

# **General Pharmacology, Drugs acting on ANS, Drugs acting on CNS and PNS**

## **GPAT-1**

Definition, scope, branches, orphan drugs, essential drugs, drug nomenclature, source of drugs, dosage form and routes of drug administration, special drug delivery system (Ocuser, Progestasert, Liposome, Monoclonal antibody, Insulin pump)

Mechanism of drug action (Non receptor mediated and receptor mediated), Receptors, classification and drug receptors interaction, Dose response curve, Therapeutic window, Drug potency, Drug efficacy, Combined effect of drugs (Synergism, Antagonism), Factors modifying drug action, Placebo effect, Nocebo effect, Tolerance, Tachyphylaxis, Drug resistance

Mechanism and principle of Absorption, Drug Transport mechanism, Factor affecting drug absorption, Bioavailability, First pass metabolism, Distribution Volume of distribution, Factor affecting volume of distribution, Physiological barrier, Plasma protein binding, Metabolism, Types of Biotransformation reaction, Enzyme inducer, Enzyme inhibitors, Excretion of drugs, Kinetic Renal clearance, Order of kinetic, Therapeutic drug monitoring, Principles of basic and clinical pharmacokinetics

Types of adverse effect, Types of allergic reaction, Photosensitivity, Drug dependence, Drug abuse, Drug habituation, Intolerance, Teratogenicity, Iatrogenic Disease

Discovery and development of new drugs-Preclinical and clinical studies new drug development, Clinical trials (Phase 1, 2, 3, 4)

Neurohumoral transmission in the C.N.S with special emphasis on Pharmacology of various Neurotransmitters. Serotonin, dopamine, GABA, glutamate and glycine

- General anesthetics
- Alcohols and disulfiram
- Sedatives, hypnotics and centrally acting muscle relaxants
- Antipsychotics
- Antidepressants
- Antianxiety agents
- Anti-Manics and hallucinogens
- Anti-epileptic drugs
- Anti-parkinsonism drugs
- Nootropics
- Narcotic analgesics, drug addiction, drug abuse, tolerance and dependence

Neurohumoral transmission Adrenaline and Acetylcholine, Components of Autonomic nervous system

- Parasympathomimetics

Synthesis and destruction of Ach, Cholinergic receptors, Pharmacology of Ach, Classification of Parasympathomimetics, Anti-cholinesterase drugs, Pharmacological uses Parasympathomimetics

- Parasympatholytics

Classification of Parasympatholytics, Pharmacological uses of Parasympatholytics

- Sympathomimetic

Synthesis of catecholamine, Adrenergic receptors, Pharmacology of Adrenaline and nor adrenaline, Classification of Sympathomimetic, Pharmacological uses of Sympathomimetic, Anorectic agents

- Sympatholytic

Classification of Sympatholytic

- Pharmacological uses of Sympatholytic
- Ganglionic stimulants and blockers
- Neuromuscular blocking agents and skeletal muscle relaxants
- (peripheral)
- Local anesthetic agents
- Classification of Local anesthetic agents, Mechanism of action of Local
- anesthetic agents
- Drugs used in Myasthenia Gravis
- Drugs used in Glaucoma