**DEPARTMENT OF VETERINARY PHARMACOLOY & TOXICOLOGY**
**BIHAR VETERINARY COLLEGE, PATNA – 800 014**

## *Lesson Plan/ Course Break-up*

*Course Title: Veterinary Pharmacology & Toxicology,* *Cr. Hrs. : 4+1 =5*
*Academic Year: 2018-19,* *Batch : 2016-17*

*Course Instructor (s) : Dr. Nirbhay Kumar, Dr. R.K. Nirala, Dr. Archana, Dr. R.R. Kumari and Dr. Kumari Anjana.*

| THEORY CLASSES | | |
|---|---|---|
| **S.N.** | **Topic of the Lecture (Theory) to be delivered** | **Name of the Instructor** |
| **UNIT-1 (GENERAL PHARMACOLOGY)** | | |
| 1 | Introduction to Pharmacology | Dr. R.R. Kumari |
| 2 | Historical development in Pharmacology | Dr. R.R. Kumari |
| 3 | Branches and scope of pharmacology | Dr. R.R. Kumari |
| 4 | Sources and nature of drugs | Dr. R.R. Kumari |
| 5 | Pharmacological terms and definitions | Dr. R.R. Kumari |
| 6 | Drug Nomenclature, Drug information sources - Pharmacopoeias, Formularies and others | Dr. R.R. Kumari |
| 7 | Principles of drug activity : Pharmacokinetics - Routes of drug administration | Dr. R.R. Kumari |
| 8 | Absorption, Nature of Biological membranes and Drug Transport across membranes | Dr. R.R. Kumari |
| 9 | pH partition hypothesis, bioavailability & bioequivalence | Dr. R.R. Kumari |
| 10 | Pharmacokinetics - Distribution, | Dr. R.R. Kumari |
| 11 | Pharmacokinetics - Biotransformation | Dr. R.R. Kumari |
| 12 | Pharmacokinetics - Excretion of drugs. | Dr. R.R. Kumari |
| 13 | Pharmacodynamics - Concept of drug and receptor | Dr. R.R. Kumari |
| 14 | Dose-response relationship, | Dr. R.R. Kumari |
| 15 | Terms related to drug activity and | Dr. R.R. Kumari |
| 16 | Factors modifying the drug effect and dosage. | Dr. R.R. Kumari |
| 17 | Adverse drug reactions | Dr. R.R. Kumari |
| 18 | Drug interactions. | Dr. R.R. Kumari |
| **UNIT-2 (DRUGS ACTING ON AUTONOMIC NERVOUS SYSTEM)** | | |
| 19-21 | Neurohumoral transmission | Dr. Nirbhay Kr. |
| 22 | Pharmacology of neurotransmitters | Dr. Nirbhay Kr. |
| 23-24 | Adrenoceptors | Dr. Nirbhay Kr. |
| 25-26 | Adrenergic agonists | Dr. Nirbhay Kr. |
| 27-28 | Adrenergic antagonists | Dr. Nirbhay Kr. |
| 29 | Adrenergic neuron blockers | Dr. Nirbhay Kr. |
| 30-31 | Cholinoceptor agonists | Dr. Nirbhay Kr. |
| 32-34 | Cholinergic antagonists | Dr. Nirbhay Kr. |
| 35-36 | Autacoids: Histamine, histamine analogues & antihistaminic agents | Dr. Nirbhay Kr. |
| 37-38 | 5-Hydroxytryptamine and its agonists and antagonists | Dr. Nirbhay Kr. |
| 39-40 | Eicosanoids | Dr. Nirbhay Kr. |
| 41-42 | Platelet activating factors, angiotensin, bradykinin and kallidin. | Dr. Nirbhay Kr. |

