

Syllabus

BP404T: PHARMACOLOGY-I

Module 01

08 hours

General Pharmacology

- **Introduction to Pharmacology:** Definition, Historical Landmarks and Scope of Pharmacology, Nature and Source of Drugs, Essential Drugs Concept and Routes of Drug Administration, Agonists, Antagonists (Competitive and Non-Competitive), Spare Receptors, Addiction, Tolerance, Dependence, Tachyphylaxis, Idiosyncrasy, Allergy
- **Pharmacokinetics:** Membrane Transport, Absorption, Distribution, Metabolism and Excretion of Drugs. Enzyme Induction, Enzyme Inhibition, Kinetics of Elimination.

Module 02

12 Hours

General Pharmacology

- **Pharmacodynamics:** Principles and mechanisms of drug action. Receptor theories and classification of receptors, regulation of receptors. drug receptors interactions signal transduction mechanisms, G-protein-coupled receptors, ion channel receptor, transmembrane enzyme linked receptors, transmembrane JAK-STAT binding receptor and receptors that regulate transcription factors, dose response relationship, therapeutic index, combined effects of drugs and factors modifying drug action.
- Adverse drug reactions.
- Drug Interactions (Pharmacokinetic and Pharmacodynamic).
- Drug Discovery and clinical evaluation of new drugs -Drug discovery phase, Preclinical Evaluation phase, clinical trial phase, phases of clinical trials and pharmacovigilance.

Module 03

10 Hours

Pharmacology of Drugs Acting On Peripheral Nervous System

- Organisation and function of ANS.
- Neurohumoral transmission, co-Transmission and Classification of neurotransmitters.
- Parasympathomimetics, Parasympatholytics, Sympathomimetics, Sympatholytics.

Module-04

08 Hours

Pharmacology of Drugs Acting On Central Nervous System

- Neurohumoral transmission in the C.N.S. special emphasis on importance of various neurotransmitters like with GABA, Glutamate, Glycine, serotonin, dopamine.
- General Anaesthetics and pre-anaesthetics.
- Sedatives, Anti-epileptics, Hypnotics and centrally acting muscle relaxants.
- Alcohols and disulfiram.
- Local anaesthetic agents.
- Drugs used in Myasthenia gravis and Glaucoma.

Module 05

07 Hours

Pharmacology of drugs acting on central nervous system

- Psychopharmacological agents: Antipsychotics, Antidepressants, Anti-anxiety agents, anti-manics and hallucinogens.
- Drugs used in Parkinsons Disease and Alzheimer's Disease.
- CNS stimulants and nootropics.
- Opioid Analgesics and Antagonists.
- Drug Addiction, Drug Abuse, tolerance and dependence.