

Subject: Pharmacology & Toxicology

Theory: 75 Hours

Minimum number of class tests to be conducted : 03

1. Introduction to Pharmacology, scope of Pharmacology.
2. Routes of administration of drugs, their advantages and disadvantages.
3. Various process of absorption of drugs and the factors affecting them, Metabolism, distribution and excretion of drugs.
4. General mechanism of drugs action and the factors which modify drug action.
5. Pharmacological classification of drugs, The discussion drugs should emphasize the following aspect :
 - (i) Drugs acting on the Central Nervous System
 - (a) General anaesthetics adjuvants of anaesthesia, intravenous anaesthetics.
 - (b) Analgesic antipyretics and non-steroidal anti-inflammatory drugs, Narcotic analgesics, Antirheumatic and antigout remedies, Sedatives and Hypnotics, Psychopharmacological agents, anti convulsants, analeptics.
 - (c) Centrally acting muscle relaxants and ant parkinsonism agents
 - (ii) Local anesthetics
 - (iii) Drug acting on autonomic nervous system.
 - (a) Cholinergic drug, Anticholinergic drugs, anticholinesterase drugs.
 - (b) Adrenergic drugs and adrenergic receptor blockers
 - (c) Neuron blockers and ganglion blockers
 - (d) Neuromuscular blockers, drugs used in myasthenia gravis
 - (iv) Drugs acting on eye, mydriatics, drugs used in glaucoma
 - (v) Drugs acting on respiratory system-Respiratory stimulants, Bronchodilators, nasal decongestants, Expectorants and Antitussive agents.
 - (vi) Antacids, Physiological role of histamine and serotonin, Histamine and Antihistamines, prostaglandins.
 - (vii) Cardio Vascular drugs, Cardiotonics, Antiarrhythmic agents, Antianginal agents, Antihypertensive agents, Peripheral Vasodilators and drugs used in atherosclerosis.
 - (viii) Drugs acting on the blood and blood forming organs, haematinics, Coagulants and anti-coagulants, Haemostatics, Blood substitutes and plasma expanders.
 - (ix) Drugs affecting renal function, Diuretics and antidiuretics.
 - (x) Hormones and hormone antagonists-hypoglycemic agents, Antithyroid drugs, Sex hormones and oral contraceptives, corticosteroids.

- (xi) Drugs acting on digestive system-Carminatives, digestants Bitters, Antacids and drugs used in Peptic ulcer, purgatives, and laxatives, Antidiarrhoeals, Emetics, Antiemetics, Anti-spasmodics.
6. Chemotherapy of microbial disease : Urinary antiseptics, Sulphonamides, Penicillin's, Streptomycin, Tetracycline's and other antibiotics, Antitubercular agents, Antifungal agents, antiviral drugs, antileprotic drugs.
 7. Chemotherapy of protozoal diseases, Anthelmintic drugs
 8. Chemotherapy of cancer
 9. Disinfectants and antiseptics
- A detailed study of the action of drugs on each organ is not necessary.

PHARMACOLOGY

(50 Hours)

The first six of the following experiments will be done by the students while the remaining will be demonstrated by the teacher.

1. Effect of K^+ , Ca^{++} , acetylcholine and adrenaline on frog's heart.
2. Effect of acetylcholine on rectus abdominis muscle of Frog and guinea pig ileum.
3. Effect of spasmogens and relaxants on rabbits intestine.
4. Effect of local anaesthetics on rabbit cornea.
5. Effect of mydriatics and miotics on rabbits eye.
6. To study the action of strychnine on frog.
7. Effect of digitals on frog's heart.
8. Effect of hypnotics in mice.
9. Effect of convulsants and anticonvulsant in mice of rats.
10. Test of pyrogen.
11. Taming and hypnosis potentiating effect of chlorpromazine in mice/rats.
12. Effect of diphenhydramine in experimentally produced asthma in guinea pigs.