Nirbhay Kr 01/10/2018 01/10/18 Archana 1/10/2018 01.10.18

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| **UNIT-3 (DRUGS ACTING ON CENTRAL NERVOUS SYSTEM)** | | |
| 43-44 | Classification of drugs acting on CNS. | Dr. R.K. Nirala |
| 45-47 | History, mechanism and stages of general anaesthesia. | Dr. R.K. Nirala |
| 48-49 | Inhalant anaesthetics | Dr. R.K. Nirala |
| 50-52 | Intravenous and dissociative anaesthetics. | Dr. R.K. Nirala |
| 53-54 | Hypnotics and sedatives; | Dr. R.K. Nirala |
| 55 | Psychotropic drugs, | Dr. R.K. Nirala |
| 56 | Anticonvulsants, | Dr. R.K. Nirala |
| 57-59 | Opioid analgesics, | Dr. R.K. Nirala |
| 60-62 | Non-steroidal anti-inflammatory drugs | Dr. R.K. Nirala |
| 63-64 | Analeptics and other CNS stimulants. | Dr. R.K. Nirala |
| 65-68 | Drugs acting on somatic nervous system: Local anaesthetics, muscle relaxants. | Dr. R.K. Nirala |
| 69 | Euthanizing agents | Dr. R.K. Nirala |
| **UNIT-4 (DRUGS ACTING ON DIFFERENT BODY SYSTEMS)** | | |
| 70-74 | Drugs acting on digestive system: Stomachics, antacids and antiulcers, prokinetics, carminatives, antizymotics, emetics, antiemetics, purgatives, antidiarrhoeals, choleretics and cholagogues. Rumen pharmacology. | Dr. Archana |
| 75-78 | Drugs acting on cardiovascular system: Cardiotonics and cardiac stimulants, antiarrhythmic drugs, vasodilators and antihypertensive agents, haematopoietic drugs, coagulants and anticoagulants. | Dr. Archana |
| 79-81 | Drugs acting on respiratory system: Expectorants and antitussives, respiratory stimulants, bronchodilators and mucolytics. | Dr. Archana |
| 82-85 | Drugs acting on urogenital system: Diuretics, drugs affecting urinary pH and tubular transport of drugs, ecbolics and tocolytics. | Dr. Archana |
| 86-87 | Pharmacological basis of fluid therapy. | Dr. Archana |
| 88-90 | Pharmacotherapeutics of hormones. | Dr. Archana |
| 91-92 | Drugs acting on skin and mucous membranes: Emollients, demulcents and counter irritants. | Dr. Archana |
| **UNIT-5 (VETERINARY CHEMOTHERAPY)** | | |
| 93-94 | Introduction and historical developments of chemotherapy. | Dr. Archana |
| 95-97 | Antimicrobial agents: Classification, general principles in antimicrobial chemotherapy, antimicrobial resistance, combined antimicrobial therapy. | Dr. Archana |
| 98-100 | Sulphonamides and their combination with diaminopyrimidines. | Dr. Archana |
| 101-104 | Penicillins, cephalopsorins, cephamycins and other beta lactams, beta lactamase inhibitors. | Dr. Archana |
| 105-106 | Aminoglycosides and aminocyclitols | Dr. Archana |
| 107-109 | Tetracyclines, amphenicols (chloramphenicol, thiamphenicol, florfenicol), macrolides | Dr. Archana |
| 110-112 | Quinolones and fluoroquinolones, polypeptides (polymixins, bacitracin) and glycopeptide antibiotics. | Dr. Archana |
| 113-114 | Miscellaneous agents: Lincosamides, novobiocin, virginiamycin, tiamulin, nitrofurans and methenamine, | Dr. Archna |

