Last Minute Suggestions - DRx Forum
Pharmacology, D.Ph 2nd Year - 2026

Q1. What is Pharmacology? Define a drug and mention the scope of Pharmacology.

- Pharmacology: It is the science dealing with drugs and their effects on living organisms.
- Drug: A substance used for diagnosis, prevention or treatment of disease.
- Main branches: Pharmacodynamics, Pharmacokinetics, Pharmacotherapeutics and Toxicology.
- Scope: Drug discovery, study of drug actions, proper use of medicines, adverse effects and drug interactions.

Q2. Classify the different routes of drug administration with examples.

- Enteral routes: Oral, sublingual, rectal.
- Parenteral routes: Intravenous (IV), intramuscular (IM), subcutaneous (SC).
- Topical routes: Skin, eye, nasal and vaginal.
- Inhalational route: Gases and aerosols through lungs.

Q3. Mention the advantages and disadvantages of oral, parenteral and sublingual routes of drug administration.

- Oral: Convenient, safe and economical; but absorption may be slow and affected by food and first-pass metabolism.
- Parenteral: Rapid and useful in emergencies; but painful, costly and requires aseptic technique.
- Sublingual: Rapid absorption and avoids first-pass metabolism; but only small doses of suitable drugs can be given.

Q4. Define absorption. Explain its types and factors affecting absorption.

- Absorption: Movement of a drug from the site of administration into the systemic circulation.
- Types: Passive diffusion, facilitated diffusion, active transport and endocytosis.
- Factors affecting absorption: Route, blood flow, surface area, lipid solubility, particle size, pH, drug formulation and gastrointestinal motility.

Q5. Explain bioavailability, distribution, biotransformation and excretion of drugs.

- Bioavailability: Fraction of an administered dose that reaches systemic circulation in unchanged form.
- Distribution: Reversible movement of drugs from blood to body tissues.
- Biotransformation: Chemical modification of drugs, mainly in the liver.
    - Phase I: Oxidation, reduction and hydrolysis.
    - Phase II: Conjugation reactions.
- Excretion: Removal of drugs from the body, mainly through kidneys; other routes include bile, lungs, sweat and breast milk.

Q6. Explain the mechanisms of drug action and factors modifying drug action.

- Drugs act mainly by:
    - Receptor interaction: Agonists and antagonists.
    - Enzyme inhibition or activation.
    - Ion-channel modification.
    - Action on transporters or cellular functions.
- Factors modifying drug action include age, body weight, sex, route, dose, disease conditions, genetic factors and tolerance.
- Tolerance: Decreased response to a drug after repeated use.
- Idiosyncrasy: Unusual and unpredictable response to a drug.
- Synergism: The combined effect of two drugs is greater than their individual effects.
- Antagonism: One drug reduces or blocks the effect of another.

Q7. What is Neurohumoral Transmission? Explain the steps involved.

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- Definition: Neurohumoral transmission is the transfer of nerve impulses through chemical neurotransmitters.
- Nerve impulse reaches the nerve terminal.
- Calcium ions enter the nerve terminal.
- Neurotransmitters are released from vesicles.
- It crosses the synaptic cleft and binds to receptors.
- A physiological response is produced.
- Neurotransmitters are removed by breakdown, reuptake or diffusion.

Q8. Classify cholinergic and anticholinergic drugs with examples.
Cholinergic drugs: Cholinergic drugs are drugs that produce effects similar to acetylcholine or increase acetylcholine activity.

- Direct-acting: Bethanechol, Pilocarpine.
- Indirect-acting (anticholinesterases): Neostigmine, Physostigmine.

Anticholinergic drugs: Anticholinergic drugs block the actions of acetylcholine, mainly at muscarinic or nicotinic receptors.

- Antimuscarinic: Atropine, Hyoscine.
- Antinicotinic: Hexamethonium, Tubocurarine.
- Centrally acting: Trihexyphenidyl, Benztropine.

Q9. Classify adrenergic and anti-adrenergic drugs with examples. Mention their main actions and uses.
Adrenergic drugs: Adrenergic drugs produce effects similar to adrenaline and noradrenaline and are also called sympathomimetic drugs.

