

## **Code 14 : MAJOR SUBJECT GROUP – VETERINARY SCIENCE**

( Subjects : 14.1 : Veterinary Anatomy ( & Histology ) 14.2 : Veterinary Obstetrics & Gynaecology, Reproductive Biology / Ani. Reproduction 14.3 : Vety. Medicine ( Clinical and Preventive ), 14.4 : Veterinary Parasitology, 14.5 : Veterinary Pharmacology and Toxicology, 14.6 : Veterinary Pathology, 14.7 : Epidemiology / Wild Life Science / Wild Life Health Mgt., 14.8 : Vety.Virology, 14.9 : Vety. Immunology, 14.10 : Veterinary Microbiology / Bacteriology, 14.11 : Veterinary Surgery / & Radiology, 14.12 : Veterinary Public Health )

**UNIT - I :** Anatomy and Physiology. Structure of cells, cell organelles, chromosome structure and functions, cell growth, division and differentiation and functions. Structure and function of basic tissues – epithelium, connective tissue, muscle and nervous tissue. Gross Morphology, Histology and physiology of mammalian organs and systems, major sense organs and receptors, circulatory system. Digestion in simple stomached animals, birds and fermentative digestion in ruminants, Kidney and its functions – respiratory system – animal behaviour – growth – influence of environment on animal production – biotechnology in animal production and reproduction – electro physiology of different types of muscle fibres. Exocrine and endocrine glands, hormones and their functions, blood composition and function. Homeostasis, osmoregulation and blood clotting. Gametogenesis and development of urogenital organs. Boundaries of body cavities. Pleural and peritoneal reflections.

**UNIT – II :** Veterinary Microbiology ( Bacteriology, Virology, Immunology ), Veterinary Pathology, Parasitology. Classification and growth characteristics of bacteria, important bacterial diseases of livestock and poultry, general characters, classification of important fungi. Nature of viruses, morphology and characteristics, viral immunity, important viral diseases of livestock and poultry. Viral vaccines. Antigen and antibody, antibody formation, immunity, allergy, anaphylaxis, hypersensitivity, immunoglobulins, complement system. Etiology of diseases and concept, extrinsic and intrinsic factors, inflammation, degeneration, necrosis, calcification, gangrene, death, atrophy, hypertrophy, benign and malignant tumours in domestic animals. General classification, morphology, life cycle of important parasites, important parasitic diseases ( Helminths, Protozoa and Arthropods ) of veterinary importance with respect to epidemiology, symptoms, pathogeneses, diagnosis, immunity and control.

**UNIT – III :** Veterinary Medicine, Epidemiology, Veterinary Surgery and Veterinary Obstetrics & Gynaecology including Reproduction. Clinical examination and diagnosis, Etiology, epidemiology, symptoms, diagnosis, prognosis, treatment and control of diseases affecting different body systems of various species of domestic animals, epidemiology— aims, objectives, ecological concepts and applications. General surgical principles and management of surgical cases. Types, administration and effects of anaesthesia. Principles and use of radiological techniques in the diagnosis of animal diseases. Estrus and estrus cycle in domestic animals, Synchronization of estrus, fertilization, pregnancy diagnosis, parturition, management of postpartum complications dystokias and its management, fertility, infertility and its management, artificial insemination.

**UNIT – IV :** Veterinary Public Health, Veterinary Pharmacology & Toxicology. Zoonotic diseases through milk and meat, Zoo animal health. Source and nature of drugs, pharmacokinetics, Chemotherapy-sulpha drugs, antibiotics, mechanism and problem of drug resistance. Drug allergy, important poisonous plants, toxicity of important agro – chemicals and their detoxification, drugs action on different body systems.