01/10/2018 01/10/18 01/10/2018 01.10.18

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| 115 | Antitubercular drugs. | Dr. Archana |
| 116-118 | Antifungal agents: Topical and systemic agents including anti-fungal antibiotics. | Dr. Nirbhay Kr. |
| 119-120 | Antiviral and anticancer agents. | Dr. Nirbhay Kr. |
| 121-123 | Anthelmintics: Drugs used against nematodes, cestodes, trematodes. | Dr. Nirbhay Kr. |
| 124-127 | Antiprotozoal agents: Drugs used in trypanosomosis, theileriosis, babesiosis, coccidiosis, amoebiosis, giardiosis and trichomoniasis. | Dr. Nirbhay Kr. |
| 128 | Ectoparasiticides. | Dr. Nirbhay Kr. |
| 129-130 | Antiseptics and disinfectants. | Dr. Nirbhay Kr. |
| 131 | Pharmacology of drugs of abuse in animals. | Dr. Nirbhay Kr. |
| 132-134 | Pharmacology of indigenous medicinal plants: Scientific name, common name, active principles, pharmacological actions and therapeutic uses of Ginger, ocimum, neem, piper longum, withania, leptadenia, tinospora, embilica, eucalyptus, glycerrhiza, trichospermum, curcuma, adhantoda, butea, aloes, sena, rheubarb, catechu etc. | Dr. Nirbhay Kr. |
| **UNIT-6 (VETERINARY TOXICOLOGY)** | | |
| 135-136 | General Toxicology: Definitions, history of toxicology, fundamentals and scope of toxicology. | Dr. Anjana |
| 137-139 | Sources and classification of toxicants, factors modifying toxicity, general approaches to diagnosis and treatment of poisoning. | Dr. Anjana |
| 140-156 | Toxicity caused by metals and non-metals: Arsenic, lead, mercury, copper, molybdenum, selenium, phosphorus, fluoride, nitrates or nitrites, chlorate, common salt and urea. | Dr. Anjana |
| 157-167 | Poisonous plants: Cyanogenetic plants, abrus, ipomoea, datura, nux vomica, castor, oxalate producing plants, plants causing thiamine deficiency, plants causing photosensitization and lathyrism, oleander, and cotton. | Dr. Anjana |
| 168-171 | Toxicity caused by Agrochemicals: Insecticides - Chlorinated hydrocarbons, organophosphates, carbamates, pyrethroids, newer insecticides. Herbicides, fungicides and rodenticides. | Dr. R.K. Nirala |
| 172-174 | Fungal and bacterial toxins: Aflatoxins, rubratoxin, ochratoxin, sporidesmin, citrinin, F-2 toxin, trichothecenes, ergot, fescue, botulinum toxin and tetanus toxin. | Dr. R.R. Kumari |
| 175-176 | Venomous bites and stings: Snake, scorpion, spider, bees and wasp, toad and fishes (puffer fish, shellfish). | Dr. R.R. Kumari |
| 177 | Toxicity caused by food additives and preservatives. | Dr. R.R. Kumari |
| 178 | Drug and pesticide residue toxicology. | Dr. R.R. Kumari |
| 179-180 | Environmental pollutants: Air and water pollutants. Concept of radiation hazards. | Dr. R.R. Kumari |

