

SEMESTER-VIII

VPT-421	Veterinary Toxicology	2+0=2
VSR-421	Regional Veterinary Surgery	2+1=3
VGO-421	Veterinary Obstetrics	1+1=2
VMD-421	Veterinary Clinical Medicine-II(Metabolic & Deficiency Diseases)	2+0=2
VMD-422	Veterinary Preventive Medicine -II(Viral & Parasitic Diseases)	2+0=2
VLD- 421	Veterinary Clinical Biochemistry and Laboratory Diagnosis-II	0+1=1
VCP-421	Veterinary Clinical Practice	0+5=5
TVC-421	Veterinarian in Society (Non Credit)	1+0=1
Total: Credits		10+8=18

VPT-421 : VETERINARY TOXICOLOGY

Credit Hours 2+0=2

THEORY

General Toxicology: Definitions, fundamentals and scope of toxicology. Sources and mode of action of poisons. Factors modifying toxicity. General approaches to diagnosis and treatment of poisoning. Toxicity caused by metal and non-metals: Arsenic, lead, mercury, copper, selenium, molybdenum, phosphorus, nitrates and nitrites, common salt and fluoride. Toxicity caused by plants and weeds: Cyanogenetic plants, abrus, lantana, ipomoea, nerium, datura, nux vomica, castor, selenium containing plants oxalate producing plants, plants causing thiamine deficiency. . Drug toxicity and toxicity caused by agrochemicals: organophosphates, carbamates, chlorinated hydrocarbons, pyrethroids. herbicides, fungicides, rodenticides and urea.

Residue toxicology: Hazards of residues, concepts of withdrawal time and MRLs, minimizing drug and toxic residues in animal products.

Venomous bites and stings: Snake bite, scorpion, spider, wasp stings and toad poisoning. Radiation hazards and industrial toxicants. Toxicity caused by food additives and preservatives.

REFERENCE BOOKS

1. Richard H. Adams.2001. Veterinary Pharmacology and Therapeutics. 8th Edition. IOWA State University Press, USA.
2. Brander, G.C., Pugh, D.N., Bywater, R.J. and Jenkins, W.L., 1991. Veterinary Applied Pharmacology and Therapeutics. Bailliere Tindal, London.
3. Prescott, J.F., Baggot, J.D. and Walker, R.D., 2005. Antimicrobial therapy in Veterinary Medicine. Blackwell Scientific Publications, IOWA, USA.
4. Tripathi, K.D., 2003. Essentials of Medical Pharmacology, Essentials of Medical Pharmacology, Jaypee brothers Medical Publishers (P) Ltd., New Delhi.
5. Rang, H.P., Dale, M.M., J.M. and Moore, P.K., 2003. Pharmacology, 5th Edition, Churchill Livingstone, Edinburgh, UK.
6. Sandhu, H.S. and Brar, R.S.,2000.Text book of Veterinary Toxicology, Kalyani Publishers, Ludhiana.
7. Garg, S.K., 2000. Veterinary Toxicology, CBS Publishers & Distributors, New Delhi.

VSR- 421: REGIONAL VETERINARY SURGERY

Credit Hours 2+1=3

THEORY

Head and Neck

Affections of the lips and cheek and their treatment Affections of the tongue and their treatment. Treatment of cleft palate. Nasal polyps Affections and treatment of Guttural pouch, empyema, chondroids, tympanitis. Sinusitis, pus in the sinus. Affections of the horn and their treatment (avulsion of the horn, fracture of the horn, horn cancer and fissure in horn). Debudding and amputation of the hors-. Affections of the teeth and their treatment congenital abnormalities, irregular molars.(shear mouth, sharp teeth, wave form mouth, step formed mouth) dental tartar and dental caries, dental tumor and periodontal disease. Bishoping. Affections of safvary glands and their treatment (Trauma, sialoliths, salivary cysts, salivary fistula). Affections of the upper and lower jaw and treatment Affections of the ear and their treatment (haematoma and chronic otorrhoea). Eye: Csnical examination of the eye. Surgical affections of the eye: Entropion, ectropion, tumor of eye. Conjunctiva: Conjunctivitis, occlusion of nasolacrimal duct squint Eyeball: affections of the eye: hydrophthalmia, glaucoma, tumors of eye, panophtalmia, injuries and infections of anterior and posterior chambers. Worm in the eye. Affections of esophagus: choke, esophageal stenosis, dilation and diverticulum. Tracheal injuries and tracheal collapse. Affections of pharynx and larynx. Foreign bodies (Oral cavity).

