

**OPSC - Veterinary Assistant Surgeon- Written Exam Paper I Syllabus****PAPER - I (VETERINARY SCIENCE)**

1. Veterinary Medicine 2. Veterinary Gynaecology and Obstetrics 3. Veterinary Pharmacology and Toxicology 4. Veterinary Parasitology 5. Veterinary Anatomy 6. Veterinary Public Health 7. Veterinary Surgery and Radiology 8. Veterinary Pathology 9. Veterinary Microbiology

**1. Veterinary Medicine**

General systemic states (Hyperthermia, fever, shock, dehydration), Diseases of various systems of Ruminants (Digestive system, Respiratory system), Infectious diseases of Animals: Bacterial diseases - HS, BQ, Enterotoxaemia, TB, JD, Anthrax, Brucellosis, Leptospirosis). Viral Diseases- FMD, IBR, Canine Parvo, Canine Distemper, Fungal diseases - Ring Worm, Aspergillosis. Parasitic diseases - Ascariasis, Fascioliasis, Amphistomiasis, Taenia, Mange. Metabolic & Production diseases- Milk fever, ketosis, downer's cow syndrome. Nutritional deficiency diseases - Post Parturient haemoglobinuria, Avitaminosis A, E, D, B and deficiencies of Se, Cu, Fe, Co. Diseases of poultry-RD, IBD, Coli septicemia)

**2. Veterinary Gynaecology and Obstetrics**

Puberty & sexual maturity in male and female animals. estrus cycle animals. Gestation and its various stages. Pregnancy diagnosis in different species of animals. Fertility, sterility and infertility of various nature. Anoestrus and repeat breeding. Specific and nonspecific agents affecting genital organs of female. Clinical use of hormones in female fertility management. Breeding and pseudopregnancy in bitch. Induction and synchronization of oestrus. Assisted reproductive technologies. Types and function of placenta. Diseases and accidents during gestation. Abortion. Pre and post partum complications. Uterine torsion and different types of prolapse. Dystocia, Various obstetrical operations. Post partum diseases and complications. Various forms of male infertility, its diagnosis and treatment. Impotentia foendii and impotentia generandi. Artificial insemination. Various methods of semen collection, storage and shipment and its assessment for determination of semen quality.

### **3. Veterinary Pharmacology and Toxicology**

History of pharmacology and toxicology, scope of pharmacology, pharmacokinetics: absorption, distribution, metabolism of drugs, pharmacodynamics: mechanism of drug action, types of receptors, receptor action, drug interaction, drug development and designing, drugs acting on digestive system, cardiovascular system, urinogenital system, sympathetic and parasympathetic system, neuromuscular blocking agents, ganglionic stimulants and blockers, autacoids: histaminergics and antihistamines, serotonergics and 5-HT blockers, prostaglandins, bradykinins, pharmacology of neurotransmitters, theories of anaesthetics, intravenous, dissociative anaesthetics, local anaesthetics, hypnotics, sedatives, tranquilizers, psychotropic drugs, anticonvulsants, opioids, NSAIDs, antibacterial, antifungal, anthelmintic, anticancer, antiviral, antiprotozoal agents, general toxicology, toxicity of heavy metals, plant poisons, agrochemicals, zootoxins and drugs. Evaluation of toxicity, residual toxicity.

### **4. Veterinary Parasitology**

Host-parasitic relationship (Parasitism, Mutualism, Symbiosis, and Commensalism). Different type of host and Parasites. Study of common parasites of ruminants. Fasciolidae, Paramphistomidae, Schistosomatidae, Moniczia, Taeniidae, Humonchus, Thelazia, Onchocerca, Esophagistomum, Bunostomum, Dirofilaria, Ascaridae, Trypanosomatidae, Eimeriidae, Babesiidae, Theileriidae, Ixodidae. Study of common Parasites of Dog. Echinostomatidae, Taeniidae, Ancylostomatidae, Toxocara, Demodex, Sarcoptes. Study of common Parasites of Poultry – Prosthogonidae, Syngamidae, Eimeriidae. Control of Gastro intestinal nematodes in ruminants. Control of Arthropodes. Common Anthelmintics, Insecticides and their uses.