01/10/2018 1/10/18 01.10.18

## PRACTICAL CLASSES

| S.N. | Name of Experiment | Name of the Instructor |
|---|---|---|
| **UNIT-1 (GENERAL PHARMACOLOGY)** | | |
| 1. | Handling and washing of laboratory wares. | Dr. R.K.Nirala |
| 2. | Handling and operation of commonly used laboratory instruments. | Dr. R.K.Nirala |
| 3. | Concept of good laboratory practices (GLP). | Dr. R.K.Nirala |
| 4. | Pharmacy appliances. Principles of compounding and dispensing. | Dr. R.K.Nirala |
| 5. | Metrology, systems of weights and measures. | Dr. R.K.Nirala |
| 6. | Pharmacy calculations. | Dr. R.K.Nirala |
| 7. | Pharmaceutical processes. | Dr. R.K.Nirala |
| 8. | Pharmaceutical dosage forms. | Dr. R.K.Nirala |
| 9. | Prescription writing, | Dr. R.K.Nirala |
| 10. | Incompatibilities. | Dr. R.K.Nirala |
| 11. | Drug standards and regulations, custody of poisons. | Dr. R.K.Nirala |
| 12. | Compounding and dispensing of powders, ointments, mixtures, liniments, lotions, liquors, tinctures, emulsions, and electuaries. | Dr. R.K.Nirala |
| **UNIT-2 (ANS PHARMACOLOGY)** | | |
| 13-23 | Demonstration of the action of autonomic agonists and antagonists on intact or isolated preparations of the laboratory animals (Simulated animal experiments). | Dr. Nirbhay Kr. |
| **UNIT-3 (CNS PHARMACOLOGY)** | | |
| 24-25 | Handling of lab animals. | Dr. R.R. Kumari |
| 26-27 | Regulatory guidelines for use of lab animals. | Dr. R.R. Kumari |
| 28-33 | Demonstration of the effect of CNS active drugs and local anaesthetics in laboratory animals (simulated experiments). | Dr. R.R. Kumari |
| **UNIT-4 (VETERINARY CHEMOTHERAPY)** | | |
| 34-35 | Demonstration of various chemotherapeutic agents and their dosage forms. | Dr. R.K. Nirala |
| 36-38 | Demonstration of antibiotic sensitivity test and its interpretation. | Dr. Nirbhay Kr. |
| **UNIT-5 (VETERINARY TOXICOLOGY)** | | |
| 39-40 | Collection, preservation and dispatch of material for toxicological analysis. | Dr. Anjana |
| 41 | General principles for toxicological analysis. | Dr. Anjana |
| 42-43 | Detection of heavy metals or non-metals or plant poisons. | Dr. Anjana |
| 44-45 | Demonstration of agrochemical toxicity and its antidotal therapy via simulation methods. | Dr. Anjana |
| 46-47 | Demonstration of toxic weeds and plants of local area. | Dr. Anjana |
| 48-50 | Methods of calculation of median lethal dose (LD50)or maximum tolerated dose (MTD). | Dr. Anjana |

01/10/2018 1/10/18 01.10.18

**DEPARTMENT OF VETERINARY PHARMACOLOY & TOXICOLOGY**
**BIHAR VETERINARY COLLEGE, PATNA – 800 014**

## *Lesson Plan/ Course Break-up*

***Course Title: Chemotherapy,*** ***Course No.- VPT-411,*** ***Cr. Hrs. : 2+0 =2***
***Academic Year: 2018-19,*** ***Batch : 2015-16***

***Course Instructor (s) : Dr. Archana, Dr. Kumari Anjana, Dr. R.R. Kumari, Dr. R.K. Nirala and Dr. Nirbhay Kumar.***

| Lecture No. | Topic | Name of Instructor |
|---|---|---|
| ***Antimicrobial drug: General considerations*** | | |
| 1. | Introduction and History of Chemotherapy | Dr. Archana |
| 2. | Classification of antimicrobial & antibacterial agents, | Dr. Archana |
| 3. | General principles in antibacterial chemotherapy | Dr. Archana |
| 4. | Antimicrobial resistance | Dr. Archana |
| **Antibacterial agents** | | |
| 5. | Sulfonamides- Classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| 6. | Sulphonamides and their combination with diaminopyrimidines | Dr. Archana |
| 7. | Sulfones, nitrofurans - mechanism of action , clinical uses | Dr. Archana |
| 8. | Nalidixic acid and fluoroquinolones- General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| **Antibiotics** | | |
| 9. | Penicillins- General introduction, classification | Dr. Archana |
| 10. | Penicillins- Mechanism of action , clinical uses and side effects. | Dr. Archana |
| 11. | Cephalosporins- General introduction, classification | Dr. Archana |
| 12. | Cephalosporins- mechanism of action , clinical uses and side effects. | Dr. Archana |
| 13. | Aminoglycosides - General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| 14. | Tetracycilines - General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| 15. | Chloramphenicol- General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| 16. | Macrolide antibiotics (Erythromycin, Oleandomycin etc.) - General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Archana |
| 17. | Miscellaneous agents: polypeptides, methenamine, bacitracin, Rifampin, novobiocin, viginamycin, lincosamides and vancomycin- General introduction, mechanism of action, clinical uses and side effects. | Dr. Archana |
| **Antifungal agents** | | |
| 18. | Topical and systemic agents including anti-fungal antibiotics- General introduction | Dr. R.K. Nirala |
| 19. | Classification, mechanism of action , clinical uses and side effects. | Dr. R.K. Nirala |

