

## SEMESTER- VII

COURSE NO.	COURSE TITLE	CREDIT HOURS
VPT-411	Veterinary Chemotherapy	2+0=2
VSP.-411	General Veterinary Surgery, Anaesthesiology And Diagnostic Imaging	2+2=4
VGO-411	Veterinary Gynecology	2+1=3
VMD-411	Veterinary Clinical Medicine-I (General & Systemic)	2+1=3
VMD-412	Veterinary Preventive Medicine-I (Bacterial, Fungal& Rickettsial Diseases)	2+0=2
VLD-411	Veterinary Clinical Biochemistry and Laboratory Diagnosis-I	0+1=1
VCP-411	Veterinary Clinical Practice	0+5=5
<b>Total Credits</b>		<b>10+10=20</b>

### VPT-411: VETERINARY CHEMOTHERAPY

Credit Hours 2+0=2

#### THEORY

Antibacterial agents: Classification, general principles in antibacterial chemotherapy, antibacterial resistance. Sulphonamides and their combination with diaminopyrimidines, sulfones, nitrofurans, nalidixic acid and fluoroquinolones.

Antibiotics: Penicillins and cephalosporins, aminoglycosides, tetracyclines, chloramphenicol, macrolides, polypeptides. Miscellaneous agents: methenamine, bacitracin. Rifampin. novobiocin, viginamycin, lincosamides and vancomycin. Antifungal agents: Topical and systemic agents including anti-fungal antibiotics. Anthelmintics: Drugs used against cestodes, trematodes, nematodes, drug resistance, broad-spectrum anthelmintics.

Antiprotozoal agents: Drugs used in trypanosomosis, theileriosis, babesiosis, coccidiosis, amoebiosis, giardiosis and trichomonosis.

Ectoparasiticides, Antiviral and anticancer agents. Antiseptics and disinfectants. Growth promoters. Common indigenous drugs of plant origin with proven pharmacological and therapeutic efficacies in various animal ailments. New drugs and drug formulations.

### VSR-411: GENERAL VETERINARY SURGERY, ANESTHESIOLOGY AND DIAGNOSTIC IMAGING

Credit Hours 2+2=4

#### THEORY

Introduction, history, classification, surgical terminology and development of veterinary surgery. Asepsis-antisepsis, their application in veterinary surgery. Surgical risk and judgment. Management of shock, haemorrhage. Principles of fluid therapy in surgical patients. Differential diagnosis and surgical treatment of abscess, tumors, cyst haematoma, necrosis, gangrene, bum. Wound: classification, symptoms, diagnosis and treatment; complications, their treatment and prevention.

#### PRACTICAL

Surgical instruments and equipment Operation theatre routines. Surgical pack' Preparation, sterilization and handling. Familiarisation with suture materials, surgical knots, suture patterns and their use. Familiarisation to live surgery haemostasis.

Anaesthesiology

#### THEORY (Region specific)

Preanaesthetic considerations and preanaesthetics. Anaesthesia, local analgesia /anaesthesia, General anaesthesia, anaesthetic agents (like barbiturates, dissociative agents). Inhalation anaesthesia and agents, maintenance and monitoring of general anaesthesia. Anaesthetic emergencies and their management Only awareness of neuroleptanalgesia, electro-anaesthesia, acupuncture, hypothermia, muscle relaxants. Post operative pain management General principles of chemical restraint of wild / zoo animals and anaesthesia of lab animals.

#### PRACTICAL

Familiarisation with anaesthetic apparatus, endotracheal tubes. Laryngoscope, gadgets for monitoring. Pre anaesthetic preparation, induction of general anaesthesia in small and large animals and endotracheal intubation in dogs.

Demonstration of inhalant anaesthesia, monitoring of general anaesthesia and the management of anaesthetic emergencies: Use of artificial / assisted respiration. Various methods of local infiltration anaesthesia and regional block, for surgical procedures of different regions of body in Large and Small animals. Chemical restraint of lab and wild animals (Visit of a wild animal facility and audiovisual aids).

