**INSTITUTE OF TEACHING AND RESEARCH IN AYURVEDA**

**[INSTITUTE OF NATIONAL IMPORTANCE]**

**MINISTRY OF AYUSH, GOVERNMENT OF INDIA**

## B. PHARM. (AYU.) III YEAR

## PHARMACOLOGY AND TOXICOLOGY OF AYURVEDIC DRUGS I

**Question Bank**

## SECTION - A

### Chapter: Definitions

**2 marks**

1. Drug (WHO)
2. Pharmacology
3. Toxicology
4. Pharmacokinetics and Pharmacodynamics
5. Chemotherapy
6. Pharmacy
7. Pharmacopeia
8. Clinical pharmacy
9. Pharmacogenomics
10. Pharmacovigilance

### Chapter: Nature and Sources of drugs

**10 marks**

1. Nature and sources of drugs
2. Enumerate various nature and sources of drugs
3. What is drug? Write various nature and sources of drugs

**5 marks**

1. Sources of drugs.
2. Nature of drugs.
3. Gene based therapy
4. DNA recombinant technology.

**2 marks**

1. Drugs obtained from plants and animals
2. Drugs obtained from microorganism
3. Drugs obtained from minerals

## Chapter: Routes of drug administration

**10 marks**

1. Write a note on oral route of drug administration
2. Advantages and disadvantages of parenteral routes
3. Intravenous and intramuscular routes of drug administration
4. Subcutaneous and intramuscular routes of drug administration
5. Intravenous and subcutaneous routes of drug administration
6. Intrathecal, intra-arterial, intra-articular and intra-lesional routes of drug administration
7. Trans-cutaneous and trans-mucosal routes of drug administration.

**5 marks**

1. Intramuscular route for drug administration.
2. Inhalation.
3. Intravenous route of drug administration.
4. Trans cutaneous routes of drug administration
5. Trans mucosal routes of drug administration
6. Sublingual and inhalation routes of drug administration

**2 marks**

1. Subcutaneous route of drug administration
2. Intradermal route of drug administration
3. Drugs given by IV routes
4. Drugs given by intramuscular routes
5. Enteric coated tablet
6. Prodrug
7. Sustained release tablets
8. Prolonged released tablets

## Chapter: Drug absorption - different types and factors modifying it.

**10 marks**

1. Discuss various factors affecting drug absorption and its bioavailability
2. Discuss patient related factors affecting drug absorption and its bioavailability
3. Write note on drug related factors which affecting drug absorption and its bioavailability
4. Bioavailability of drugs and factors affecting drug absorption and its bioavailability

**5 marks**

1. Passive diffusion.
2. Active transport system.
3. Carrier mediated transport
5. drug related factors affecting drug absorption and its bioavailability

**2 marks**

1. Define bioavailability of drugs
2. First pass metabolism
3. Enterohepatic circulation of drugs
4. Presystemic elimination of drugs
5. Names drugs having first pass metabolism

6. Names drugs showing enterohepatic circulation

## Chapter: Drug transport and storage

**10 marks**

1. Discuss Plasma protein binding of drugs.

**5 marks**

1. Plasma protein binding of drugs
2. Blood brain barrier.

**2 marks**

1. Define volume of distribution
2. Placental transfer

## Chapter: Biotransformation (drug metabolism) - different types and factors modifying it.

**10 marks**

1. What is biotransformation of drugs and write note on phase – I reactions of drug metabolism
2. Phase I reaction of drug metabolism
3. Discuss enzyme induction
4. Phase II reactions of drug metabolism

**5 marks**

1. Oxidation and reduction of drugs.
2. Enzyme induction.

**2 marks**

1. Drugs metabolised by methylation
2. Drugs metabolised by acetylation
3. Drugs metabolised by hydroxylation, cyclization and decyclization
4. Drugs metabolised by glucuronide conjugation.
5. Drugs metabolised by sulphate and glycine conjugation
6. Dugs metabolised by oxidation and reductions

## Chapter: Drug excretion

**10 marks**

1. Drug excretion
2. Renal excretion of drug.
3. Write note on various route of drug elimination
4. Drug elimination

**2 marks**

1. Drugs eliminated by lungs
2. Drugs eliminated by skin /sweat
3. Drugs eliminated by faces

## Chapter: Site and mechanism of drug action including study of drug receptors

**10 marks**

1. Define and classify the drug receptors. Write brief note on channel linked
2. Define and classify the drug receptors. Write note on enzyme linked receptors
3. Define and classify the drug receptors. Write note on G-protein coupled receptors
4. Define and classify the drug receptors. Discuss Second messenger for G-protein coupled receptors
5. mechanism of action of drug through their physical and chemical properties
6. mechanism of action of drug through enzymes
7. Define and classify the drug receptors. Discuss Signal transducers for G-protein coupled receptors

**5 marks**

1. G-protein coupled receptors.
2. Ion channel liked receptors.
3. Tyrosine kinase receptors.
4. Enzyme linked receptors
5. Channel linked receptors
6. Steroid receptors/ nucleus receptors.
7. Mechanism of action of drug through their physical properties
8. Mechanism of action of drug through their chemical properties

