

Veterinary Science

DEGREE STANDARD

ANIMAL PRODUCTION

1. GENERAL:-

Current Livestock Development programmes and policies of State and Nation - Legislation for control of animal diseases - Legal duties of Veterinarian - Common offences against animals and laws governing import and export of animals.

2. ANIMAL BREEDING AND GENETICS:-

Important breeds of cattle, buffalo, sheep, goat, pig and poultry with special reference to economic characters. Animal breeding - Aids to selection, methods of selection and culling - current breeding policies and programmes in state and the Nation - Breeding methods - different mating systems. Hady weinberg law, Effects of selection, migration, and mutation - Gene frequency. Wild life breeding in captivity - Economic traits, Collection, evaluation and preservation of semen.

3. ANIMAL NUTRITION:-

Nutritional terms and definitions - Proximate composition of feeds - digestion and metabolism of nutrients in ruminants and non-ruminants. Importance of minerals and Vitamins in ruminants & non ruminants - classification of feeds and fodders - storage and conservation of feeds and fodders - feeding standards - formulation of rations and feeding of dairy cattle and buffaloes - Utilisation of unconventional feeds animal by - products - wild life nutrition. Use of feed additives, antibiotics and hormones. Antinutritional factors and methods of removing them.

4. LIVESTOCK PRODUCTION AND MANAGEMENT:-

Common terms used in Animal Husbandry - Identification, Dentition and Age of animals - Watering livestock - Removal and disposal of manure and other animal waste - Effect of environment on the health and productivity of livestock and measures to counteract it - Different systems of housing, Housing standards for various livestock - Hatchery management - Different systems of poultry management - sexing and brooding of chicks - common symptoms of diseases and control measures - Farm record maintenance - Judging of cattle.

5. LIVESTOCK PRODUCTS TECHNOLOGY (DAIRY SCIENCE)

Composition of milk and milk products, clean milk production, processing, storage and transportation. Preparation of milk powder, cream, butter, ice cream, cheese and ghee. Role of milk and milk products in human nutrition, Detection of adulterants in milk.

6. LIVESTOCK PRODUCTS TECHNOLOGY (MEAT SCIENCE)

Ante mortem and post mortem inspection, - objectives of meat inspection - methods of slaughter - Various techniques of preservation & packaging of meat and meat products - preservation of eggs. Utilization of slaughter house by-products, role of meat and egg in human nutrition.

7. ANIMAL HUSBANDRY EXTENSION:-

Principles of extension education - Extension teaching methods, Audio visual aids - Characteristics of rural & urban societies. Adopter categories and factors influencing adoption of technologies, Panchayat Raj. Selection and training of leaders.

8. ANIMAL HUSBANDRY ECONOMICS:-

Role of animals in the economy of livestock owners. Statistics of animal and poultry - State wise and nation. Milk and sheep co-operatives - Marketing of livestock and its products. Preparation of feasibility reports and projects (Economics of a dairy unit, poultry, piggery, sheep & goat units). Per capita availability and consumption of milk, meat and egg.

PAPER -II

ANIMAL HEALTH

1. VETERINARY ANATOMY:-

Veterinary Science

Gross study of bones, joints and muscles of skeleton. Gross study of heart and its conduction system. Gross study of organs of digestive, respiratory urinary and reproductive systems.

2. PHYSIOLOGY:-

Digestion, metabolism and absorption of carbohydrates, proteins and fats in simple stomach animals and ruminants - mechanism of respiration. General functions of blood (blood cells, plasma & serum) coagulation, blood groups in animals, cardiac cycle, Blood circulation, Blood pressure, renal function. Hormonal control of Lactogenesis.

3. SURGERY & RADIOLOGY:-

General surgical principles. Asepsis and Antisepsis - sutures and suturing methods - Pre medication and Anaesthesia (Local Regional and General) - Common surgical affections and operative procedures (Wound, Fracture, and dislocation) - cosmetic surgical operations - Radiographic techniques - pre operative and post operative care of animals - Intensive care - physiotherapy - Diathermy - Surgical Emergencies.

4. GYNAECOLOGY & OBSTETRICS:-

Role of hormones in various phases of reproduction in female & male - symptoms of estrus and estrous cycle - Embryo Transfer Technology - Fertility and infertility in female & male, diagnosis and treatment - pregnancy diagnosis - Diseases and accidents during gestation, Abortion - causes and treatment, Stages of parturition in domestic animals - Types of dystocia, handling, diagnosis and treatment, post partum diseases, and complications.

5. PREVENTIVE MEDICINE & ZONOSIS:-

Important diseases caused by bacteria, virus Haemoprotozoans and other parasites - Laboratory Diagnosis, prevention and control of common contagious diseases. Classification of Zoonosis - mode of transmission of Zoonotic diseases - methods of prevention, control and eradication of important zoonotic diseases.

6. PATHOLOGY:-

General Pathology: Causes of diseases - Neoplasm - disturbances of cell metabolism and growth. Systemic Pathology: Cardio vascular, respiratory, digestive, genital, nervous and skin. Pathology of important diseases caused by bacteria, virus, fungi, helminths and protozoa. Clinical Pathology: Examination of clinical materials, post mortem techniques, medico - legal implications - Collection and despatch of materials.

7. MICROBIOLOGY:-

Bacteriology & Mycology: Classification - isolation, identification and culturing of bacteria and fungi - Methods of transmission of infection - Sterilization and disinfection - Antibigram. Virology: Classification, - cultivation, replication General characteristics of various families of RNA and DNA viruses. Immunology: Type and grade of immunity - Various tests used to detect antibody level - Vaccines.

8. PARASITOLOGY:-

Classification of parasites - General life cycle, pathogenesis, diagnosis and control of Cestodes, Nematodes, Trematodes and Protozoa in animals and birds.

9. CLINICAL MEDICINE & THERAPEUTICS:-

General and special clinical examinations, diagnostic equipments. Etiology, clinical symptoms, pathogenesis, diagnosis, treatment, prevention and control of metabolic diseases. Deficiency diseases - minerals and vitamins - Fluid therapy, intensive care.

10. PHARMACOLOGY & TOXICOLOGY:-

Drug action - Pharmacokinetics (absorption, distribution, biotransformation and excretion), Pharmacodynamics - local and general anaesthetics. Antibiotics and chemotherapy - Toxicology.

