## VETERINARY MEDICINE

### Course Structure

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VETERINARY MEDICINE

Course Contents

VMD 601 RUMINANT MEDICINE - I 3+0 SEM - I

Objective
Study of diseases of various body systems, bacterial and viral diseases of bovine, sheep and goats.

Theory
UNIT-I: General systemic states. Diseases of alimentary system, liver and urinary system.
UNIT-II: Diseases of respiratory, nervous, cardiovascular, blood and blood forming organs, musculoskeletal system and skin.
UNIT-III: Mastitis, joint ill, ulcerative lymphangitis, anthrax, clostridial infections, black quarter, bacillary haemoglobinuria, botulism, colibacillosis, pasteurellosis, listeriosis, tuberculosis, Johne’s disease, braxy, enterotoxaemia, brucellosis, salmonellosis, leptospirosis, actinomycosis, actinobacillosis.
UNIT-IV: Foot and mouth disease, mucosal disease complex, PPR, malignant head catarrh, infectious bovine rhinotracheitis, scrapies, looping ill, blue tongue, pox diseases, rinderpest and ephemeral fever.

Suggested Readings

VMD 602 RUMINANT MEDICINE - II 3+0 SEM - II

Objective
Study of parasitic and fungal diseases of bovine, sheep and goats.

Theory
UNIT-I: Ringworm, cutaneous sporotrichosis, aspergillosis, coccidiomycosis, rhinosporidiosis, mucormycosis, histoplasmosis, candidiasis, blastomycosis.
UNIT-II: Bovine tropical theileriosis, babesiosis, anaplasmosis, trypanosomiosis, toxoplasmosis, coccidiosis.
UNIT-III: Sarcocystosis, fascioliosis, amphistomiosis, gastro-intestinal nematodiosis, schistosomiosis, verminous bronchitis, echino-coccosis, coenurosis, tape worm infestations.

Suggested Readings

VMD 603 EQUINE MEDICINE 2+0 SEM - I

Objective
Study of etiology, epidemiology, pathogenesis, symptomatology, diagnosis, treatment and prevention of diseases of equines.

Theory
UNIT-I: General systemic states and diseases of various body systems (alimentary, urinary, respiratory, nervous, cardiovascular, blood and blood forming organs, musculoskeletal and integumentary).
UNIT-II: Anthrax, tetanus, botulism, strangles, glanders, malignant edema, actinomycosis, clostridial infections, African horse sickness, infectious equine anaemia, equine influenza, equine encephalomyelitis, equine viral rhinopneumonitis, equine viral arteritis, ulcerative lymphangitis, Rhodococcus equi pneumonia.
UNIT-III: Trypanosomiasis/dourine, babesiosis, parasitic pneumonia, cutaneous eczema, cutaneous acne, cutaneous pustular dermatitis, candidiasis, histoplasmosis, coccidiomycosis, dermatophytosis.

Suggested Readings
VMD 604  CANINE AND FELINE MEDICINE  2+0  SEM - II
Objective
Study of etiology, epidemiology, pathogenesis, symptomatology, diagnosis and treatment of diseases of dogs and cats.

Theory
UNIT-I: General systemic states, hypothyroidism, diabetes mellitus, diabetes insipidus, rickets.
UNIT-II: Bacterial diseases: leptospirosis, tetanus, botulism. Viral diseases: canine-distemper, infectious canine hepatitis, parvovirus infection, rabies, corona virus infection.

Suggested Readings

VMD 605  AVIAN MEDICINE  2+1  SEM - II
Objective
Study of etiology, epidemiology, pathogenesis, symptomatology, diagnosis and treatment of diseases of avian species.

Theory
UNIT-I: Diseases due to deficiency of vitamins (vitamins A, B complex, C, D,E and K); minerals (calcium, phosphorus, manganese, zinc) and sodium chloride; miscellaneous diseases/conditions/vices.
UNIT-II: Bacterial diseases: Escherichia coli and salmonella infections, coryza, fowl cholera, gangrenous dermatitis, mycoplasmosis, CRD.
UNIT-IV: Fungal and parasitic diseases: aspergillosis, candidiosis, favus, mycotoxicosis, coccidiosis, roundworm and tape worm infestations, vaccination schedule etc.