Thorax and Abdomen

Fracture of rib. Perforated wounds, sternal fistula, pneumocele, traumatic pneumothorax Hernia: classification, etiology, diagnosis and treatment (urnbical, ventral, inguinal, perineal, diaphragmatic). Surgical affections of the stomach in dogs {cardia, pyloric stenosis, torsion}.' Surgical affections, diagnosis and treatment of stomach in ruminants (ruminal impaction, traumatic reticulitis, diaphragmatic hernia abomasal displacement, omasal impaction). Surgical affections of intestines: intestinal obstruction, intussusception, strangulation (volvulus) in large and small animals. Caecal dilation, torsion. Affections of rectum: prolapse, rectal tear, anal adenitis. Congenital anomalies of colon, rectum, anus. Surgical affections of fiver, spleen. Surgical affections of kidney,ureters, urinary bladder. Urolithiasis and urethral stenosis their sequelae and surgical treatment Surgical affections of penis and sheath, affections of testicle, scrotum. Surgical affections of udder and teat Canine mammary neoplasms.

PRACTICAL

Head and Neck

Demonstration of following: Examination of oral cavity. Location of trephining of sinus in equines. Bovine: Amputation of horn, Debudding. Ligation of Stenson's duct Tooth rasping / floating, otoscopy in dogs, ear haematoma, tracheotomy, tracheostomy, oesophagotomy. Ophthalmoscopy, tests for blindness, operation for ectropion, and entropion, enucleation / extirpation of the eye

Thorax and Abdomen

Demonstration of followings: Surgical approaches to the thorax and abdomen in animals with landmarks for approach to various organs. Thoracocentesis. abdominocentesis.Rurnenotomy,gastrotomy,eneterotomy.eneteroanastomosis, urethrotomy, vasectomy, ovariohysterectomy, spaying, cystotomy and cystorrhaphy. Caesarean section. Amputation of tail.

VGO-421: VETERINARY OBSTETRICS**Credit Hours 1+1=2****THEORY**

Types and functions of placenta in different species. Diseases & accidents during gestation-Abortion in domestic animals-diagnosis & control. Dropsy of fetal membranes and fetus. Fetal "mummification, maceration, pyometra and mucometra. Prolonged gestation. Teratology. Premature birth. Uterine torsion. Cervico-vaginal prolapse. Termination of pregnancy. Parturition. Puerperium and involution of uterus in domestic animals. Care and management of dam and newborn.

Dystocia- Types of dystocia - maternal & fetal- approach, diagnosis and treatment Epidural & other anesthesia in obstetrical practice. Obstetrical operations- mutation, forced extractions, fetotomy and cesarean section. Injuries and diseases in relation to parturition. Postpartum diseases and complications: uterine prolapse, retention of fetal membranes, metritis, postpartum paraplegia.

Animal birth control- ovariohysterectomy and non surgical interventions

PRACTICAL

Study of pelvis and Pelvimetry. Assessment of fetal age. Demonstration of different types of placenta. Use of obstetrical instruments. Epidural and other obstetrical anaesthesia. Manipulation of fetal malpresentation in Phantom Boxes. Approach and treatment of obstetrical cases. Handling of prolapse of genitalia-application of vulvar sutures. Foetotomy. Caesarean section Post operative care and management of obstetrical cases. Demonstration of ovariohysterectomy

REFERENCE BOOKS

1. Veterinary Obstetrics & Genital Diseases by S.J.Roberts
2. Arthur's Veterinary Reproduction & Obstetrics by Noakes et al
3. Diagnostic & Therapeutic Techniques in Animal Reproduction by Zemjanis
4. Veterinary Obstetrics by Benesch Fleming's Veterinary Obstetrics by Graig

VMD-421: VETERINARY CLINICAL MEDICINE -II (METABOLIC & DEFICIENCY DISEASES)**Credit Hour 2+0=2****THEORY**

Aetiology, clinical manifestations, diagnosis, differential diagnosis, treatment prevention and control of metabolic disorders/production diseases. Milk fever, acute parturient hypocalcaemia in goats, sows and bitches, osteodystrophy fibrosa, lactation tetany in mares, downer cow syndrome, ketosis, hypomagnesaemia in cattle and buffalo, azoturia in equines, hypothyroidism and diabetes in dogs. Diagnosis and management of diseases caused by deficiency of iron, copper, cobalt zinc, manganese, selenium, calcium, phosphorus, magnesium, vitamin A, D, E, B. complex, K and C in domestic animals and poultry. Nutritional haemoglobinuria. Diseases of neonates. Diseases of skin, musculo-skeletal system, nervous system and sense organs of domestic animals. Management of common clinical poisonings. Role of alternative/integrated/ethno veterinary medicine in animal disease management.