- Direct-acting: Adrenaline, Noradrenaline, Salbutamol.
- Indirect-acting: Amphetamine.
- Mixed-acting: Ephedrine.

Anti-adrenergic drugs: Anti-adrenergic drugs block the actions of adrenaline and noradrenaline.

- α-blockers: Prazosin, Phentolamine.
- β-blockers: Propranolol, Atenolol.
- α + β blockers: Labetalol, Carvedilol.

Uses: Adrenergic drugs are used in asthma, anaphylactic shock and hyp**otension. Anti-adrenergic drugs are** used in hypertension, angina, arrhythmias and heart failure.

Q10. Classify neuromuscular blocking agents with examples. Explain their action and mention the treatment of myasthenia gravis.
Neuromuscular blocking agents: These are drugs that produce temporary paralysis of skeletal muscles by blocking neuromuscular transmission.

Classification:

- Depolarising: Succinylcholine.
- Non-depolarising: Atracurium, Vecuronium, Rocuronium.

Action: They block acetylcholine action at nicotinic receptors at the neuromuscular junction.
Uses: Surgical operations, endotracheal intubation and muscle relaxation.

Q11. Define local anaesthetics and NSAIDs. Classify local anaesthetics with examples.
Local anaesthetics: Local anaesthetics are drugs that produce reversible loss of sensation in a specific area without loss of consciousness by blocking sodium channels.

Classification:

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- Amides: Lidocaine, Bupivacaine.
- Esters: Procaine, Tetracaine.

NSAIDs: Non-steroidal anti-inflammatory drugs are medicines used to reduce pain, inflammation and fever. Examples are Aspirin, Ibuprofen and Diclofenac.

Q. Define NSAIDs. Classify them with examples. Write their mechanism/actions, uses and important adverse effects.
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) are drugs having analgesic, antipyretic and anti-inflammatory effects, mainly by inhibiting cyclooxygenase (COX) enzymes and reducing prostaglandin synthesis.

Classification of NSAIDs:

1. **Non-selective COX inhibitors:** Aspirin, Ibuprofen, Diclofenac
2. **Selective COX-2 inhibitors:** Celecoxib, Etoricoxib
3. **Preferential COX-2 inhibitors:** Nimesulide, Meloxicam
4. **Salicylates:** Aspirin
5. **Propionic acid derivatives:** Ibuprofen, Naproxen
6. **Acetic acid derivatives:** Diclofenac, Indomethacin
7. **Enolic acid derivatives:** Piroxicam, Meloxicam
8. **Para-aminophenol derivative:** Paracetamol

Actions/Uses:

- Reduce pain in headache, muscle pain, arthritis and menstrual cramps.
- Reduce inflammation in arthritis and other inflammatory conditions.

Important adverse effects:

- Gastritis, peptic ulcer and gastrointestinal bleeding.
- Renal impairment with prolonged use.

Q12. Classify miotic and mydriatic drugs with examples.
Miotics: Miotics are drugs that produce constriction of the pupil.

- Cholinergic drugs: Pilocarpine.
- Anticholinesterases: Physostigmine.

Mydriatics: Mydriatics are drugs that produce dilatation of the pupil.

- Antimuscarinics: Atropine, Tropicamide.
- Sympathomimetics: Phenylephrine.

Q13. What are the drugs used in glaucoma? Classify them with examples and mention their uses.
Glaucoma drugs: These are drugs used to reduce increased intraocular pressure (IOP).

Classification:

- β-blockers: Timolol.
- Prostaglandin analogues: Latanoprost.
- α_2-agonists: Brimonidine.
- Carbonic anhydrase inhibitors: Dorzolamide, Acetazolamide.
- Miotics: Pilocarpine.

Use: They reduce IOP and help prevent further damage to the optic nerve.

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Q14. Define general anaesthetics. Classify them with examples and mention pre-anaesthetic medication.
General anaesthetics: General anaesthetics are drugs that produce a reversible state of unconsciousness and loss of sensation throughout the body during surgery.