01/10/2018 1/10/18 1/10/2018 01.10.18

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| **Anthelmintics** | | |
| 20. | Introduction of Antihelmintics drugs, Ideal Antihelmintics, General mode of action of Antihelmintics, Antehelminthic resistance. Broad spectrum anthelminthics. | Dr. Nirbhay Kr. |
| 21. | Drugs used against nematodes - General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Nirbhay Kr. |
| 22. | Drugs used against cestodes - General introduction, classification, mechanism of action , clinical uses and side effects. | Dr. Nirbhay Kr. |
| 23. | Drugs used against trematodes- General introduction, classification, mechanism of action, clinical uses and side effects. | Dr. Nirbhay Kr. |
| **Antiprotozoal agents** | | |
| 24. | Drugs used in trypanosomosis | Dr. Nirbhay Kr. |
| 25. | Drugs used in theileriosis, babesiosis | Dr. Nirbhay Kr. |
| 26. | Drugs used in coccidiosis | Dr. Nirbhay Kr. |
| 27. | Drugs used in amoebiosis, giardiosis and trichomonosis | Dr. Nirbhay Kr. |
| **Ectoparasiticides** | | |
| 28. | General introduction, classification, mechanism of action, clinical uses. | Dr. R.R. Kumari |
| **Antiviral agents** | | |
| 29. | General introduction, classification, mechanism of action, clinical uses and side effects. | Dr. R.R. Kumari |
| **Anticancer Agents** | | |
| 30. | General introduction, classification, mechanism of action, clinical uses and side effects. | Dr. R.R. Kumari |
| **Antiseptics & disinfectants** | | |
| 31. | General introduction, Characters of an ideal Antiseptic, Mechanism of action of germicide. | Dr. Anjana |
| 32. | Classification , composition and different uses. | Dr. Anjana |
| **Growth promoters** | | |
| 33. | General introduction and uses | Dr. Anjana |
| **Indigenous drugs** | | |
| 34. | Common indigenous drugs of plant origin with proven pharmacological and therapeutic efficacies in various animal ailments. | Dr. Anjana |
| 35. | New drugs and drug formulations. | Dr. Anjana |

01/10/2018 1/10/18 01.10.18

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**DEPARTMENT OF VETERINARY PHARMACOLOGY & TOXICOLOGY**
**BIHAR VETERINARY COLLEGE, PATNA-800014**

**Lesson Plan/ Course Break-up**

Course No. : VPT-311 Credit Hours: 2+1=3
Academic Year : 2018-19 Batch: 2015-16 (Year Back)
Course Title : General and Systemic Veterinary Pharmacology
Course Instructors : Dr. Rashmi Rekha Kumari, Dr. Kumari Anjana, Dr. R.K.Nirala, Dr. Nirbhay Kumar and Dr. Archana