### **5. Veterinary Anatomy**

Gross Anatomy of viscera organs, heart, blood vessels, nervous system, bones of the appendicular skeleton, eye and ear. Gross study of the bones of appendicular and axial skeleton of Ox/buffalo as type species and comparison of sheep, goat, pig, horse, dog and fowl. Classification and structure of muscles, joints, ligaments and nerves of domestic animals. Histology of the visceral organs, lymphatic system and nervous system. Embryology of domestic animals and birds. Development Anatomy of visceral organs. Faetal circulation. Topographic anatomy of the thoracic, abdominal and pelvic visceral organs, nerve, locks, auscultation, palpation and percussion, and sites of intramuscular injections in small and large domestic animals.

### **6. Veterinary Public Health**

Meat inspection, methods of slaughter, transportation of meat animals. Meat preservation and Meat-borne diseases. Hygienic processing of milk products, sanitation and sources of contamination of milk. Milk-borne diseases, Bacteriophage and germicidal properties of milk. Objectives, Classification and methods of prevention, control and eradication of zoonotic diseases. Socio-economic condition and human health zoonoses. Sources, quality, contamination and prevention of water. Disposal of sewage, sanitation of animal house. Air pollution, prevention of air and water-borne diseases. Recycling of farm wastes.

### **7. Veterinary Surgery and Radiology**

General Surgery and Anaesthesiology : Sterilization, preparation of surgical pack, bandaging, sutures, suturing materials, different knots, wound, fractures, dislocation and other affections of joints, catheterization and haemostasis. Pre-anaesthetics, general anaesthesia and different combinations used in small animal, local and regional anaesthesia, general anaesthesia in large animal. Radiology. Regional and Clinical Surgery : Types of X-ray machine, adaptation of safety measures, use of diagnostic x-ray, radiographic film processing, interpretation, ultra sound. Affection of lip, cheek, tongue, palate, nose, horn, teeth, salivary gland, eye, ear, neck and oesophagus. Regional and Clinical Surgery-II and Lameness :Surgical approach to thorax, abdomen, urogenital system. Hernia and its treatment. Affection of limbs, hoof and foot. Lameness, soundness certificate and physiotherapy.

### **8. Veterinary Pathology**

Causes of diseases, haemodynamic derangements, cellular degeneration and necrosis, apoptosis, gangrene, calcification, jaundice, growth disturbances, inflammation, wound healing, autoimmune diseases, neoplasms and their classification including benign and malignant tumors. Pathological changes in digestive, respiratory, musculoskeletal, cardiovascular, haemopoetic, urinary, reproductive, nervous and endocrine systems, skin, eye and ear. Pathology of viral diseases like Foot and Mouth disease, PPR, Rabies, Canine distemper, Infectious canine hepatitis, Canine parvovirus, etc, Bacterial diseases like Tuberculosis, Johnes disease., anthrax, clostridial diseases, pasteurellosis, brucellosis, salmonellosis and colibacillosis etc, mycoplasma diseases, fungal diseases, helminthic and protozoan diseases, nutritional and metabolic diseases involving carbohydrates, protein, fat, minerals, vitamins metabolism; Toxicosis. Pathology of bacterial, viral, mycoplasmal, parasitic, fungal, nutritional diseases and vices of poultry

### 9. Veterinary Microbiology

History of Microbiology , Classification and nomenclature of bacteria, Pathogenicity, Virulence and infection, Resistance and susceptibility of host, Bacterial genetics, Plasmids, Antibiotic resistance. General properties, Replication, Cultivation and Purification of viruses. Cell-Virus interactions, Viral genetics , Interferon. Immune system, Development of humoral and cellular immune responses, Antigens, Antibodies, Major histocompatibility complex, Serological reactions. Autoimmunity and immunotolerance. Immunization of animals, Biologicals. Pathogenicity and diagnosis of bacterial and fungal diseases caused by Staphylococcus, Streptococcus, Bacillus, Clostridium, Mycobacterium, Enterobacteriaceae, (E.coli, Salmonella, Yersinia, Klebsiella and Proteus), Campylobacter, Brucella, Pasteurella and Pseudomonas, Listeria, Actinobacillus, Actinomyces, Arcanobacterium and Corynebacterium, Dermatophilus, Fungi: Dermotophytes, Rhinosporidium, Candida, Mycotic mastitis and abortion, Mycotoxicoses. Various families of DNA and RNA viruses causing diseases in livestock and poultry, laboratory diagnostic techniques, immunity to viral infections.

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