Classification:

- Inhalational anaesthetics:
    - Volatile: Isoflurane, Sevoflurane.
    - Gaseous: Nitrous oxide.
- Intravenous anaesthetics:
    - Barbiturates: Thiopental.
    - Non-barbiturates: Propofol, Ketamine.

Pre-anaesthetic medications: Atropine, sedatives and analgesics may be used to reduce anxiety, secretions and pain and to facilitate anaesthesia.

Q15. Classify hypnotics and sedatives with examples.
Hypnotics: Drugs that produce sleep or help a person to sleep.
Sedatives: Drugs that reduce CNS activity and produce a calming effect without necessarily causing sleep.

- Barbiturates: Phenobarbitone.
- Benzodiazepines: Diazepam, Lorazepam.
- Non-benzodiazepines: Zolpidem.
- Others: Melatonin and sedating antihistamines.

Q. Define anti-epileptic drugs. Classify them with examples and mention their uses.
Anti-epileptic drugs are medicines used to prevent or control seizures by reducing abnormal electrical activity in the brain.

Classification:

1. **Barbiturates:** Phenobarbitone
2. **Hydantoins:** Phenytoin
3. **Iminostilbenes:** Carbamazepine
4. **Benzodiazepines:** Diazepam, Clonazepam, Midazolam
5. **Succinimides:** Ethosuximide
6. **Newer anti-epileptic drugs:** Sodium valproate, Lamotrigine, Levetiracetam

Uses:

- Generalized tonic-clonic seizures – Sodium valproate, Phenytoin, Carbamazepine
- Absence seizures – Ethosuximide, Sodium valproate
- Status epilepticus – Diazepam or Midazolam
- Focal seizures – Carbamazepine, Phenytoin, Levetiracetam

Q16. Classify anti-anxiety drugs, anticonvulsants, antidepressants and antipsychotics with examples.
Anti-anxiety drugs: These are drugs used to reduce anxiety.

- Benzodiazepines: Diazepam, Lorazepam, Alprazolam.
- Non-benzodiazepines: Buspirone.

Anticonvulsants: These are drugs used to prevent or control seizures.

- Hydantoins: Phenytoin.
- Barbiturates: Phenobarbitone.
- Iminostilbenes: Carbamazepine.
- Carboxylic acid derivatives: Valproic acid.
- Succinimides: Ethosuximide.
- Benzodiazepines: Diazepam, Clonazepam.

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Antidepressants: These are drugs used mainly in the treatment of depression.

- Tricyclic antidepressants: Amitriptyline, Imipramine.
- SSRIs: Fluoxetine, Sertraline.
- MAO inhibitors: Phenelzine.

Antipsychotics: These are drugs used in the treatment of psychotic disorders such as schizophrenia.

- Typical: Chlorpromazine, Haloperidol.
- Atypical: Risperidone, Clozapine.

Q17. Write a short note on opioid analgesics. Classify them with examples.
Opioid analgesics: These are drugs that act on opioid receptors to relieve moderate to severe pain.

- Natural opioids: Morphine, Codeine.
- Semi-synthetic opioids: Oxycodone, Hydromorphone.
- Synthetic opioids: Fentanyl, Methadone, Tramadol.
- Mixed agonist-antagonists: Buprenorphine, Pentazocine.

Q18. Write short notes on nootropics and centrally acting muscle relaxants.

Nootropics: Nootropics are drugs that improve or support cognitive functions.

- Examples: Piracetam, Citicoline.

Centrally acting muscle relaxants: These are drugs that reduce skeletal muscle spasm mainly by acting on the central nervous system.

- Benzodiazepine: Diazepam.
- Others: Baclofen, Tizanidine.

Q19. Define antihypertensive, antianginal and antiarrhythmic drugs. Classify them with examples.
Antihypertensive drugs: These are drugs used to lower high blood pressure.

- Diuretics: Hydrochlorothiazide, Furosemide.
- β-blockers: Propranolol, Metoprolol.
- ACE inhibitors: Enalapril, Lisinopril.
- ARBs: Losartan, Valsartan.
- Calcium channel blockers: Amlodipine, Verapamil.

