
Chapter 1 : Introduction to Pharmaceutical Chemistry **1-1 to 1-20**

- **Introduction to Pharmaceutical chemistry** : Scope and objectives
- Sources and types of errors** : Accuracy, precision, significant figures
- **Impurities in Pharmaceuticals** : Source and effect of impurities in Pharmacopoeial substances, importance of limit test, Principle and procedures of Limit tests for chlorides, sulphates, iron, heavy metals and arsenic.

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Chapter 2 : Volumetric Analysis **2-1 to 2-29**

- **Volumetric analysis** : Fundamentals of volumetric, analysis, Acid-base titration, non-aqueous titration, precipitation titration, complexometric titration, redox titration
- **Gravimetric analysis** : Principle and method.

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Chapter 3 : Inorganic Pharmaceuticals

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Pharmaceutical Formulations, market preparations, storage conditions and uses of

- **Haematinics** : Ferrous sulphate, Ferrous fumarate, Ferric ammonium citrate, Ferrous ascorbate, Carbonyl iron
- **Gastrointestinal Agents** : Antacids : Aluminium hydroxide gel, Magnesium hydroxide, Magaldrate, Sodium bicarbonate, Calcium Carbonate, Acidifying agents, Adsorbents, Protectives, Cathartics.
- **Topical agents** : Silver Nitrate, Ionic Silver, Chlorhexidine Gluconate, Hydrogen peroxide, Boric acid, Bleaching powder, Potassium permanganate.
- **Dental products** : Calcium carbonate, Sodium fluoride, Denture cleaners, Denture adhesives, Mouth washes.
- **Medicinal gases** : Carbon dioxide, nitrous oxide, oxygen.

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Chapter 4 : Heterocyclic Compounds

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Introduction to nomenclature of organic chemical systems, with particular reference to heterocyclic compounds containing up to Three rings.

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Chapter 5 : Drugs Acting on Central Nervous System

5-1 to 5-34

- **Anaesthetics** : Thiopental Sodium*, Ketamine Hydrochloride*, Propofol
- **Sedatives and Hypnotics** : Diazepam*, Alprazolam*, Nitrazepam, Phenobarbital*
- **Antipsychotics** : Chlorpromazine Hydrochloride*, Haloperidol*, Risperidone*, Sulpiride*, Olanzapine, Quetiapine, Lurasidone
- **Anticonvulsants** : Phenytoin*, Carbamazepine*, Clonazepam, Valproic Acid*, Gabapentin*, Topiramate, Vigabatrin, Lamotrigine
- **Anti-Depressants** : Amitriptyline Hydrochloride*, Imipramine Hydrochloride*, Fluoxetine*, Venlafaxine, Duloxetine, Sertraline, Citalopram, Escitalopram, Fluvoxamine, Paroxetine

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Chapter 6 : Drugs Acting on Autonomic Nervous System

6-1 to 6-26

- **Sympathomimetic Agents** : Direct Acting : Nor-Epinephrine*, Epinephrine, Phenylephrine, Dopamine*, Terbutaline, Salbutamol (Albuterol), Naphazoline*, Tetrahydrozoline, Indirect Acting Agents : Hydroxy Amphetamine, Pseudoephedrine. Agents with Mixed Mechanism : Ephedrine, Metaraminol
- **Adrenergic Antagonists** : Alpha Adrenergic Blockers : Tolazoline, Phentolamine, Phenoxybenzamine, Prazosin. Beta Adrenergic Blockers : Propranolol*, Atenolol*, Carvedilol
- **Cholinergic Drugs and Related Agents** : Direct Acting Agents : Acetylcholine*, Carbachol, Pilocarpine. Cholinesterase Inhibitors : Neostigmine*, Edrophonium Chloride, Tacrine Hydrochloride, Pralidoxime Chloride, Echothiopate Iodide
- **Cholinergic Blocking Agents** : Atropine Sulphate*, Ipratropium. Bromide Synthetic Cholinergic Blocking Agents : Tropicamide, Cyclopentolate Hydrochloride, Clidinium Bromide, Dicyclomine Hydrochloride*,

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Chapter 7 : Drugs Acting on Cardiovascular System**7-1 to 7-22**

- **Anti-Arrhythmic Drugs** : Quinidine Sulphate, Procainamide Hydrochloride, Verapamil, Phenytoin Sodium*, Lidocaine Hydrochloride, Lorcaïnide Hydrochloride, Amiodarone and Sotalol
- **Anti-Hypertensive Agents** : Propranolol*, Captopril*, Ramipril, Methyldopate Hydrochloride, Clonidine Hydrochloride, Hydralazine Hydrochloride, Nifedipine,
- **Antianginal Agents** : Isosorbide Dinitrate.

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Chapter 8 : Diuretics**8-1 to 8-8**

Acetazolamide, Frusemide*, Bumetanide, Chlorthalidone, Benzthiazide, Metolazone, Xipamide, Spironolactone.

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Chapter 9 : Hypoglycemic Agents**9-1 to 9-11**

Insulin and its Preparations, Metformin*, Glibenclamide*, Glimepiride, Pioglitazone, Repaglinide, Gliflozins, Gliptins.

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Chapter 10 : Analgesic and Anti-Inflammatory Agents**10-1 to 10-19**

- **Analgesic and Anti-Inflammatory Agents** : Morphine Analogues, Narcotic Antagonists
- **Non-steroidal Anti-Inflammatory Agents (NSAIDs)** : Aspirin*, Diclofenac, Ibuprofen*, Piroxicam, Celecoxib, Mefenamic Acid, Paracetamol*, Aceclofenac.

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Chapter 11 : Anti-Infective Agents

11-1 to 11-38

- **Antifungal Agents** : Amphotericin-B, Griseofulvin, Miconazole, Ketoconazole*, Itraconazole, Fluconazole*, Naftifine Hydrochloride
- **Urinary Tract Anti-Infective Agents** : Norfloxacin, Ciprofloxacin, Ofloxacin*, Moxifloxacin.
- **Anti-Tubercular Agents** : INH*, Ethambutol, Para-Amino Salicylic Acid, Pyrazinamide, Rifampicin, Bedaquiline, Delamanid, Pretomanid*
- **Antiviral Agents** : Amantadine Hydrochloride, Idoxuridine, Acyclovir*, Foscarnet, Zidovudine, Ribavirin, Remdesivir, Favipiravir
- **Antimalarials** : Quinine Sulphate, Chloroquine Phosphate*, Primaquine Phosphate, Mefloquine*, Cycloguanil, Pyrimethamine, Artemisinin
- **Sulfonamides** : Sulfanilamide, Sulfadiazine, Sulfamethoxazole, Sulfacetamide*, Mafenide Acetate, Cotrimoxazole, Dapsone*

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Chapter 13 : Anti-Neoplastic Agents**13-1 to 13-14**

Cyclophosphamide*, Busulfan, Mercaptopurine, Fluorouracil*, Methotrexate, Dactinomycin, Doxorubicin Hydrochloride, Vinblastine Sulphate, Cisplatin*, Dromostanolone Propionate

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