

# ICAR VETERINARY SCIENCE SYLLABUS

## Under Code 13: MAJOR SUBJECT GROUP - VETERINARY SCIENCE

### (Sub-Subjects:

13.1: Veterinary Anatomy

13.2: Animal Reproduction, Gynaecology and Obstetrics

13.3: Veterinary Medicine

13.4: Veterinary Parasitology

13.5: Veterinary Pharmacology and Toxicology

13.6: Veterinary Pathology

13.7: Veterinary Microbiology

13.8: Veterinary Surgery & Radiology

13.9: Veterinary Public Health & Epidemiology)

### UNIT-I:

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 stomach 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—electrophysiology 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:

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, pathogenesis, diagnosis, immunity, and control.

### UNIT-III:

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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:**

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 o