Practical
Post-mortem examination of poultry birds, collection of clinical material for laboratory diagnosis.

Suggested Readings

VMD 606  DISEASES OF ANIMAL SPECIES OF REGIONAL IMPORTANCE (CAMEL)  1+0  SEM - I
Objective
Study of diseases of important regional animal species (camel).

Theory
The animal species, to be studied/ taught is to be decided by the individual institution. For Veterinary College at CCS HAU Hisar, camel diseases will be covered.
UNIT-I: General systemic states, nutritional deficiency disorders.
UNIT-II: Specific diseases (malli, kapali, jholing, peritonitis, specific peritonitis, satyriasis, kumri, allotriophagia, tibersa and other common infectious diseases.
Suggested Readings

VMD 607     SWINE MEDICINE         1+0   SEM - I
Objective
Study of etiology, epidemiology, pathogenesis, symptomatology, diagnosis and treatment of diseases of swine.

Theory
UNIT-II: Porcine enteroviruses, pseudorabies, listeriosis, leptospirosis, brucellosis, anthrax, salmonellosis, swine erysipelas, pasteurellosis, tuberculosis mange etc.

Suggested Readings

VMD 608     METABOLIC DISEASES      2+0   SEM - I
Objective
Study of metabolic, production and deficiency diseases of domestic animals.

Theory
UNIT-I: General aspects, production diseases (parturient paresis, downer cow syndrome, ketosis, post-parturient haemoglobinuria, hypomagnesemic tetany, pregnancy toxaemia).
UNIT-II: Lactation tetany of mares, eclampsia of bitches, osteodystrophia fibrosa, azoturia of equines, rheumatism-like syndrome in buffaloes, hypothyroidism, diabetes mellitus and diabetes insipidus in dogs.
UNIT-IV: Deficiency diseases (iron, copper, cobalt, zinc, manganese, iodine, vitamin E and selenium).

Suggested Readings

VMD 609     DISEASES OF ANIMALS CAUSED BY 1+0   SEM - II
THEOTICANTS
Objective
Study of diseases caused by various toxicants in domestic animals.

Theory
UNIT-I: Diseases caused by physical agents and poisoning of organic and inorganic compounds, farm chemicals and phytotoxins.
UNIT-II: Diseases caused by mycotoxins and zootoxins, poisonous plants, snake and insect bites.

Suggested Readings

VMD 610     VETERINARY FORENSIC MEDICINE 1+1   SEM - II
Objective
To familiarize students with various aspects of Veterinary Forensic Medicine.

Theory
UNIT-I: Vetorelegal aspects of ante mortem and post mortem examination.
UNIT-II: Examination of wounds, blood, offenses, frauds in animals and their products, animal cruelty and welfare.

Practical
Antemortem and postmortem examination, examination of wounds, blood, offenses, frauds in animals and their products, collection, dispatch and examination of veterolegal samples.

Suggested Readings

VMD 611 CLINICAL DIAGNOSTIC TECHNIQUES 0+2 SEM - I

Objective
Study the diagnostic protocols and procedures for various diseases of farm and companion animals.

Practical
UNIT-I: Clinical tests and their interpretation related to diseases of alimentary tract, liver, cardiovascular system, blood and blood-forming organs of various species of animals.
UNIT-II: Clinical tests and their interpretation related to respiratory, urinary, nervous, endocrine, musculoskeletal and integumentary systems of various species of animals.

Suggested Readings

VMD 612 CLINICAL PRACTICE - I 0+3 SEM - I

Objective
Application of the theoretical concepts in practice.

Practical
Diagnostic and therapeutic protocol application, specimen collection, examination and management of diseased farm and companion animals.

Note: This course will be conducted in TVCC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals.

VMD 613 CLINICAL PRACTICE – II 0+3 SEM - II

Objective
Application of the theoretical concepts in practice.