**THEORY:**

| Lecture No. | Topic | Name of Instructor(s) |
|---|---|---|
| ***Introductory Pharmacology*** | | |
| 1. | Introduction to Pharmacology, Historical development in Pharmacology, Branches and scope of pharmacology | Dr. R.R. Kumari |
| 2. | Pharmacological terms and definitions | Dr. R.R. Kumari |
| 3. | Sources and nature of drugs- natural, synthetic, semi-synthetic, biosynthetic sources | Dr. R.R. Kumari |
| 4. | Drug Nomenclature- chemical, Non-proprietary, Proprietary and others | Dr. R.R. Kumari |
| 5. | Drug information sources - Pharmacopoeias, Formularies and others | Dr. R.R. Kumari |
| 6. | Routes of drug administration | Dr. R.R. Kumari |
| ***Principles of drug activity: Pharmacokinetics*** | | |
| 7. | Nature of Biological membranes and Drug Transport across membranes | Dr. R.R. Kumari |
| 8. | Absorption of drugs | Dr. R.R. Kumari |
| 9. | Distribution of drugs | Dr. R.R. Kumari |
| 10. | Biotransformation of drugs | Dr. R.R. Kumari |
| 11. | Excretion of drugs | Dr. R.R. Kumari |
| 12. | Kinetics of drug elimination | Dr. R.R. Kumari |
| ***Principles of drug activity: Pharmacodynamics*** | | |
| 13. | Concept of drug and receptor | Dr. Kumari Anjana |
| 14. | Terms related to drug activity | Dr. Kumari Anjana |
| 15. | Receptor classification | Dr. Kumari Anjana |
| 16. | Dose response relationship | Dr. Kumari Anjana |
| 17. | Combined effect of drugs | Dr. Kumari Anjana |
| 18. | Factors modifying the drug effect and dosage | Dr. Kumari Anjana |
| ***Fundamentals of drug-screening and assay of drugs*** | | |
| 19. | Introduction of drug screening, Types of drug screening. Assay of drugs: Chemical Assay, Bioassay, Immunoassay | Dr. Kumari Anjana |
| ***Adverse drug reactions and Drug interactions*** | | |
| 20. | Adverse drug reactions. Drug interactions – Pharmacokinetic & Pharmacodynamic | Dr. Kumari Anjana |
| ***Drug- designing and development, Bio prospecting of drugs*** | | |
| 21. | Drug designing. Drug development. Different phases of drug development. Bio prospecting of drugs. | Dr. Kumari Anjana |
| ***Introduction to biopharmaceutics and gene therapy*** | | |
| 22. | Biopharmaceuticals – First & Second generation. Gene therapy – Basic concepts, vectors and types of gene therapy | Dr. Kumari Anjana |



01/10/2018 1/10/18 01.10.18

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| ***Drugs acting on digestive system –*** | | |
| 23. | Stomachics, antiulcers, antacids, Carminatives, antizymotics, prokinetics | Dr. Nirbhay Kumar |
| 24. | Emetics, Antiemetics, Cholerectics, cholagogues. | Dr. Nirbhay Kumar |
| 25. | Purgatives, Antidiarrhoeals, Rumen pharmacology | Dr. Nirbhay Kumar |
| ***Drugs acting on Cardiovascular system*** . | | |
| 26. | Cardiac glycosides | Dr. Kumari Anjana |
| 27. | Antiarrhythmic drugs | Dr. Kumari Anjana |
| 28 | Vasodilators (Antianginal drugs) and antihypertensive agents, Haematinics, coagulants and anticoagulants. | Dr. Kumari Anjana |
| ***Drugs acting on respiratory system*** | | |
| 29. | Expectorants and antitussives | Dr. Archana |
| 30. | Respiratory stimulants, bronchodilators and mucolytics. | Dr. Archana |
| ***Drugs acting on urogenital system*** | | |
| 31. | Diuretics, classification | Dr. Kumari Anjana |
| 32. | Urinary alkalizers, acidifiers | Dr. Kumari Anjana |
| 33. | Fluid therapy, Ecbolics, Tocolytics | Dr. Kumari Anjana |
| ***Pharmacotherapeutics of hormones and vitamins.*** | | |
| 34. | Agonists & Antagonists of Hypothalamic, Pituitary Hormones and Adrenal corticosteroids | Dr. Kumari Anjana |
| 35. | Thyroid hormones and Antithyroid drugs; Parathormones and calcitonin; Insulin and Oral hypoglycemic drugs, Glucagon, Somatostatin; Male and Female Hormones and their Agonist, Antagonist | Dr. Kumari Anjana |
| 36. | Therapy of fat and water Soluble Vitamins | Dr. Kumari Anjana |
| ***Drugs acting on skin and mucous membranes:*** | | |
| 37. | Drugs acting on skin and mucous membranes: Emollients, demulcents and counter irritants. | Dr. R.K. Nirala |
| ***Bioenhancers, Immunostimulants and immunosuppressants.*** | | |
| 38. | Bio-enhancers, Immunostimulants and immunosuppressants, New drugs and drug formulations | Dr. R.K. Nirala |

