General pharmacology important questions

15 marks

- Define absorption and bioavailability. Explain the factors affecting both by oral routes.
- Define biotransformation. Explain different phases of biotransformation.
- Enumerate various routes of drug administration. Explain the intravenous routes of drug administration & oral routes of drug administration (Site, advantages, disadvantages, egs)
- Factors modifying drug action.

6 marks

- plasma protein binding and its clinical significance.
- Hypersentivity reactions
- Tolerance.
- Enzyme induction & its clinical significance.
- Combined effect of drugs
- Define ...Agonist, Antagonist, Partial agonist & Inverse agonist.
- Methods of prolonging duration of drug action.
- Tetragonicity
- Drug dependence. Explain different types with egs.
- Sublingual route of drug administration.
- Sources of drugs
- Oral route of drug administration.
- Transdermal route of drug administration.
- Special drug delivery system.
- Type 1 hypersensitivity reaction and its management
- Clinical trials

3 marks

- First pass metabolism and its clinical significance
- Blood brain barrier
- Two examples of drugs excreted through: lung, saliva, skin
- Plasma half life
- Pharmacopeia
- 2 drugs given by: 1. subcutaneous route, 2. Inhalation route
- Enema
- Define Pharmacogenetics with examples.
- Idiosyncrasy reaction.
- Intragenic diseases
- Placebo.
- Define drug potency

- First order kinetics and zero order kinetics
- Therapeutic drug monitoring
- Therapeutic index.
- pro drug
- Orphan drug
- Functional antagonism
- Name 2 non-receptor mediated mechanism of action.
- G protein coupled receptors.
- BBB
- Steady state concentration
- Essential drug list
- Phase IV Clinical trials
- Schedule y
- Schedule H drugs
- Rational drug use
- New drug development
- Principles of GCP
- pharmacoeconomic

ANS

15 marks

- Classify antimuscarinic agents. Write the pharmacological actions, adverse effects, therapeutic uses of atropine.
- Classify sympathomimetics on basis of therapeutic use. Write cvs actions and therapeutic uses of Adrenaline (explain Rationale of each use)
- Classify beta blockers. Write pharmacological actions, uses, Adverse effects & contra-indications of propranolol.

6 marks

- Atropine substitutes
- Muscarinic actions of Acetyl choline
- Anti-Cholinesterases
- Classify Alpha blockers.mention Therapeutic uses of them
- Cardiselective Beta blockers
- Drugs used in glaucoma
- Compare & contrast between d-tc & succinylcholine
- Uses of peripheral acting skeletal muscle relaxants
- Why glycopyrolate is preferre d in pre anaesthetic medicine.
- Atropine is contraindicated in acute congestive glaucoma.
- Therapeutic Uses of pilocarpine

- Difference between Physostigmine and Neostigmine
- Neostigmine is preferred in MG
- Physostigmine is preferred in Atropine poisoning
- Edrophonium/Tensilon test.
- Name 4 cerebroactive drugs used in Alzheimer's Disease.
- Organo phosphorus poisoning -sign, symptoms & treatment
- Acetyl choline is not used in asthma patients.
- Name 2 forms of Cholinesterase enzymes
- Hyoscine in motion sickness
- Edrophonium is used to distinguish myasthenic crisis

3 marks

- Dale reversal vasomotor phenomenon
- Nasal decongestant-examples and mechanism of action
- Adrenaline combined with Lignocaine. Give reasons
- Succinylcholine induced prolonged apnea. Give reasons
- Difference between atracurium and cisatracurim
- Dantrolene sodium
- Pancuronium
- Suggamadex
- Adrenaline is used in anaphylactic reaction
- Malignant hyperthermia
- Anorectics
- Clonidine
- Dopamine in shock. Give reason
- Drugs used in myasthenia gravis

GIT

6 marks

- PPI/omeprazole
- H2 blockers
- Antiemetics
- Prokinetic agents
- 5ht3 blockers
- Osmotic laxatives
- Lactulose, liquid paraffin
- ORS (types of ingredients, non-diarrhoea uses, super Ors)
- Why two Non systemic antacids are combined in single Preparations
- Dual/triple/quadruple Anti h.pyroli treatment

