

PHARMACEUTICAL CHEMISTRY II

Theory (100 hours)

1. Introduction to the nomenclature of organic chemical systems with particular reference to heterocyclic system containing up to 3 rings.
2. The Chemistry of following Pharmaceutical organic compounds, covering their nomenclature, chemical structure, uses and the important Physical and Chemical properties (**Chemical structure of only those compounds marked with asterisk (*)**).

The stability and storage conditions and the different type of Pharmaceutical formulations of these drugs and their popular brand names.

Antiseptics and Disinfectants-Proflavine, *Benzalkoniumchloride, Cetrimide, Chlorocresol*, Chloroxylyene, Formaldehyde solution, Hexachlorophene, Liquified phenol, Nitrofurantoin.

Sulfonamides-Sulfadiazine, Sulfaguanidine*, Phthalysulfathiazole, Succinylsulfathiazole, Sulfadimethoxine, Sulfamethoxypridazine, Sulfamethoxazole, cotrimoxazole, Sulfacetamide*.

Antileprotic Drugs -Clofazimine, Thiambutosine, Dapsone*, Solapsone.

Anti-tubercular Drugs -Isoniazid*, PAS*, Streptomycin, Rifampicin, Ethambutol*, Thiacetazone, Ethionamide, Cycloserine, Pyrazinamide*.

Antiamoebic and Anthelmintic Drugs- Emetine, Metronidazole*, Halogenated hydroxyquinolines, diloxanidefuroate, Paramomycin Piperazine*, Mebendazole, D.E.C*.

Antibiotics-Benzyl Penicillin*, Phenoxy methyl Penicillin*, Benzathine Penicillin Ampicillin*, Cloxacillin, Carbenicillin, Gentamicin, Neomycin, Erythromycin, Tetracycline, Cephalexin, Cephaloridine, Cephalothin, Griseofulvin, Chloramphenicol.

Antifungal agents-Undecylenic acid, Tolnaftate, Misstating, Amphotericin, Hamycin. Antimalarial Drugs-Chloroquine*, Amodiaquine, Primaquine, Proguanil, Pyrimethamine*, Quinine, Trimethoprim.

Tranquilizers-Chlorpromazine*, Prochlorperazine, TrifluoPerazine, Thiothixene, Haloperidol*, Triperidol, Oxypertine, Chlordiazepoxide, Diazepam*, Lorazepam, Meprobamate.

Hypnotics-Phenobarbitone*, Butobarbitone, Cyclobarbitone, Nitrazepam, Glutethimide*, Methyprylone, Paraldehyde, Triclofos sodium.

General Anaesthetics-Halothane*, Cyclopropane*, Diethyl ether*, Methohexital sodium, Thiopental sodium, Trichloroethylene.

Antidepressant Drugs-Amitriptyline, Nortriptyline, Imipramine *, Phenelzine, Tranylcypromine.

Analeptics -Theophylline, Caffeine*, Coramine*, Dextroamphetamine.

Adrenergic Drugs -Adrenaline*, Noradrenaline, Isoprenaline*, Phenylephrine, Salbutamol, Terbutaline, Ephedrine *, Pseudoephedrine.

Adrenergic Antagonist -Tolazoline, Propranolol*, Practolol.

Cholinergic Drugs-Neostigmine*, Pyridostigmine, Pralidoxime, Pilocarpine, Physostigmine*.

Cholinergic Antagonists-Atropine*, Hysocine, Homatropine, Propantheline*, Benztropine, Tropicamide, Biperiden.*

Diuretic Drugs-Furosemide*, Chlorothiazide, Hydrochlorothiazide*, Benzthiazide, Urea*, Mannitol *, Ethacrynic Acid.

Cardiovascular Drugs-Ethyl nitrite*, Glyceryl trinitrate, Alpha methyl dopa, Guanethidine, Clofibrate, Quinidine.

Hypoglycemic Agents-Insulin, Chlorpropamide*, Tolbutamide, Glibenclamide, Phenformin *, Metformin.

Coagulants and Anti-Coagulants Heparin, Thrombin, Menadione*, Bishydroxycoumarin, Warfarin Sodium.

Local Anaesthetics -Lignocaine*, Procaine*, Benzocaine.

Histamine and Anti-histaminic Agents-Histamine, Diphenhydramine*, Promethazine, Cyproheptadine, Mepyramine, Pheniramine, Chlorpheniramine*.

Analgesics and Anti-pyretics-Morphin, Pethidine*, Codeine, Methadone, Aspirin*, Paracetamol*, Analgin, Dextropropoxyphene, Pentazocine.

Non-steroidal anti-inflammatory Agents-Indomethacin*, phenylbutazone*, Oxyphenbutazone, Ibuprofen, Thyroxine and Antithyroids-Thyroxine*, Methimazole, Methylthiouracil, Propylthiouracil.

Diagnostic Agents-Iopanoic Acid, Propyliodone, Sulfobromophthalein. Sodium indigotindisulfonate, Indigo Carmine, Evans blue, Congo red, Fluorescent Sodium.

*Anticonvulsants, cardiac glycosides, Antiarrhythmic antihypertensives & vitamins.

Steroidal Drugs-Betamethazone, Cortisone, Hydrocortisone, prednisolone, Progesterone, Testosterone, Oestradiol, Nandrolone.

Anti-Neoplastic Drugs-Actinomycins, Azathioprine, Busulphan, Chlorambucil, Cisplatin cyclophosphamide, Daunorubicin hydrochloride, Fluorouracil, Mercaptopurine, Methotrexate, Mytomycin.

Books Recommended :(Latest editions)

1. Pharmacopoeia of India.
2. British Pharmaceutical Codex.
3. Martindale The Extra Pharmacopoeia.

**PRACTICAL
(75 hours)**

1. Systematic qualitative testing of organic drugs involving Solubility determination, melting point and boiling point, detection of elements and functional groups (10 compounds).
2. Official identification test for certain groups of drugs included in the I.P like barbiturates, sulfonamides, phenothiazine, Antibiotic etc (8 compounds).
3. Preparation of three simple organic preparations.