Antianginal drugs: These are drugs used to prevent or relieve angina by improving coronary blood supply or reducing cardiac oxygen demand.

- Nitrates: Nitroglycerin, Isosorbide dinitrate.
- β-blockers: Atenolol, Metoprolol.
- Calcium channel blockers: Amlodipine, Diltiazem.
- Others: Nicorandil, Ranolazine.

Antiarrhythmic drugs: These are drugs used to treat abnormal heart rhythm.

- Class I – Sodium channel blockers: Quinidine, Lidocaine.
- Class II – β-blockers: Propranolol.
- Class III – Potassium channel blockers: Amiodarone.
- Class IV – Calcium channel blockers: Verapamil.

Q20. Classify drugs used in atherosclerosis, congestive heart failure and shock with examples.
Drugs for atherosclerosis: These drugs are used to reduce blood lipids and prevent progression of atherosclerosis.

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- Statins: Atorvastatin, Rosuvastatin.
- Fibrates: Fenofibrate.
- Bile acid sequestrants: Cholestyramine.

Drugs for congestive heart failure (CHF): These drugs improve cardiac function and reduce fluid overload.

- Diuretics: Furosemide.
- ACE inhibitors: Enalapril.
- β-blockers: Carvedilol.
- Cardiac glycosides: Digoxin.

Drugs used in shock: These drugs are used to maintain blood pressure and tissue perfusion.

- Vasopressors: Noradrenaline, Dopamine.
- Inotropic agents: Dobutamine.

Q21. Classify haematinics, anticoagulants, antiplatelet drugs and thrombolytics with examples.
Haematinics: Haematinics are substances required for formation of haemoglobin and red blood cells.

- Iron preparations: Ferrous sulphate.
- Folic acid: Folic acid.
- Vitamin B12: Cyanocobalamin.

Anticoagulants: Anticoagulants are drugs that prevent formation or extension of blood clots.

- Heparins: Heparin, Enoxaparin.
- Vitamin K antagonist: Warfarin.
- Direct oral anticoagulants: Rivaroxaban, Dabigatran.

Antiplatelet drugs: These drugs inhibit platelet aggregation and help prevent arterial thrombosis.

- COX inhibitor: Aspirin.
- ADP receptor blocker: Clopidogrel.
- GPIIb/IIIa inhibitor: Abciximab.

Thrombolytics: These drugs dissolve already formed blood clots.

- Fibrinolytics: Streptokinase, Urokinase, Alteplase.

Q22. Classify bronchodilators, expectorants, mucolytics and antitussives with examples.
Bronchodilators: These are drugs that dilate the bronchi and improve airflow.

- β_2 agonists: Salbutamol, Terbutaline.
- Anticholinergics: Ipratropium.
- Methylxanthines: Theophylline.

Expectorants: These drugs increase respiratory tract secretions and help expel sputum.

- Saline expectorants: Ammonium chloride.
- Others: Guaifenesin.

Mucolytics: These drugs reduce the viscosity of mucus.

- Examples: Acetylcysteine, Bromhexine, Ambroxol.

Antitussives: These drugs suppress cough.

- Opioid: Codeine.
- Non-opioid: Dextromethorphan.

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Q23. Classify anti-ulcer, antiemetic, laxative/purgative and antidiarrhoeal drugs with examples.
Anti-ulcer drugs: These are drugs used to prevent or treat peptic ulcers.

- Antacids: Aluminium hydroxide, Magnesium hydroxide.
- H_2 blockers: Famotidine.
- Proton pump inhibitors: Omeprazole, Pantoprazole.
- Mucosal protectants: Sucralfate.

Antiemetics: These are drugs used to prevent or control nausea and vomiting.

- 5-HT_3 antagonists: Ondansetron.
- Dopamine antagonists: Metoclopramide, Domperidone.
- H_1 antihistamines: Dimenhydrinate.

Laxatives/purgatives: These are drugs that promote bowel evacuation.