- Racecadrotil
- Discuss the mechanism of action, pharmacokinetics, uses, and adverse effects of Ranitidine.
- Classify the drugs used in peptic ulcer. Discuss the mechanism of action, uses, and adverse effects of proton pump inhibitors (PPIs).
- Anti-Helicobacter pylori drugs.
- Omeprazole – uses in peptic ulcer.
- Antacids.
- Pantoprazole.
- Mention drugs used for GERD (Gastroesophageal Reflux Disease).
- Ondansetron.
- Write the mechanism of action of two antiemetic drugs acting by different mechanisms.
- Prokinetic agents.
- Treatment of diarrhoea.
- Drugs for inflammatory bowel disease.
- Gallstone-dissolving drugs.
- Metoclopramide and Levodopa drug interaction.
- Doxylamine.
- Neuroleptics as antiemetics.
- Zinc in diarrhoea in paediatric patients.
- Loperamide as an antidiarrhoeal.
- Racecadotril.
- Probiotics in diarrhoea.
- Bulk laxatives.
- Domperidone – use as an antiemetic.
- Osmotic purgatives.

3 marks

- Why systemic antacids are not preferred
- Why loperamide is co-administered with atropine
- Neurokinin inhibitors
- Why ondansetron/granisetron not effective in motion sickness
- Drug treatment of GERD
- Differentiate b/n metoclopramide and domperidone
- Lactulose in hepatic coma
- Domperidone in levodopa induced Nausea & vomiting
- Why omeprazole is available in enteric coated capsules
- Why omeprazole is administered 30 mins before breakfast
- What are hit and run drugs. Give examples
- Why omeprazole given once daily when their half life is short
- Uses of laxatives and purgatives
- Name some ulcer protective drugs
- Name drugs used in h. pyroli infection

- Name some atropine substitutes used in peptic ulcer
- Mention the disadvantages of liquid paraffin as a laxative.
- Domperidone – mechanism of action, uses, and advantages over Metoclopramide.
- Why is Domperidone preferred to Metoclopramide in the treatment of vomiting?
- Name two ulcer-protective drugs.
- Specify the problems associated with prescribing drugs in pregnant women with suitable examples.
- Specify a fixed-dose combination of three drugs used in the management of peptic ulcer. Indicate the mechanism of action of each ingredient. Mention the rationale for this combination.

Autocoids

15 marks

- Classify NSAIDs. write moa, actions, uses, and adverse effects of aspirin.

6 marks

- Uses of antihistamines
- Uses of prostaglandin
- Classify antihistamines

3 marks

- Obstetrics Uses of prostaglandin
- Name 4 analogues of prostaglandins
- Triptans
- Allopurinol
- Colchicine
- Aspirin
- DMARDs
- Indomethacin
- Ibuprofen
- Diclofenac
- Paracetamol
- Low dose aspirin
- Aspirin is stopped prior to 1 week before elective surgery
- Uricosuric drugs
- Treatment of gout
- Treatment of paracetamol poison
- Orphan drug
- Cyproheptadine
- Name 4 second generation anti-histaminics and their advantages over 1st generation anti-histaminics
- Selective cox 2 inhibitors

- One advantage and one disadvantage of selective cox 2 inhibitor
- Compare & contrast aspirin and paracetamol
- N-acetyl cystiene
- Paracetamol poisoning
- Salicylism

CNS

15 marks

- Classify antiepileptic agents. Write mechanism of action, uses, adverse effects of phenytoin.
- Classify sedative & hypnotics. Write mechanism of action, uses, adverse effects of diazepam
- Classify anti-psychotics. Write mechanism of action, uses, adverse effects of chlorpromazine
- Classify anti-depressants. Write mechanism of action, uses, adverse effects of SSRI
- Classify OPIOIDS. Write mechanism of action, pharmacological action actions uses, adverse effects of MORPHINE.

6 marks

- Sodium valproate
- Carbamazepine
- New antiepileptic agents
- Non benzodiazepine
- Advantages of benzodiazepines over barbiturates as sedative and hypnotic.
- Status epilepticus
- SSRI
- TCA's
- Lithium

3 marks

- Name drugs used in grand mal, petit mal
- Ethosuximide
- Lamotrigine
- Flumazenil
- Treatment of barbiturates over dose
- Name some new sedatives and hypnotics
- Define sedative and hypnotic
- Sodium valproate not given in children below 3 yrs to treat epilepsy. Give reason
- Advantages of Fosphenytoin over phenytoin
- Zolpidem advantages as sedatives and hypnotics
- Name broad spectrum antiepileptics

- Drugs causing gingival hyperplasia
- Ethosuximide is called narrow spectrum antiepileptic drug give reasons
- Why should antiepileptic drugs not be stopped abruptly?
- Why is folic acid given with antiepileptic drugs?
- Name non epileptic uses of topiramate
- Name 2 antiepileptic which cause renal stones
- Current uses of barbiturates
- Fomepizole
- CNS effects of alcohol
- Ethanol used in methanol poison
- Treatment of methanol poisoning
- Atypical antidepressant & antipsychotics

HORMONES

15 marks

- Classify corticosteroids. Write uses, adr's & contra indications OF gluco-corticoids
- Classify antidiabetic agents. Write mechanism, adr's of sulfonylureas
- Classify anti-thyroid drugs. Explain the mechanism of action, indications for use and adverse effects of any one drug inhibiting hormone synthesis.

