics of LITB
 Rearing of LITB

X. SUBJECT - PIGGERY PRODUCTION

1. Introduction and Terminology
2. Different Breeds of Pigs and its characteristics , Important Breeds in Goa.
3. Housing of Pigs and its specifications
4. Models of Sow Sty, Boar Sty, Piglet Sty, Farrowing Sty etc.
5. Weaning of and Rearing of Piggings
6. Feed and feeding of Pigs
7. Elementary knowledge of Medicines used in common ailment of pigs
8. Vaccination schedule
9. Important Diseases encountered in Pigs
10. General Aspects of upgradation of local Pias

XI. SUBJECT - GOAT PRODUCTION

1. Introduction and Terminology
 2. Advantages of Goat Production over other livestock
 3. Important Indian Breeds of Goats and their characteristics
 4. Breeds of Exotic Goats used in India
 5. Reproductivity Performance
 6. Reproduction in the Males
 7. Reproduction in the Females Signs of Heat
 8. Composition of Goat Flesh (Chevon)
 9. Composition of Milk and its comparative study with other mammals
 10. Feeding Habits of Goat
 11. Nutrient Requirement of Goat
 12. Feed and Feeding
 13. Feeding Schedule of Growing and adult Goat
 14. Composition of Kid Starter
 15. Concentrate mixture of Dairy Goats, Pregnant and Dry Does,
Yearling Does, Breeding Bucks
 16. Routine Operation in Goatery
 - Handling of Goats
 - Care of the Feet
 - Exercise Paddock for Stall fed Goats
 17. Housing
 18. Care of Kids
 19. Vaccination in Goats
 20. Elementary knowledge of important Diseases seen in
Goats and the commonly used medicines
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