- Bulk-forming: Psyllium.
- Stimulant: Bisacodyl, Senna.
- Osmotic: Lactulose, Magnesium sulphate.
- Stool softeners: Docusate sodium.

Antidiarrhoeals: These are drugs used to reduce excessive intestinal fluid loss and bowel frequency.

- Adsorbents: Kaolin, Pectin.
- Antimotility agents: Loperamide.
- Antisecretory agents: Racecadotril.
- Antispasmodics: Dicyclomine.

Q24. Classify diuretics with examples.
Diuretics are drugs that increase urine formation and promote the excretion of excess water and electrolytes.

- Thiazide diuretics: Hydrochlorothiazide, Chlorthalidone.
- Loop diuretics: Furosemide, Bumetanide.
- Potassium-sparing diuretics: Spironolactone, Amiloride.
- Carbonic anhydrase inhibitors: Acetazolamide.

Q25. Classify antidiuretic and antithyroid drugs with examples.
Antidiuretic drugs: Antidiuretic drugs reduce urine formation and promote water reabsorption.

- Vasopressin: Vasopressin.
- Vasopressin analogue: Desmopressin.

Antithyroid drugs: Antithyroid drugs reduce thyroid hormone production or activity.

- Thioamides: Propylthiouracil, Methimazole.
- Iodides: Potassium iodide.
- Radioactive iodine: Iodine-131.

Q26. Classify parathormone, calcitonin and vitamin D preparations with examples.
Parathormone: Parathormone (PTH) is a hormone that increases blood calcium level.

- PTH analogue: Teriparatide.

Calcitonin: Calcitonin is a hormone that lowers blood calcium mainly by inhibiting bone resorption.

- Calcitonin preparation: Salmon calcitonin.

Vitamin D: Vitamin D promotes intestinal absorption of calcium and phosphate and helps maintain normal bone formation.

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- Vitamin D_2: Ergocalciferol.
- Vitamin D_3: Cholecalciferol.
- Active vitamin D: Calcitriol.

Q27. Classify insulin preparations and oral hypoglycaemic agents with examples.
Insulin is a pancreatic hormone that lowers blood glucose by promoting glucose uptake and utilization.

Classification of insulin preparations:

- Rapid-acting: Insulin lispro, Insulin aspart.
- Short-acting: Regular insulin.
- Intermediate-acting: NPH insulin.
- Long-acting: Insulin glargine.

Oral hypoglycaemic agents: These are drugs mainly used to lower blood glucose in type 2 diabetes mellitus.

- Biguanides: Metformin.
- Sulfonylureas: Glimepiride, Glibenclamide.
- Thiazolidinediones: Pioglitazone.
- α-glucosidase inhibitors: Acarbose.
- DPP-4 inhibitors: Sitagliptin.
- SGLT-2 inhibitors: Empagliflozin.

Q28. Classify estrogens, progesterone preparations and oxytocin with examples.

Estrogens:
Estrogens are female sex hormones mainly responsible for development and maintenance of female reproductive functions.

- Natural: Estradiol.
- Synthetic: Ethinylestradiol.

Progesterone/progestins:
These are hormones that prepare and maintain the uterus for pregnancy and regulate the menstrual cycle.

- Natural: Progesterone.
- Synthetic: Medroxyprogesterone, Norethisterone.

Oxytocin/uterotonic drugs:
Oxytocin is a hormone that produces uterine contraction and promotes milk ejection.

- Oxytocin: Synthetic oxytocin.
- Prostaglandins: Misoprostol, Dinoprostone.

Q29. Write a short note on corticosteroids.
Corticosteroids are steroid hormones produced by the adrenal cortex.
Classification:

- Glucocorticoids: Hydrocortisone, Prednisolone, Dexamethasone.
- Mineralocorticoids: Aldosterone, Fludrocortisone.

Uses: Anti-inflammatory, antiallergic, immunosuppressive and replacement therapy.

Q30. Explain the physiological roles of histamine, 5-HT and prostaglandins.

- Histamine: Causes vasodilation, increases capillary permeability, stimulates gastric acid secretion and produces itching.
- 5-HT (serotonin): Involved in mood, sleep, appetite, vomiting and regulation of blood vessels.