6 marks

- SERM
- OC PILLS
- Anabolic Steroids
- Bisphosphonates
- Radioactive iodine
- Metformin
- Insulin preparations
- vit D
- Clomiphene Citrate
- Mifepristone
- Insulin preparations
- Tocolytics
- Male contraception
- Alpha 5 reductase inhibitors
- Octreotide
-

3 marks

- Name Insulin Delivery New Devices
- Bisphosphonates

- Name 4 Anabolic Steroids
- Propyl Thiouracil
- Calcitonin
- Acarbose
- Enlist Adr's of Insulin
- Lugols Iodine
- Insulin Analogues
- Name New Drugs in Dm
- Thyroid Storm
- Glitazones
- Difference Between Propylthiouracil & Carbimazole
- Explain measures to minimize HPA axis suppression during chronic steroid therapy
- Drugs for erectile dysfunction
- Bromocriptine
- Rationale of using methylergometrine in Postpartum-haemorrhage.
- Differences between hydrocortisone and Dexamethasone
- Centchroman
- Emergency contraception pill
- Uterine stimulants
- Injectable contraception
- Differences between Propylthiouracil and carbimazole
- Somatostatin

CHEMOTHERAPY

- Classify AMAs based on mechanism of action. Write the Advantages and disadvantages of combining antibiotics with suitable examples.
- Classify Penicillin. Write the Moa, classifications, Adverse effects, therapeutic uses of natural penicillin.
- Classify FQ. Write the Moa, classifications, Adverse effects, therapeutic uses of Ciprofloxacin.
- Classify Cephalosporins. Write the Moa, classifications, Adverse effects, therapeutic uses of III rd. generation.
- Classify Macrolides. Write the Moa, classifications, Adverse effects, therapeutic uses of Erythromycin.
- Classify Aminoglycosides. Write the Moa, classifications, Adverse effects, therapeutic uses of Gentamycin.
- Classify drugs used in TB. Write the Moa, classifications, Adverse effects, therapeutic uses of Isoniazid /Rifampicin.
- Classify drugs used in Leprosy. Write the Moa, classifications, Adverse effects, therapeutic uses of Dapsone.
- Classify drugs used in Leprosy. Write the Moa, classifications, Adverse effects, therapeutic uses of Dapsone.

- Classify drugs used in Amoebiasis. Write the Moa, classifications, Adverse effects, therapeutic uses of Metronidazole.
- Classify anti-viral drugs. Write the Moa, classifications, Adverse effects, therapeutic uses of Acyclovir.
- Classify anti-viral drugs. Write the Moa, classifications, Adverse effects, therapeutic uses of Acyclovir.
- Classify anti-retro viral drugs. Write the Moa, classifications, Adverse effects, therapeutic uses of Zidovudine.
- Classify anti-fungal agents. Write the Moa, classifications, Adverse effects, therapeutic uses of amphotericin.
- Classify anti-malarial agents. Write the Moa, classifications, Adverse effects, therapeutic uses of chloroquine.

6 marks

- Adr of Sulphonamides
- Cotrimoxazole
- 3rd gen cephalosporins
- Moa and adr of tetracyclines
- Azithromycin-moa, therapeutic use, advantages of azithromycin
- 1st line drugs in Tb, Isoniazide- moa, uses, adr
- Rifampicin- Moa, therapeutic uses, adr
- Dapsone- Moa, therapeutic uses, adr
- Metronidazole- Moa, therapeutic uses, adr
- Nystatin/Amphotericin B- Moa, therapeutic uses,
- topical antifungals
- zidovudine
- Acyclovir
- Drugs used in scabies
- Permethrin
- Primaquine
- Artemisinin
- Levofloxacin
- Methotrexate
- Adverse effects of anti-cancer drugs
- Vincristine
- Paclitaxel
- Protease inhibitors
- PEP
- Treatment of leprosy
- Treatment of drug sensitive TB
- Ethambutol

