

# **RAJASTHAN PUBLIC SERVICE COMMISSION**

## **SYLLABUS FOR SCREENING TEST FOR THE POST OF VETERINARY OFFICER ANIMAL HUSBANDARY DEPARTMENT**

### **PART-A**

#### **(General Knowledge of Rajasthan)**

Language & Literature: Dialects of Rajasthani language, literature of Rajasthani language and folk literature. Religious Life: Religious communities, saints and sects in Rajasthan. Folk deities of Rajasthan. Performing Art: Classical music and classical dance, folk music & Instruments; folk dances & drama. Visual Art: Handicrafts of Rajasthan, historical architecture – forts, palaces and temples. Tradition: Costume and ornaments, social customs of Rajasthan. Festival and fairs in Rajasthan. Various tribes and their customs. Historical Sites and tourist places.

Geography of Rajasthan : Broad physical features- Mountains, Plateaus, Plains & Desert; Major rivers and lakes; Climate, Major soil types and distribution; Major forest types and distribution; Demographic characteristics; Dairy farming, Desertification, Droughts & Floods, Deforestation.

Inhabitation and home tract of different breeds of livestock in Rajasthan. Animal fairs of Rajasthan. Common wild life species found in Rajasthan and places for their conservation.

**-50 Questions**

### **PART-B**

#### **Unit-I**

Livestock production systems of different agroclimatic zones. Body conformation and identification, dentition and ageing of animals. Transport of animals by different means. Common farm management practices. Common vices of animals, their prevention and care. livestock resources and their management. Organic livestock production. Housing for various livestock species. Important breeds of domestic animals. General management and feeding of farm animals. Importance of grassland, pastures and fodders in livestock production. Rabbit farming, its scope and care as well as management practices involved. present scenario of indian poultry industry. Common breeds of poultry. Poultry farm management and concept of intensive poultry production. Commercial poultry production and Hatchery management. Backyard poultry production and concept of self local market. Marketing of animals and avian products including value addition.

Milk Industry in India. Composition, nutritive value and Physico-chemical properties of Milk. Milk processing plant and its management. Organic milk products. Legal and BIS standards of Milk and Milk products. Management of abattoirs, BIS Standards on organization and layout of abattoirs. Ante-mortem, Post-mortem examination, dressing, evaluation, grading and fabrication of dressed carcass. HACCP concept in abattoir management. Introduction to wool, fur, pelt and speciality fibers processing. Retrospect and prospect of meat industry in India. Nutritive value of meat, fraudulent substitution of meat, preservation of meat and aquatic foods. Formulation and development of meat and sea foods. Physico- chemical and microbiological quality of meat, aquatic food and food products. Laws governing national, international trade of meat and meat products.

#### **Unit-II**

Chromosome numbers and types in livestock and poultry. Mitosis, meiosis and gametogenesis. Mendelian principles and modified mendelian inheritance. Chromosomal aberrations. Gene and genotypic frequency. Quantitative genetics. Breeding and selection techniques for optimal production. Breeding methods for improvement of farm animals. Conservation of germplasm. Current livestock and poultry breeding programme in the state and country.

Evolution of veterinary and animal husbandry extension in india. Concept of sociology, social change and factors of change. Social groups, its types and functions. Difference in livestock production practices of rural, urban and tribal communities. Concept of community development. Role of animals in economy, health and socio psychology of different societies. Various types of farming in rural india with respect to livestock production. Animal husbandry programme, planning and evaluation. Various animal husbandry extension programs in india.

### **Unit-III**

Common feeds and fodders of Rajasthan and their nutritional importance. Feeding standards and nutritional requirements of domestic animals. Importance of nutrients in animal production and health. Proximate and detergent system of analysis. Digestion, absorption and metabolism of carbohydrates, fat and Protein in ruminants and non-ruminants. Balanced ration, computation of ration and feeding of dairy cattle, buffaloes for various physiological phases of life. Formulation and feeding of sheep and goat during different phases of life. Formulation and Feeding of poultry, swine and eqines for various categories. Conservation and preservation of fodders, improvement of poor quality roughages and processing of feed and fodders for improvement of nutritive value. Anti-nutritional factors and common adulterants in feeds and fodders. Feed additives, supplements and growth stimulants in the ration of livestock and poultry.

### **Unit-IV**

General Principle of milk, meat, environment and environmental hygiene, food safety and public health. Veterinary epidemiology and zoonoses of various common diseases including new, emerging, re-emerging and occupational zoonoses.

### **Unit-V**

Pharmacology of drugs acting on various body systems and pathogens along with veterinary neuropharmacology and chemotherapy. Study of fundamentals of toxicology, diagnosis and treatment of various toxicities.