**PRACTICAL:**

| Pr. No. | Topic | Name of Instructor(s) |
|---|---|---|
| 1. | Introduction to Pharmacy | Dr. R.R. Kumari |
| 2. | Pharmacy appliances, fittings & apparatuses | Dr. R.R. Kumari |
| 3. | Principles of compounding and dispensing | Dr. R.R. Kumari |
| 4. | Metrology: Systems of weights & measures | Dr. R.R. Kumari |
| 5. | Pharmacy calculations | Dr. Kumari Anjana |
| 6. | Pharmaceutical processes | Dr. Kumari Anjana |
| 7. | Pharmaceutical dosage forms | Dr. Kumari Anjana |
| 8. | Prescription writing | Dr. Kumari Anjana |
| 9. | Incompatibilities | Dr. Kumari Anjana |
| 10. | Sources and identification of drugs | Dr. Kumari Anjana |
| 11. | Drug standards and regulations | Dr. Kumari Anjana |
| 12. | Custody of poisons | Dr. Kumari Anjana |
| 13. | Compounding and dispensing of powders, ointments, mixtures, liniments. | Dr. Kumari Anjana |
| 14. | Compounding and dispensing of lotions, liquors, tinctures, emulsions, and electuaries. | Dr. Kumari Anjana |

***Course Instructors:***

Nirbhay Kr 01/10/2018 1/10/18 01.10.18

**DEPARTMENT OF VETERINARY PHARMACOLOY & TOXICOLOGY**
**BIHAR VETERINARY COLLEGE, PATNA – 800 014**

## *Lecture Schedule*

***Course Title:*** **Autonomic And Autacoid Pharmacology (VPT-602),** ***Cr. Hrs. : 2+1 =3***
***Semester: 1st (Monsoon Semester 2018)*** ***Academic Year: 2018-19,***

***Course Instructor (s) : Dr. Nirbhay Kumar and Dr. R.K. Nirala.***

| Lecture No. | Topic of the Lecture | Name of the Instructor |
|---|---|---|
| 1 - 4 | Anatomical and physiological considerations of autonomic nervous system (ANS) | Dr. Nirbhay Kr. |
| 5-6 | Neurohumoral transmission in ANS. | Dr. Nirbhay Kr. |
| 7-9 | Pharmacology of cholinergic agonists. | Dr. Nirbhay Kr. |
| 10-12 | Pharmacology of cholinergic antagonists. | Dr. Nirbhay Kr. |
| 13-15 | Pharmacology of adrenergic agonists. | Dr. Nirbhay Kr. |
| 16-18 | Pharmacology of adrenergic antagonists. | Dr. Nirbhay Kr. |
| 19-20 | Ganglionic stimulants and blockers. | Dr. Nirbhay Kr. |
| 21-22 | Autacoids: Histamine, | Dr. R.K. Nirala |
| 23-24 | Autacoids: Serotonin, | Dr. R.K. Nirala |
| 25-26 | Autacoids: Kinins, | Dr. R.K. Nirala |
| 27-30 | Autacoids: Eicosanoids | Dr. R.K. Nirala |
| 31-32 | Autacoids: Platelet activating factor | Dr. R.K. Nirala |
| **Practical Schedule:** | | |
| **Practical No.** | **Name of Experiment/ Observation** | **Name of the Instructor** |
| 1 - 12 | Pharmacological experiments on intact and isolated preparations for studying the effects of various prototype drugs on vascular, intestinal, respiratory, urinary and reproductive smooth muscles, autonomic ganglia, skeletal muscles; blood pressure, ECG, heart etc. (Simulated Experiments using Animal Simulator software) | Dr. Nirbhay Kr. |

**Course Instructor(s) :** Nirbhay Kr
01/10/2018

**DEPARTMENT OF VETERINARY PHARMACOLOY & TOXICOLOGY**
**BIHAR VETERINARY COLLEGE, PATNA – 800 014**

## *Lecture Schedule*

***Course Title:*** **Digestive and Respiratory Pharmacology (VPT-604),** ***Cr. Hrs. : 2+0 =2***
***Semester: 1st (Monsoon Semester 2018)*** ***Academic Year: 2018-19,***