- Albendazole.
- BAL
- Retinoids
- Ciclosporins
- Calcineurin inhibitors
- Nystatin
- ACT of malaria
- Ivermectin
- DEC
- Chloramphenicol
- Cetrimide
- Live vaccines
- Treatment of snake bite
- Treatment of dog bite
- Clotrimazole.
- Chemoprophylaxis.
- Beta-lactamase inhibitors.
- Third-generation cephalosporins and their clinical uses.
- Carbapenems.
- Amikacin.
- Aztreonam.
- Adverse effects of tetracyclines.
- Enumerate tetracyclines. Write the therapeutic uses of tetracyclines.
- Doxycycline.
- Chloramphenicol.
- Azithromycin – spectrum of action, uses, and advantages over earlier members of the group.
- Vancomycin.
- Repository (Depot) Penicillin.
- Clindamycin.
- Streptogramins.
- Urinary antiseptics.
- Linezolid.
- Glucocorticoids in tuberculosis treatment.
- Isoniazid.
- DOTS regimen.
- Chemoprophylaxis (latent TB infection) of tuberculosis.
- Dapsone.
- Lepra reactions.
- Adverse effects and uses of Rifampicin
- Name two chelating agents and write their uses.
- Explain the term chelating agent. Give one example and one use.
- Hepatitis B vaccine.
- Rh(D) (Rhesus factor) immunoglobulin.
- Anti-snake venom

- Triple dye and its use.
- Drugs used for the treatment of scabies.
- Povidone-iodine.
- Silver nitrate / Silver sulfadiazine.
- Metallic salts.
- Preparations of iodine.

Respiratory system:

6 Marks

- bronchodilators
- Classify drugs used in bronchial asthma
- B2 agonist
- Salbutamol

3 marks

- Name 2 different classes of Mucolytics and their mechanisms.
- Name 2 drugs each of preventers, controllers, relievers used in bronchial asthma
- Antitussive agents
- Role of inhalation steroids in asthma and their side-effects.
- treatment of status asthmaticus

PNS

15 MARKS

- Classify LA, write moa, techniques with uses, adverse effects of lignocaine.
- Classify skeletal muscle relaxants with suitable examples. Explain the mechanism of action, therapeutic uses, and adverse effects of d-tubocurarine.

3 MARKS

- Adrenaline and lignocaine combination
- Difference between competitive and depolarizing blockers.
- Mechanism of action and uses of Succinylcholine.
- Succinylcholine apnoea.
- Centrally acting skeletal muscle relaxants.
- Dantrolene sodium.
- Botulinum toxin A.
- Lignocaine is ineffective in inflammation
- Ester linked LA rarely used for infiltration or nerve block
- Potency of a LA generally corresponds to the lipid solubility of its base form

- Bupivacaine*
- Propranolol should be given along with lidocaine
- Oxethazaine
- Difference between ester linked and amide LA

Blood and Related Drugs

6 Marks

- Oral iron preparations and their adverse effects.
- Parenteral iron preparations and their adverse effects.
- HMG-CoA reductase inhibitors.
- Styptic agents (Local haemostatics).
- Fibrinolytics: Examples, mechanism of action, and uses.
- Difference between Heparin and Warfarin.

3 marks

- Treatment of iron poisoning.
- Factors impeding iron absorption.
- Uses of Vitamin B12.
- Uses of Folate.
- Erythropoietin.
- Low molecular weight heparins and their advantages over unfractionated heparin.
- Mechanism of action of Heparin as an anticoagulant.
- Mention four low molecular weight (LMW) heparins.
- Enumerate two classes of hypolipidemic drugs.
- Enumerate Statins. Write the mechanism of action and indications of Statins.
- Atorvastatin.
- Mention two adverse effects of Statins.
- Pharmacological basis of combination therapy with Ezetimibe and a Statin.
- Mechanism of action and treatment of Heparin overdose.
- Classify anticoagulants. Explain the mechanism of action, therapeutic uses, and adverse effects of oral anticoagulants.
- Direct thrombin inhibitors.
- Dabigatran.
- Haemopoietic growth factors – two examples and one indication for each.
- State the reason why Vitamin B12 is not effective orally in pernicious anaemia.
- List antifibrinolytic drugs.
- Classify antiplatelet drugs. Write the mechanism of action, uses, and adverse effects of Streptokinase.