Practical
Diagnostic and therapeutic protocol application, specimen collection, examination and management of diseased farm and companion animals.

Note: This course will be conducted in TVCC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals.

VMD 701 ADVANCES IN GASTROENTEROLOGY 2+0 SEM - I

Objective
Study of contemporary advances in gastroenterology.

Theory
UNIT-I: Advances in diagnosis, therapy and control of diseases of gastrointestinal system and associated organs of farm animals.
UNIT-II: Advances in diagnosis, therapy and control of diseases of gastrointestinal system and associated organs of companion animals.

Suggested Readings
Selected articles from journals.

VMD 702 ADVANCES IN CARDIO-PULMONARY MEDICINE 2+0 SEM - II

Objective
Study of recent advances in the field of cardiopulmonary medicine.

Theory
UNIT-I: Advances in diagnosis and therapeutic management of diseases of circulatory system.
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**Objective**
- Study of recent advances in the field of neurological and urological disorders.
- Study of recent advances in endocrine and dermatological disorders.
- Study of recent advances and research methodology related to metabolic diseases of domestic/companion animals.
- Study of recent advances and research methodology related to infectious diseases of ruminants.

**Theory**
- UNIT-I: Advances in diagnosis, therapy and prevention of diseases of nervous and locomotor systems.
- UNIT-II: Advances in diagnosis, therapy and prevention of diseases of urinary system.
- UNIT-I: Advances in diagnosis, therapy and prevention of diseases of urinary system.
- UNIT-II: Advances in diagnosis, therapy and prevention of diseases of urological system.
- UNIT-I: Advances in diagnosis, therapy and prevention of diseases of integumentary system.
- UNIT-II: Advances in diagnosis, therapy and prevention of diseases of endocrine system.
- UNIT-I: Metabolic/production diseases of farm and companion animals.
- UNIT-II: Nutritional deficiency diseases of farm and companion animals.
- UNIT-I: Bacterial and viral diseases of bovines, sheep and goats.
- UNIT-II: Fungal, parasitic and rickettsial diseases of bovines, sheep and goats.

**Practical**
- Short term assignment with some research component pertaining to metabolic/production/nutritional deficiency diseases of domestic and companion animals.
- Short term assignment with some research component pertaining to ruminant infectious diseases.

**Suggested Readings**
- Selected articles from journals.
- Selected articles from journals.
VMD 707 ADVANCES IN INFECTIOUS DISEASES OF EQUINES 1+2 SEM - I

Objective
Study of recent advances and research methodology related to infectious diseases of equines and canines.

Theory
UNIT-I: Bacterial, viral and rickettsial diseases of equines.
UNIT-II: Fungal and parasitic diseases of equines.

Practical
Short term assignment with some research component pertaining to infectious diseases of equines.

Suggested Readings
Selected articles from journals.

VMD 708 ADVANCES IN INFECTIOUS DISEASES OF PET ANIMALS 1+2 SEM - II

Objective
Study of recent advances and research methodology related to infectious diseases of pet animals.

Theory
UNIT-I: Bacterial, viral and rickettsial diseases of pet animals.
UNIT-II: Fungal and parasitic diseases of pet animals.

Practical
Short term assignment with some research component pertaining to infectious diseases of pet animals.

Suggested Readings
Selected articles from journals.

VMD 709 ADVANCES IN DISEASES OF POULTRY 1+2 SEM - I

Objectives
Study of recent advances and research methodology related to diseases of poultry.

Theory
UNIT-I: Bacterial and viral diseases of poultry.
UNIT-II: Fungal, parasitic and miscellaneous diseases of poultry.

Practical
Short term assignment with some research component pertaining to diseases of poultry.

Suggested Readings
Selected articles from journals.

VMD 710 ADVANCES IN VETERINARY DIAGNOSTICS 1+2 SEM - II

Objective
Study of recent advances in diagnostics of animal diseases.

