

# **DEPARTMENT OF VETERINARY SURGERY AND RADIOLOGY**

## **SEMESTER -VII**

### **GENERAL VETERINARY SURGERY, ANESTHESIOLOGY AND DIAGNOSTIC IMAGING**

**VSR-411**

**Credit Hours 2+2=4**

#### **General Surgery**

##### **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, burn. 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).

## **SEMESTER- VIII**

### **REGIONAL VETERINARY SURGERY**

**VSR- 421**

**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 salivary 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: Clinical 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, panophthalmia, 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 (umbilical, 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 liver, 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. Rumenotomy, gastrotomy, enterotomy, enteroanastomosis, urethrotomy, vasectomy, ovariohysterectomy, spaying, cystotomy and cystorrhaphy. Caesarean section. Amputation of tail.

## **SEMESTER-IX**

### **VETERINARY ORTHOPAEDICS AND LAMENESS**

**VSR-511**

**Credit Hours 1+1=2**

### **THEORY**

Body conformation of the horse in relation to lameness (trunk, fore limb and hind limb) Lameness, definition, classification and diagnosis. Shoulder slip (sweeny), bicipital bursitis, omarthritis, capped elbow, radial paralysis, carpitis. bent knee, and knock-knee. Hygroma of knee, open knee, blemished knee. Fracture of carpal bone, fracture of accessory carpal, contraction of digital flexors. Splints, sore shin, wind puffs, sesamoiditis Osstots, ringbone, quittor, side bone, Navicular disease, pyramidal disease. Laminitis, sand crack, seedy toe, fractures of third phalanx, pedal osteitis, and sole penetration. Canker, thrush and corn, Monday morning disease, cording up, myositis of psoas, Mac thrombosis, Crural paralysis, subluxation of sacroiliac joint rupture of round ligament trochantric bursitis. Upward luxation fixation of patella, stringhalt, gonitis, chondromalacia of patella, rupture of tendoachilles, rupture of peroneus tertius, fibrotic myopathy and ossifying myopathy. Thoroughpin, bog spavin, spavin, curb, capped hock. Bovine lameness: contusion of sole, ulceration of sole, septic laminitis. avulsion of hoof and subluxation of patella. Interdigital fibroma, cyst sand crack, hoof deformities. Speckle joint disease (septic arthritis, osteochondritis dessicans, degenerative joint disease) in large animals and their treatment. Specific joint disease in dogs and their treatment. (Intervertebral disc protrusion, spondylosis) elbow and hip dysptasta Rupture of cruciate ligament. Fracture and dislocation. Classification and general principles or fracture repair. Application of external and internal immobilization for different bone fractures in small and large animals. Complications of fracture healing. Affections of tendon,

tendon sheath, bursa and ligaments. Principles of physiotherapy, classification, scope and limitations.

### **PRACTICAL**

Examination of the horse for confirmation of body (head, trunk, fore limbs and hind limbs) and diagnosis of lameness. Demonstration of equine shoeing. First aid in orthopaedic patients (splint application, Robert Jones's bandage) Plaster of paris cast- application in dogs and carves. Hanging pin and transfixation pinning (demonstration) Intra medullary pinning in dogs (demonstration). Diagnostic nerve block in equine(demonstration) Demonstration of: daw trimming of bovine foot neurological examination for evaluation of spinal trauma, tenectomies of lateral digital extensor tendon, medial patellar desmotomy Techniques and application of diathermy, electrical stimulators, ultrasonic, therapy, infra red and ultra- violet rays.

(Courses on Zoo/Wild Animal Breeding, Nutrition, Management and Health Care under VMD - 512 (2+1) and Pet/Companion Animal Breeding, Feeding, Management and Health Care under VMD- 513 (1+1) shall be taught jointly by Departments of Veterinary Medicine, Livestock Production Management Animal Genetics and Breeding, Animal Nutrition, Veterinary Pathology, and Veterinary Surgery and Radiology).

### **REFERENCE BOOKS**

1. Veterinary Surgical techniques by Amresh Kumar
2. Dollar's Veterinary Surgery by O'connor
3. Veterinary Radiology by A.P. Singh & Jit Singh
4. Veterinary anesthesia by Hall and Clarke
5. Adam's lameness in horses by Stashak, Ted.S
6. Ruminants surgery by R.P.S. Tyagi & Jit Singh
7. Veterinary anesthesia 10<sup>th</sup> Edition by L.W. Hall, K.W. Clarke, C.M. Trim
8. Atlas of approaches for general surgery of dog and cat by Mark, M. Smith, Don.R.Waldras
9. Textbook of small animal surgery – 2<sup>nd</sup> Edition Vol.I and Vol.II by Douglas Slatter, W.B. Saunders Co.
10. Lameness in cattle by P.R. Greenough.