- Name the drugs used as thrombolytics. Write their indications.
- Name two tissue plasminogen activators (tPAs).
- Plasma expanders: Uses and contraindications.
- What is a plasma expander? Give two examples

CARDIOVASCULAR SYSTEM & DIURETICS

- Classify drugs used in hypertension. Describe the mechanism of action and adverse effects of Captopril.
- Classify antianginal drugs. Write the mechanism of action of nitrates, their uses, and adverse effects.
- Classify drugs used in the management of CHF based on their cardiovascular effects. Explain the mechanism of action of Enalapril and mention the rationale for its use. List the unwanted effects of the drug.
- Classify antiarrhythmic drugs. Explain the rationale for using Lignocaine in ventricular arrhythmias.
- Specify three routes of administration for Nitroglycerine with one indication for each.
- Pharmacological basis of Digoxin in the treatment of atrial fibrillation.
- Extracardiac and cardiac side effects of Digoxin.
- Enumerate vasodilators used in hypertension. What is the role of Sodium Nitroprusside in emergency hypertension?
- Digoxin toxicity and its management.
- Write the therapeutic uses of ACE inhibitors.
- Classify drugs used in CHF and mention their mechanism of action.
- Central sympatholytics.
- Nitroglycerine in angina pectoris: Basis for its use, various routes of administration, and unwanted effects.
- Rationale for the use of Nitroglycerine in acute angina.
- PDE III inhibitors.
- Sympathomimetic inotropic drugs used in CHF.
- Rationale for the use of vasodilators in CHF.
- Mention two uses of nitrates with rationale.
- Mention four nitrate preparations used in angina pectoris.
- Treatment of cyanide poisoning.
- Drug therapy of myocardial infarction.
- Mention five uses of nitrates.
- Name four potassium channel openers.
- Classify calcium channel blockers (CCBs). Mention the uses of Nimodipine and Nifedipine.
- Nifedipine – mechanism of action and mention its two uses.

- Explain the following drug interactions:
- Propranolol and Verapamil
- Nitrates and beta-blockers
- Nitrates and Sildenafil
- Uses of Clonidine.
- Rationale for combining long-acting nitrates and beta-blockers.
- How does Nifedipine differ from Verapamil in its cardiovascular actions?
- Sodium Nitroprusside.
- Angiotensin Receptor Blockers (ARBs).
- Hydralazine.
- Labetalol.
- Amiodarone.
- Why should Clonidine not be stopped suddenly?
- Why is Amlodipine preferred over Nifedipine?
- Current status of diuretics in hypertension.
- Drugs used in emergency hypertension.
- Name two drugs used for peripheral vascular diseases.
- Name four antiarrhythmic drugs.
- GTN (Glyceryl Trinitrate) – different routes of administration and doses.
- Name the preferred antiarrhythmics used in:
- Ventricular tachycardia (VT)
- Paroxysmal supraventricular tachycardia (PSVT)
- Drugs that prolong QT interval and precipitate Torsades de Pointes.
- Mention two drugs used in AV block and the rationale for their use.
- Dopamine is preferred to Noradrenaline in circulatory failure. State the reasons.
- Ramipril.
- Pharmacological basis of using Verapamil in supraventricular tachycardia.
- Mention four drugs used in CHF without positive inotropic effect and their mechanisms of action.
- Pharmacological basis of using low-dose Aspirin in post-MI patients.
- Therapeutic uses and adverse effects of Digoxin.
- Why is Digoxin preferred over Digitoxin?
- Diuretics
- Classify diuretics. Write the mechanism of action, uses, and adverse effects of loop diuretics.
- Rationale for using Furosemide with Spironolactone.
- Two uses of Hydrochlorothiazide and the mechanism of action in any one use.
- List three indications for the use of Mannitol, indicating the route of administration. Explain how Mannitol is effective in any one situation.
- Hydrochlorothiazide.
- Osmotic diuretics.

- Write two indications and two adverse effects of thiazides.
- Spironolactone.
- Two uses and two complications of Mannitol.
- Two uses and two adverse effects of loop diuretics.
- Name two potassium-sparing diuretics and two loop diuretics.
- Mechanism and therapeutic uses of Acetazolamide.
- Acetazolamide.
- Mannitol is used in cerebral oedema but not in pulmonary oedema. Why?
- Therapeutic uses and adverse effects of Chlorothiazide.
- Potassium-sparing diuretics.
- Explain the basis for the following drug combinations:
- Chlorthalidone + Amiloride in hypertension
- Furosemide + Amiloride in congestive cardiac failure
- Vasopressin analogues and their uses.
- List two drugs used in central diabetes insipidus.
- Name two vasopressin receptor antagonists.