***Course Instructor (s) : Dr. Archana and Dr. Nirbhay Kumar.***

| Lecture No. | Topic of the Lecture | Name of the Instructor |
|---|---|---|
| 1 - 5 | Pharmacology of drugs acting on gastrointestinal tract. Appetite stimulants, emetics and anti-emetics. | Dr. Archana |
| 6 - 10 | Anti-ulcer drugs, modulators of gastric and intestinal motility and secretions. | Dr. Archana |
| 11 - 14 | Gastrointestinal protectants and adsorbents, laxatives and cathartics. | Dr. Archana |
| 15 - 19 | Agents promoting digestive functions; bile acids and pancreatic enzymes, drugs affecting liver; rumen pharmacology. | Dr. Archana |
| 20 - 24 | Pharmacology of drugs acting on respiratory system: pathogenesis of inflammatory respiratory diseases. | Dr. Archana |
| 25 - 27 | Bronchodilators, antitussives, mucolytics, expectorants, decongestants. | Dr. Nirbhay Kr. |
| 28 - 30 | Drugs used in treatment of asthma. | Dr. Nirbhay Kr. |

**Course Instructor(s) :** Archana .. 01/10/2018 Kumar 01/10/2018

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# Department of Veterinary pharmacology & Toxicology

## Bihar Veterinary College

## Bihar Animal Science university

**Lecture Shedule for Course No. VPT 601 ( GENERAL PHARMACOLOGY)** **2+0**

Name of Course Instructor: Dr. Rashmi Rekha Kumari

| Sl. | Lecture No. | Topic |
|---|---|---|
| 1. | 1 | History and scope of pharmacology |
| 2. | 2-10 | Principles of drug absorption, distribution, metabolism and elimination. |
| 3. | 11-12 | Drug bioavailability and routes of administration. |
| 4. | 13-16 | Important pharmacokinetic parameters and their clinical significance |
| 5. | 17-23 | Pharmacodynamics: mechanism of action and the relationship between drug concentration and effect |
| 6. | 24-27 | Signal transduction mechanism and drug receptors for physiological regulatory molecules |
| 7. | 28-31 | Quantitation of drug-receptor interactions and elicited effects |
| 8. | 32-34 | Competitive and non-competitive antagonism. |
| 9. | 35-39 | Factors affecting drug response. Adverse drug reactions. |

Rashmi Rekha Kumari 29/9/18

**Course Instructor**

29/9/18

**Head**

Pl/Pharm/Bce
29/9/18

DEPARTMENT OF VETERINARY PHARMACOLOGY & TOXICOLOGY
BIHAR VETERINARY COLLEGE, PATNA-800014

## LECTURE SCHEDULE OF M.V.SC. COURSE OFFERED : -

**Course Instructor: Dr. R. K. Nirala**

| Lecture No. | VPT-605 (CARDIOVASCULAR AND RENAL PHARMACOLOGY) |
|---|---|
| 1-2 | Introduction to Cardio Vascular System, |
| 3-4 | Introduction to Renal System |
| 4-5 | Pharmacology of cardiac glycosides. |
| 6-8 | Antiarrhythmic drugs. |
| 9-10 | Antihypertensive drugs. |
| 11-12 | Antihyperlipidaemic drugs. |
| 13-15 | Drugs affecting vasomotor and cardiorespiratory reflex mechanisms |
| 16-18 | Drugs affecting haemopoietic system. |
| 19-21 | Coagulants and anticoagulants, |
| 22-25 | Thrombolytic agents. |
| 26-29 | Pharmacology of drugs affecting renal functions |
| 30-32 | Fluid-electrolyte balance. |
| 33-35 | Fluid and electrolyte therapy, |
| 36-37 | Diuretics, , |
| 38 | Antidiuretics |
| 39 | Uricosuric drugs. |

29/9/18
Course Instructors

29/9/18
Head