Theory
UNIT-I: Blood and serum biochemical and hematological analyses.
UNIT-II: Imaging techniques for the diagnosis of animal diseases (x-ray, contrast radiography, CAT scan, MRI, scintigraphy, echocardiography etc).
UNIT-III: Electrocardiography, ophthalmoscopy, ultrasonography, EEG, CVP, GFR assessment, pulse-oxymetry etc.

Practical
Assignments on advanced diagnostic techniques for various diseases of domestic animals. Use of above mentioned advanced diagnostic techniques where ever possible. Collection of CSF, Gastric / rumen /intestinal fluid, absorption and digestion tests, hematological interpretations, enzyme and other biochemical profiles.

Suggested Readings
Selected articles from journals.
VMD 711  ADVANCES IN VETERINARY THERAPEUTICS  1+2  SEM - I

Objective
Study of recent advances in Veterinary therapeutics.

Theory
UNIT-I: Fluid and electrolyte imbalance and therapy.
UNIT-II: Antimicrobial, antineoplastic and hormonal therapy.
UNIT-III: Blood transfusion and emergency critical care, peritoneal dialysis/hemodialysis, gastric lavage, fluid therapy, parenteral total nutrition, nebulization, oxygen therapy, paracentesis, thoracocentesis.

Practical
Assignments on advanced therapeutic approaches in various diseases of domestic animals.

Suggested Readings
Selected articles from journals.

VMD 712  ADVANCED CLINICAL PRACTICE - I  0+2  SEM - I

Objective
Application of the theoretical concepts in practice.

Practical
Diagnostic and therapeutic protocol application, specimen collection, examination and management of diseased farm and companion animals.

Note: This course will be conducted in TVCC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals.

VMD 713  ADVANCED CLINICAL PRACTICE - II  0+2  SEM - II

Objective
Application of the theoretical concepts in practice.

Practical
Diagnostic and therapeutic protocol application, specimen collection, examination and management of diseased farm and companion animals.

Note: This course will be conducted in TVCC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals.

VMD 714  ADVANCED CLINICAL PRACTICE - III  0+2  SEM - I

Objective
Application of the theoretical concepts in practice.

Practical
Diagnostic and therapeutic protocol application, specimen collection, examination and management of diseased farm and companion animals.

Note: This courses will be conducted in TVCC (College Clinics), where students shall participate in diagnosis and treatment of diseased animals.

VMD 790  SPECIAL PROBLEM  0+2  SEM - I, II

Objective
A short-term project work on some aspect of etio-pathogenesis, diagnosis and therapy of diseases of domestic animals.
VETERINARY MEDICINE

List of Journals

- Indian Journal of Poultry Science
- Indian Journal of Veterinary Medicine
- Indian Journal of Veterinary Research
- Indian Veterinary Journal
- Journal of American Veterinary Medical Association
- Research in Veterinary Science
- Veterinary Medicine
- Veterinary Medicine and Small Animal Clinician
- Veterinary Record
- Veterinary Research Communications

E-Resources

- www.uni-sz.bg/bjvm/bjvm.htm (Bulgarian Journal of Veterinary Medicine)
- Isrvma.org/journal.htm. (Israel Journal of Veterinary Medicine)
- www.medwellonline.net/java/fp.html (Journal of Animal & Veterinary Advances)
- www.jstage.jst.go.jp/browse/jes/-char/en (Journal of Equine Science)
- www.stage.jst.go.jp/browse/jpsa (Journal of Poultry Science)
- www.vesci.org (Journal of Veterinary Science)
- www.sasas.co.za (South African Journal of Animal Science)
- journals.tubitak.gov.tr/veterinary/index.php (Turkish Journal of Veterinary and Animal Sciences)
- vetmed.vri.cz (Veterinary Medicine)

Suggested Broad Topics for Master’s and Doctoral Research

- Clinico-therapeutic aspects of bovine mastitis
- Hepatic, respiratory and skin disorders in animals
- Metabolic/nutritional deficiency disorders in animals with emphasis on hypophosphatemia, hypocupremia and hypomagnesemia
- Clinico-therapeutic studies on various infectious diseases of domestic and pet animals