#### Diagnostic Imaging

#### THEORY

##### Production and properties of X-rays. Factors influencing production of X-ray.

Principles of viewing and interpreting X-ray films, classification of radiographic lesions. Contrast radiography: classification, materials, uses, indications and contra indications.

Biological effects of radiation, radiation hazards and their prevention by adoption of safety measures. Principles of ultrasonography and its applications in veterinary practice. Awareness on principles of radiation therapy, Isotopes and their uses in diagnosis and therapy; Principles and application of CT scan, MRI, echocardiography, scintigraphy, gamma camera, xeroradiography and Doppler.

#### PRACTICAL

Familiarization with operation of the X-ray equipment X-ray accessories and adoption of safety measures in radiography. Dark room equipments, X-ray film and its processing. Intensifying screen and its uses. Radiographic technique-positioning of small and large animals. Handling, viewing and interpretation of X-ray films.

Familiarization with film contrasts, density and detail, common defects of X-ray films. Radiographic anatomy and interpretation of radiographic lesions. Demonstration of contrast technique in small animals. Familiarization with ultrasonography of small and large animals (demonstration).

### VGO-411: VETERINARY GYNAECOLOGY

Credit Hours 2+1=3

#### THEORY

Clinical evaluation and abnormalities of reproductive tracts in domestic animals. Delayed Puberty and sexual maturity. Estrus detection. Aberrations of estrus and estrous cycle. Seasonal breeding. Pregnancy diagnosis- different methods- in different species. Superfoetation and Superfecundation. Fertility, Infertility & sterility- Anatomical, hereditary, nutritional, managerial, hormonal and infectious causes. Anoestrus, ovulatory defects and cystic ovarian degeneration. Repeat breeding: Fertilization failure, early embryonic mortality. Specific & non- specific infections affecting genital organs-endometritis, cervicitis, vaginitis. Fertility parameters. Sexual hearth control and reproductive hearth management. Clinical use of hormones in female infertility. Breeding management mismating, psuedopregnancy, transmissible venereal tumor-(TVT) in bitches

Induction of estrus, Synchronization of estrus, Follicular Dynamics, Ovulation, Superovulation, and Embryo Transfer Technology. Immune-modulation for enhancement of fecundity

### **PRACTICAL**

Study of female genitalia and its biometry. Methods of estrus detection in farm and companion animals including vaginal cytology. Collection and examination of vaginal mucus by various techniques. Demonstration of different hormonal preparations and their uses. Different protocols for induction and Synchronization of estrus, superovulation and embryo transfer. Pregnancy diagnosis and its differential diagnosis. Use of gynaecological instruments and appliances. Evaluation of female animals for breeding soundness. Demonstration of reproductive pathological conditions using museum specimens. Sexual health control, life history card for the female, recording system for reproductive performance. Demonstration of ultrasonographic imaging of reproductive organs and pregnancy. Oocyte collection and grading.

### **REFERENCE BOOKS**

1. Reproduction in Farm Animals by Hafez & Hafez
2. Arthur's Veterinary Reproduction & Obstetrics by Noakes et al
3. Diagnostic & Therapeutic Techniques in Animal Reproduction by Zemjanis Veterinary Obstetrics & Genital Diseases by S.J.Roberts

### **VMD-411: MEDICINE-I (GENERAL & SYSTEMIC)**

**Credit Hours 2+1=3**

#### **THEORY**

History and scope of Veterinary Medicine, Concept of animal diseases. Concepts of diagnosis, differential diagnosis and prognosis. General systemic, states, hyperthermia, hypothermia, fever, septicemia, toxemia, shock and dehydration. Aetiology, clinical manifestations, diagnosis, differential diagnosis, treatment prevention and control of the following diseases of cattle,- buffalo sheep/goat equine, pig and pet animals. Diseases of digestive system with special reference to rumen dysfunction and diseases of stomach In non-ruminants. Affections of peritoneum, liver and pancreas. Diseases of respiratory and cardiovascular systems including blood and blood forming organs. Diseases of uro-genital system & lymphatic system. Emergency medicine and critical care.