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- Prostaglandins: Involved in inflammation, pain, fever, gastric protection, uterine contraction and regulation of blood flow.

Q31. Classify antihistamines and 5-HT antagonists with examples.
Antihistamines are drugs that block the actions of histamine, mainly at H_1 receptors.

- First-generation H_1 blockers: Diphenhydramine, Chlorpheniramine, Promethazine.
- Second-generation H_1 blockers: Cetirizine, Loratadine, Fexofenadine.

5-HT antagonists:
These are drugs that block the actions of serotonin at specific 5-HT receptors.

- 5-HT_3 antagonists: Ondansetron, Granisetron.
- 5-HT_2 antagonists: Cyproheptadine.

Q32. Explain the basic principles of chemotherapy and classify antibacterial antibiotics with examples.
Chemotherapy is the treatment of infections or abnormal cells using chemical agents that selectively inhibit or destroy the causative organisms or abnormal cells.

Basic principles:

- Selectively inhibit or destroy the causative organism or abnormal cell.
- Drugs should have maximum effect on the causative organism with minimum harm to the host.
- Correct drug, dose and duration should be used.
- Development of drug resistance should be prevented.

Major antibacterial groups:

- Penicillins: Amoxicillin.
- Cephalosporins: Ceftriaxone.
- Aminoglycosides: Gentamicin.
- Macrolides: Azithromycin.
- Tetracyclines: Doxycycline.
- Fluoroquinolones: Ciprofloxacin.
- Sulphonamides: Sulfamethoxazole.

Q33. Classify penicillins and cephalosporins with examples.
Penicillins are β-lactam antibiotics that mainly inhibit bacterial cell-wall synthesis.

- Natural penicillins: Penicillin G, Penicillin V.
- Penicillinase-resistant: Cloxacillin, Oxacillin.
- Aminopenicillins: Ampicillin, Amoxicillin.
- Antipseudomonal: Piperacillin.

Cephalosporins are β-lactam antibiotics that inhibit bacterial cell-wall synthesis.

- First generation: Cephalexin, Cefazolin.
- Second generation: Cefuroxime.
- Third generation: Ceftriaxone, Cefotaxime.
- Fourth generation: Cefepime.

Q34. Classify aminoglycosides, fluoroquinolones, macrolides and tetracyclines with examples.
Aminoglycosides are antibiotics that mainly inhibit bacterial protein synthesis.

- Older: Streptomycin.
- Newer: Gentamicin, Amikacin.

Fluoroquinolones are synthetic antibacterial drugs that inhibit bacterial DNA synthesis.

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- Second generation: Ciprofloxacin, Ofloxacin.
- Third generation: Levofloxacin.
- Fourth generation: Moxifloxacin.

Macrolides are antibiotics containing a macrocyclic lactone ring and mainly inhibit bacterial protein synthesis.

- Older: Erythromycin.
- Newer: Azithromycin, Clarithromycin.

Tetracyclines are broad-spectrum antibiotics that inhibit bacterial protein synthesis.

- Short-acting: Tetracycline.
- Long-acting: Doxycycline, Minocycline.

Q35. Classify sulphonamides and anti-TB drugs with examples.
Sulphonamides are synthetic antibacterial drugs that interfere with folic acid synthesis in bacteria.
Classification:

- Short/intermediate-acting: Sulfisoxazole, Sulfamethoxazole.
- Long-acting: Sulfadoxine.
- Topical: Sulfacetamide, Silver sulfadiazine.

Anti-TB drugs are medicines used to treat tuberculosis caused by *Mycobacterium tuberculosis*.
Classification:

- First-line drugs: Isoniazid, Rifampicin, Pyrazinamide, Ethambutol.
- Second-line drugs: Levofloxacin, Amikacin.

Q36. Write a short note on DOTS.
DOTS (Directly Observed Treatment, Short-course): DOTS is a strategy used for tuberculosis control in which treatment adherence is supervised.

- Ensures that the patient takes anti-TB medicines regularly under observation.
- Helps improve treatment adherence.
- Reduces treatment failure and development of drug resistance.