**2 marks**

1. Agonist and antagonists
2. Partial agonist
3. Inverse agonist
4. Agonist –antagonist
5. Efficacy and affinity of drug

## Chapter: Adverse drug reactions

**10 marks**

1. Explain different types of allergic reactions.

**5 marks**

1. Allergic reactions.
2. Explain side effects , untoward effects and toxic effects of drug

**2 marks**

1. Adverse drug reaction(WHO)
2. Side effects of drugs
3. Toxic effects of drugs
4. Untoward effects of drugs

## Chapter: Factors modifying effect of drugs

**10 marks**

1. Factors modifying the effect of drugs.
2. Write note on drug antagonism.

3. Write note on drug tolerance.

**5 marks**

1. Teratogenicity
2. How age and weight affect drug effects
3. Acquired tolerance

**2 marks**

1. Teratogenecity
2. Accumulation
3. Tolerance

## SECTION –B

### Chapter: Autonomic nervous system

**10 marks**

1. Describe cholinergic receptors and neurotransmitter release in it.
2. Distribution of cholinergic nervous system and neurotransmitter release in it.
3. Write classification and distribution of cholinergic receptors and drugs acting on it.
4. Para-sympathetic transmission and drugs affecting on it.
5. Explain cholinergic transmission. classify cholinergic and anti- cholinergic drugs
6. Describe adrenergic receptors and neurotransmitter release in it.
7. Distribution of adrenergic nervous system and neurotransmitter release in it.
8. Explain adrenergic transmission and drugs acting on it.
9. Discuss adrenergic transmission. Classify adrenergic and antiadrenergic drugs
10. Write classification and distribution of adrenergic receptors and drug acting on it.

**5 marks**

1. Difference between sympathetic and parasympathetic nervous system
2. Sympathetic nervous system
3. Parasympathetic nervous system.
4. Cholinergic transmission
5. Adrenergic transmission
6. Cholinergic nervous system
7. Adrenergic nervous system
8. Cholinergic receptors.
9. Adrenergic receptors.
10. Classification of anti cholinergic drugs.
11. Classification of adrenergic drugs.
12. Classification of parasympathomimetic and parasymatholytics drugs
13. Classification of sympathomimetic and sympatholytics drugs
14. Classify cholinergic and anticholinergic drugs
15. Classify adrenergic and antiadrenergic drugs

**2 marks**

1. Name of β-blockers.
2. Classification cholinergic receptors.
3. Name of anticholinesterases
4. Name of cholinergic agonists
5. Name of muscarinic receptor antagonists.

6. Difference between nicotinic $N_M$ and $N_N$ receptor
7. Name of α-blockers.

## Chapter: Types of drugs for the treatment of GI tract diseases

**10 marks**

1. Physiology of vomiting and classify drugs used in its treatment.
2. Classification of anti-emetic drugs with their mechanism of action.
3. Classify drugs used in the treatment of vomiting with their mechanism of action.
4. Classify laxatives & purgatives with their mechanism of action.
5. Physiology of G.I. motility and classify laxatives & purgatives with their mechanism of action.
6. Classify drugs used in the treatment of constipation with their mechanism of action.
7. Pathophysiology of peptic ulcer and classify drugs used in the treatment of it.
8. Classify drugs used in the treatment of peptic ulcer with their mechanism of action.
9. Classification of anti-ulcer drugs with their mechanism of action.
10. Pathophysiology of diarrhoea and classification of drugs used in its treatment.
11. Classification of anti-diarrhoeal with their mechanism of action.
12. Classify drugs used in the treatment of diarrhoea with their mechanism of action

**5 marks**

1. Appetizers.
2. Digestants.
3. Carminatives.
4. Classification of emetics and anti-emetics
5. Antiemetics
6. Laxatives & purgative
7. Classification of laxatives and purgatives.
8. Classification of anti ulcer drugs.
9. Classification of anti-diarrhoeas.

**2 marks**

1. Emeties.
2. Ayurvedic drugs used in the treatment of vomiting.
3. Ayurvedic drugs used in ulcer.
4. Name of Anti-H pylori drugs
5. Antacids
6. Name of proton pump inhibitors
7. Ayurvedic drugs used in constipation.
8. name of laxatives
9. Ayurvedic drugs used in the treatment of diarrhoea
10. antimicrobial agents used in the treatment of diarrhoea
11. prokinetic agents.
12. Name of antiemetic.

## Chapter: Drug activity affecting Central nervous system

**10 marks**

1. Stages of sleep cycle. Classify hypnotics.
2. Classification of hypnotics with their mechanism of action.
3. Classify drugs used in the treatment of insomnia with their mechanism of action.
4. Classification the different types of seizure and classify anti-epileptic drugs.
5. Classification of anti-epileptic drugs with their mechanism of action.
6. Classify drugs used in the treatment of epilepsy with their mechanism of action
7. Classify anticonvulsant drugs with their mechanism of action.
8. Pathophysiology of Parkinsonism and classify drugs used in its treatment.
9. Classification of anti-Parkinson's drug with their mechanism of action.
10. Classify drugs used in the treatment of Parkinsonism with their mechanism of action.
11. Discuss depression in brief and classify drugs used in the treatment of depression
12. Classify the antidepressants with their mechanism of action.
13. Classification of antipsychotic drugs with their mechanism of action.
14. Classify drugs used in the treatment of schizophrenia with their mechanism of action.

**5 marks**

1. Stages of sleep cycles
2. Classification of hypnotics
3. Anti anxiety drugs
4. Classification of anti-depressants.
5. Atypical anti-depressants
6. Classification of anti-psychotic drugs.
7. Atypical anti-psychotic drugs
8. Types of seizures.
9. Classification of anti-epileptic drugs.
10. Classification of anti-convulsants.
11. Pathophysiology of Parkinsonism.
12. Classification of anti Parkinson's drugs.

**2 marks**

1. Name of hypnotics.
2. Ayurvedic drugs used in depression.
3. Ayurvedic drugs used in epilepsy.
4. Ayurvedic drugs used in Parkinson's disease.
5. Ayurvedic drugs used in anxiety.
6. Ayurvedic drugs used in the treatment of pshchosis.
7. Name of atypical antidepressant.
8. Name of atypical antipsychotics.
9. Anti-anxiety drugs.