#### **PRACTICAL**

Clinical examination and diagnosis: Methods of clinical examination of individual ailing animals including history taking. Examination of animal including behaviour and general appearance: demeanour, voice, eating, drinking, defecation, urination, posture, gait condition of skin and body coats. Inspection of body: examination of head and neck, thorax, respiratory rates, rhythm, respiratory depth, type of respiration, cardiac sounds, chest symmetry, abdomen, external genitalia, mammary glands and limbs. Physical examination: temperature taking, palpation, percussion, auscultation. Examination of ears, eyes, conjunctiva, eye balls, mouth, submaxillary and other superficial lymph nodes, jugular furrow, oesophagus, trachea. Passing of stomach tube for locating obstruction if any. Examination of specific condition of thorax pneumothorax, haemothorax and hydrothorax Percussion/ auscultation of lung and cardiac areas. Examination of abdomen: ruminal motility, consistency, microbial population and their motility in ruminal fluid, use of trocar and canula. Examination of liver and kidneys. Liver and kidney function tests.

### **VMD-412: VETERINARY PREVENTIVE MEDICINE-I (BACTERIAL, FUNGAL & RICKETTSIAL DISEASES)**

**Credit Hours 2+0=2**

#### **THEORY**

Clinical manifestation, diagnosis, prevention and control of infectious diseases, namely mastitis, haemorrhagic septicaemia, brucellosis, tuberculosis, Jobne's disease. black quarter, tetanus, listeriosis, leptospirosis, campylobacteriosis, actinomycosis, actinobacillosis, enterotoxaemia, glanders, strangles, ulcerative lymphangitis, colibacillosis, fowl typhoid, putiorum disease, fowl cholera, avian mycoplasmosis, spirochaetosis, salmonellosis, swine erysipelas. Other important bacterial diseases of regional importance (e.g. contagious caprine pleuropneumonia, contagious bovine pleuropneumonia etc.). Bacterial diseases of bio terrorism Instance - anthrax, botulism etc Chlamydiosis, Q fever, anaplasmosis, Dermatophilosis, aspergillosis (brooders pneumonia), candidiasis, histoplasmosis, sporotrichosis, coccidiomycosis, mycotoxicosis, etc

### **VLD-411: VETERINARY CLINICAL BIOCHEMISTRY AND LABORATORY DIAGNOSIS-I**

**Credit Hours 0+1 = 1**

Training in examining clinical samples (biochemical, pathological, parasitological and bacteriological). Analysing and correlating with clinical findings and interpreting the results. Collection, labeling, transportation, and preservation of body fluid samples. Writing results and report Interpretation of date in relation to specific diseases.

Clinical significance and interpretation of serum glucose, lipids, proteins, blood urea nitrogen, creatinine, uric acid, ketone bodies, bilirubin & electrolytes from samples. Clinical significance and interpretation of examination of urine samples.

Clinical evaluation of blood ( Haemoglobin, packed cell volume, total erythrocytic count erythrocytic sedimentation rate, total leukocytic count and differential leucocytic count) from clinical samples. Laboratory evaluation and diagnosis of samples for parasitic diseases (routine faecal examinations- direct smear method, simple sedimentation and floatation methods, Quantitative faecal examination, pastoral larval counts). Examination of skin scrapings, examination of blood smear/blood for diagnosis of blood protozoan diseases.

### **VCP-411 VETERINARY CLINICAL PRACTICE**

**Credit Hour- 0+5=5**

The students shall be Imparted the trainings on rotation basis in the following sections of Teaching Veterinary Clinical Complex (TVCC):