VMD-422: VETERINARY PREVENTIVE MEDICINE-II (VIRAL & PARASITIC DISEASES)**Credit Hours 2+0=2****THEORY**

Clinical manifestation, diagnosis, prevention and control of infectious diseases, namely foot and mouth disease, rinderpest bovine viral diarrhoea, malignant catarrhal fever, Infectious bovine rhinotracheitis, enzootic bovine leucosis, ephemeral fever, blue tongue, sheep and goat pox, PPR, classical swine fever. Important exotic diseases for differential diagnosis - African swine fever, swine vesicular disease, vesicular stomatitis, Rift valley fever, Aujeszky's disease. Rabies, African horse sickness, equine influenza, equine infectious anaemia, equine rhinopneumonitis, canine distemper, Infectious canine hepatitis, canine parvoviral disease. Highly pathogenic avian influenza, Newcastle (Ranikhet) disease, Marek's disease. avian leucosis, Infectious bronchitis, infectious laryotracheitis, avian encephalomyelitis, fowl pox, infectious bursal disease, Inclusion body hepatitis-hydropericardium syndrome. Other emerging and exotic viral diseases of global importance. Amphistomosis, fasciolosis, {Gastrointestinal nematodiasis, schistosomosis, echinococcosis, tapeworm infestations (cysticercosis), verminous bronchitis, coenurosis, trichomonosis, blood protozoan infections (trypanosomosis. theileriosis. babesiosis etc.). canine eperythrozoon infection, coccidiosis.

VLD-421: VETERINARY CLINICAL BIOCHEMISTRY AND LABORATORY DIAGNOSIS-II**Credit Hours 0+1=1**

Evaluation of acid-base balance and interpretation. Biochemical aspects of digestive disorders, endocrine functions. Liver, kidney and pancreatic function tests. Role of enzymes for detection of tissue / organ affections.

Preparation of microscopic slides from tissue collected for diagnosis and its' histopathological interpretation. Examination of biopsy and morbid material for laboratory diagnosis, Orientation to a clinical Microbiology laboratory, Collection, transport and processing of specimens from clinical cases for diagnosis of important bacterial, fungal and viral diseases. Isolation of bacteria from clinical samples, Identification of bacteria by Grams staining and cultural/biochemical characteristics. Drug sensitivity and rationale for therapy. Diagnosis of diseases by employing tests like Agar Gel precipitation Test Enzyme linked immunosorbent assay. Dot immunoassay, tube agglutination test, slide agglutination tests etc. Practice for separation of toxic materials from samples. Detection of arsenic, lead, antimony, mercury, copper, zinc, fluorides. Nitrates/nitrites cyanides and tannins in body fluids/tissues of animals. Evaluation of samples of toxic residues. Appreciation and differentiation of symptoms caused by various types of toxic materials including agrochemicals plants and drugs.

VCP-421: 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):

1. Ambulatory Section:

Handling, examination, diagnosis and treatment of sick animals under field conditions under the supervision of faculty designated for Ambulatory Clinical activity. Ambulatory Clinics shall be operated by small groups of students and faculty through an equipped mobile unit in which the departments of Veterinary Medicine, Veterinary Gynaecology and Obstetrics and Veterinary Surgery and Radiology shall be involved.

2. Diagnostic Laboratory Section:

The Clinical Diagnosis Laboratory will form an important component of Teaching Veterinary Clinical Complex. The Diagnostic Laboratory will impart training to groups of students for laboratory evaluation and interpretation of clinical samples leading to diagnosis/comparative diagnosis of diseases. This activity will involve training in examining clinical samples (biochemical, toxicological, pathological, parasitological and bacteriological) at the clinical complex, analyzing and correlating with clinical findings and interpreting the results. Note: The Laboratory should be run in collaboration with the Department of Pathology.