Q37. Classify antifungal and antiviral drugs with examples.
Antifungal drugs are medicines used to treat fungal infections by killing fungi or inhibiting their growth.

- Azoles: Fluconazole, Ketoconazole.
- Polyenes: Amphotericin B, Nystatin.
- Echinocandins: Caspofungin.
- Allylamines: Terbinafine.
- Others: Griseofulvin.

Antiviral drugs are medicines used to treat viral infections by inhibiting viral multiplication.

- Anti-herpes drugs: Acyclovir.
- Anti-influenza drugs: Oseltamivir.
- Antiretroviral drugs: Zidovudine, Tenofovir.

Q38. Classify antiamoebic and antimalarial drugs with examples.
Antiamoebic drugs are medicines used to treat infections caused by *Entamoeba histolytica*.

- Tissue amoebicides: Emetine, Chloroquine.
- Luminal amoebicides: Diloxanide furoate, Iodoquinol.

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- Mixed/tissue + luminal: Metronidazole.

Antimalarial drugs: Antimalarial drugs are medicines used to treat malaria caused by *Plasmodium* species.

- 4-aminoquinolines: Chloroquine.
- 8-aminoquinolines: Primaquine.
- Artemisinin derivatives: Artesunate, Artemether.
- Folate antagonists: Pyrimethamine, Proguanil.

Q39. Classify anthelmintic drugs with examples.
Anthelmintic drugs are medicines used to treat infections caused by parasitic worms.

- Benzimidazoles: Albendazole, Mebendazole.
- Tetrahydropyrimidines: Pyrantel pamoate.
- Macrocyclic lactones: Ivermectin.
- Others: Praziquantel.

Q40. Classify antineoplastic drugs with examples.
Antineoplastic drugs are medicines used to treat cancer by inhibiting the growth and multiplication of malignant cells.

- Alkylating agents: Cyclophosphamide, Chlorambucil.
- Antimetabolites: Methotrexate, 5-Fluorouracil.
- Plant-derived drugs: Vincristine, Vinblastine.
- Antitumour antibiotics: Bleomycin, Doxorubicin.
- Platinum compounds: Cisplatin, Carboplatin.

Q41. Classify biological products with examples.
Biologicals are medicinal products obtained from living organisms or produced using biological processes and used for prevention, diagnosis or treatment of disease.

- Vaccines: BCG, Hepatitis-B vaccine.
- Toxoids: Tetanus toxoid.
- Antisera/antitoxins: Anti-snake venom serum.
- Recombinant biologicals: Recombinant insulin, Erythropoietin.

Q42. Define the following terms: Pharmacokinetics, prodrug, receptor, plasma half-life, first-pass metabolism, analgesic, cycloplegia, mydriasis, miosis, cardiotonic, tranquilizer, chemotherapeutic agent, anorexia, carcinoma and drug tolerance.

- Pharmacokinetics: Study of what the body does to a drug, including absorption, distribution, metabolism and excretion.
- Prodrug: A drug administered in an inactive or less active form that is converted into an active drug in the body.
- Receptor: A specific cellular structure with which a drug interacts to produce an effect.
- Plasma half-life: Time required for the plasma concentration of a drug to decrease by 50%.
- First-pass metabolism: Metabolism of a drug in the intestine and liver before it reaches systemic circulation.
- Analgesic: A drug that relieves pain without causing loss of consciousness.
- Cycloplegia: Paralysis of the ciliary muscle causing loss of accommodation.
- Mydriasis: Dilatation of the pupil.
- Miosis: Constriction of the pupil.
- Cardiotonic: A drug that increases the force of cardiac contraction.
- Tranquilizer: A drug that reduces anxiety and produces a calming effect.
- Chemotherapeutic agent: A drug used to treat infections or abnormal cells by selectively destroying or inhibiting them.
- Anorexia: Loss or lack of appetite.
- Carcinoma: A malignant tumour arising from epithelial tissue.
- Drug tolerance: Decreased response to a drug after repeated or prolonged use.

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