### **Unit-VI**

Introduction, morphology, growth and nutrition of bacteria. Nomenclature, sources and transmission of infection, Pathogenicity, virulence and infection. Resistance and susceptibility of host, bacteraemia, septicaemia, toxemia, Plasmids, Antibiotic resistance. Introduction, Classification morphology, growth, nutrition, reproduction in fungi. Introduction to viruses: General properties, Replication, cultivation and purification of viruses.

Study of various pathogenic bacteria and fungi, their morphology, isolation, growth, pathogenicity and diagnosis of various bacterial and fungal diseases of animals. Classification and characteristics of various DNA and RNA viruses causing diseases in livestock and poultry, laboratory diagnostics techniques.

### **Unit-VII**

Types of Parasitism. Commensalism, symbiosis and predatorism, Types of hosts. Immunity against parasitic infections. Standardized nomenclature of animal parasitic diseases. General description of helminth parasites, Classification, life cycle in relation to transmission, pathogenesis, epidemiology, diagnosis and control of various helminthes of animals and birds. General description, classification, life cycle, transmission, pathogenesis and control of various insects and arachnida affecting domestic animals and birds. Classification, life cycle in relation to transmission, pathogenesis, diagnosis and control of protozoal diseases of animals and poultry.

### **Unit-VIII**

Introduction, causes of diseases, Pathology of disturbances in circulation and growth. Causes and mechanism of cell injury, pigmentations. Inflammation, classification, various cell types and their functions, mediators, wound healing. Pathology of autoimmune diseases. General characteristics and classification of neoplasms. Post-mortem techniques, Collection, preservation

and despatch of morbid materials for diagnosis. Diseases affecting Digestive System, Respiratory System, Musculo-skeletal System, Cardio-vascular System, Haematopoietic System, Lymphoid System, Urinary System, Reproductive System, Nervous System, Endocrine System, Skin and Appendages, Ear and Eye.

Pathogenesis, gross and microscopic pathology of various bacterial, viral, fungal and parasitic diseases of animals and poultry. Pathological changes in nutritional and metabolic diseases. Pathogenesis, gross and microscopic pathology of heavy metal toxicities.

### **Unit-IX**

Concept of animal diseases, methods of clinical examination of various body parts of individual animals. Aetiology, clinical manifestations, diagnosis, differential diagnosis, treatment, prevention and control of diseases :

- (1) General and systemic diseases of domestic animals and poultry. Diseases of digestive system, respiratory system, cardiovascular system, uro-genital system, lymphatic system, emergency medicine and critical care.
- (2) Metabolic disorders/production and deficiency diseases of animals. Management of common clinical poisonings, role of alternative, integrated/ethno-veterinary medicine in animal disease management and infectious diseases of bacterial, fungal, rickettsial and viral origin.
- (3) Veterinary jurisprudence and ethics with respect to vetero- legal role of veterinarians. Rules, regulations and laws of animal welfare. Laws relating to poisons and adulteration of drugs. Livestock importation act. Code of conduct and Ethics for veterinarians-the regulation made under Indian Veterinary Council Act, 1984. Orientation to veterinary clinics including hospital setup, laboratory diagnosis and record keeping.

### **Unit-X**

Basic principles of surgery, preparation of operation theatre, operative sites and instruments for surgery. Types of wounds and fractures and their correction in domestic animals. Types of suture materials and their use. Surgical procedures for abscess, hematoma, cysts, tumors, necroses, and treatment of burns. Common anesthesia and anesthetic techniques used in domestic animals. Chemical restraint of domestic animals. Types of lameness in domestic animals and their correction. Common surgical problems and their surgical correction in domestic animals (example; debudding, horn cancer, tail gangrene, paraphimosis, dermoid cyst, hoof trimming, preparation of teaser, ovario-hysterectomy rumenotomy, atreria ani, repair of hernia etc.). Advances in surgery- intramedullary pinning, laparoscopic surgery.

### **Unit-XI**

Hormones in animal reproduction and their clinical use. Estrus cycle in different animal species and signs of estrus. Maternal recognition of pregnancy in different animal species, methods of pregnancy diagnosis in different species. Estrus synchronization in domestic animals, embryo transfer in large and small ruminants. Infertility in male and female domestic animals. Parturition in domestic animals, diseases and accidents of gestation. Causes of dystocia in different animal species and their correction. Post-partum complications in different animal species. Teratology. Procedures of semen collection, processing and artificial insemination in cattle, buffalo and other species. Advanced reproductive techniques like IVF, GIFT, SCNT, Cloning etc. Animal birth control programs.

**-100 Questions**

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Pattern of Question Papers :

- 1 Objective Type Paper.
- 2 Maximum Marks : 300
- 3 Number of Questions : 150
- 4 Duration of Paper : Three Hours
- 5 All Questions carry equal marks.
- 6 There will be **Negative Marking**.