3. Medicine Section:

Orientation to Veterinary Clinics including hospital set up, administration and functioning. Methods of record keeping. Retrieval, processing, analysis and interpretation of data. Hospital management involving out patient department (OPD), Indoor patient, Critical care/intensive care unit, sanitation, up keeping, practice management etc. Doctor client interaction: Orientation to local language/dialect/ local terminology of the diseases. Registration, filling up registration cards, history taking. Relating generic and trade names of drugs along with their doses, indications and contraindications to prescribed treatment regimens. Familiarization and practice of first aid procedures and emergency medicine. Practice of collection, labeling, packaging and evaluation of laboratory samples. Clinical practice comprising of clinical examination of the patient, with emphasis on history taking, examination techniques- palpation, percussion and auscultation, systematic examination of various systems, recording of clinical observations viz. temperature, respiration, pulse, cardiac sounds, cardiac function, pulmonary function, functional motility of digestive system, routes and techniques of administration of medicaments. Diagnosis and treatment of common clinical cases like pharyngitis, laryngitis, stomatitis, indigestion, ruminal impaction, tympany, enteritis, traumatic reticulo-peritonitis, traumatic pericarditis, pneumonia, haemoglobinuria, haematuria, milk fever, ketosis, rickets, osteomalacia, common poisoning, and others. Collection of materials like urine, faeces, skin scraping, blood, milk and other body fluids for laboratory tests. Preparation of case records; follow-up records etc. Treatment of casualties and other emergencies. Screening of livestock/poultry through tests, mass diagnostic campaigns. Vaccination and other disease prevention and control programmes in the field. Practice of feeding of sick animals. Acts and regulations pertaining to generation and disposal of biomedical wastes in veterinary institutions. Biomedical waste generation, handling, storage, sorting, coding, transportation and disposal. Hazards of biomedical waste, and impact of biomedical waste on the environment.

4. Gynecology & Obstetrics Section:

Practice of pregnancy diagnosis, examination of cases of anoestrus, silent oestrus and conception failure. Treatment of cases of metritis, cervicitis and vaginitis. Handling of case of retention of placenta. Management of Ante and post partum prolapse of vagina. Examination and preliminary handling of dystocia cases, caesarian . operation Castration of male calves. Breeding soundness evaluation of bulls. Collection of cervical and vaginal mucus for cytology. Rectal examination of genitalia, vaginal examination. Familiarization with common drugs & hormones used in reproductive disorders, epidural and local anaesthesia for gynaecological cases. Filling of clinical case records and their maintenance.

5. Surgery & Radiology Section:

Familiarization with equipments used in different sections of the Hospital. Restraining and positioning of different species of animals for examinations, diagnosis and surgical treatment Prescription of common drugs, their doses and uses in clinical surgical practice. Filling of clinical case records and their maintenance. Preparation of surgical packs, sterilization procedures for surgical instruments, drapes, operation theaters. Passing of stomach tube and gastric tube. Catheterization and urine collection.

Techniques of examination of neuromuscular and skeletal functions, Familiarisation with antiseptic dressing techniques, bandaging, abdomino-centesis, thoracocentesis. Topography anatomy of Cattle, Horse and Dog. Radiographic positioning and terminology. Treatment and Management of inflammation, wounds, abscess, cysts, tumors, hernia, haematoma hemorrhage, sinus, fistula, necrosis, gangrene, burn, sprain and tendinitis. First aid in fractures and dislocations and other affections of joints, facial paralysis, Eye worm & other minor affections of Eye. Irregular teeth and their rasping, tail amputation, knuckling, upward fixation of patella (medical patellar desmotomy) etc.

Familiarisation with the landmarks for the approach to various visceral organs, thoraco-centesis, abdominocentesis. Laparotomy, palpation and visualisation of viscera. Urethrotomy, castration, vasectomy, caudectomy, ovariio-hysterectomy, thoracotomy, cystotomy, cystorraphy and splenectomy. Examination of horse for soundness and preparation of certificate for soundness. Tenotomies, suturing of tendon, shortening of tendon. Note: The skills required for the Comprehensive Examination of Core Competence to be held for the purpose of assessment/evaluation of Internship shall be imparted under these courses.

TVC-421: VETERINARIAN IN SOCIETY

Non-Credit Course: 1 +0=1

Man-Animal and Society. Social - ecological Interactions in animal rearing. Client oriented approach to physical examination of animals. Concepts in interaction with animal owner/clients. Bio-medical ethics and clinical evaluation. Communication skills. Animal/owner information management Human-animal bonds. Health maintenance in individual animals and population. Veterinary public health as component of society. Professional development Societal responsibilities of veterinarians. Societal responsibilities with respect to Private and Public Hospital and practice management Social conduct and personality profiles in management of clinical practice. Veterinary professional interactions with Health Authorities, Drug and Food Regulatory Authorities, Zoo/Animal Welfare organisations and Civil Administration. Role of Veterinarian in Natural Calamities and Disaster Management.