**Rajiv Gandhi university of health and Science**

**B. pharm semester-4**

**PHARMACOLOGY-1**

**Unit-1 General pharmacology**

**Short Essay**

1. What are the essential drugs and give examples?
2. What are the different route of drug administration with examples
3. Explain the tachyphylaxis with examples.
4. Explain the different membrane transport systems with example
5. What is enzyme induction and inhibition with examples?
6. What are the factors affecting the absorption of drugs?
7. What are the factor affecting the metabolism of drugs?
8. Write a note on metabolism of drugs by Phase I reaction
9. Write a note on metabolism of drugs by Phase II reaction.
10. Write in detail about different routes of drug elimination

**Short answer**

1. Define agonist and give example
2. Define antagonist with examples
3. What do you mean by competitive antagonism?
4. Explain about the first and zero order kinetics of elimination.
5. Explain tolerance and dependence with examples.
6. Explain the significance of renal clearance.
7. Explain the significance of volume of distribution.
8. Write note son spare receptors
9. Write short notes on physiological antagonism
10. Write short note on non-competitive antagonism
11. Write note on idiosyncracy
12. Write note on addiction
13. Write note on tolerance
14. Write note on dependence
15. Write note on tachyphylaxis

**Unit-2 General Pharmacology**

**Long Essay**

1. Write the principle and mechanism of drug action?
2. What are G-protein coupled receptors? Explain about the G-protein couple signal transduction mechanism.
3. What are enzyme linked receptor? Explain the tyrosine enzyme linked receptor signal transduction mechanism.
4. What are ion channel receptor? Explain any one ion channel receptor transduction mechanism.
5. What are the types of drug interactions? Explain the factor affecting the pharmacokinetics drug-drug interaction.
6. What are the different types of drug interactions? Explain the factors affecting the pharmacodynamics drug-drug interaction.
7. Explain the different preclinical evaluation phase in drug discovery.
8. Explain the different clinical evaluation phase in drug discovery.
9. Write a detailed note on mechanism of drug action.

**Short essay**

1. Explain the JAK-STAT binding receptor transduction mechanism.
2. What are the factor affecting the absorption of drug?
3. What are the transcription factor? How receptor regulate the transcription factor.
4. What are the factor modifying drug action?
5. What is adverse drug reactions? What are the types of adverse drug reaction.
6. What are the different steps involved of drug discovery?
7. Write the different phases of the clinical studies.
8. What do you mean by preclinical toxicity tests? Explain the types of preclinical toxicity test.
9. Write note on dose responses relationship
10. Define Synergism and write about time synergism.
11. Write detailed note on Dug -Drug interactions
12. Explain the pharmacokinetic drug-drug interactions.
13. Write short notes on pharmacovigilance
14. Explain the pharmacodynamic drug-drug interactions

**Short answer**

1. What are the types of singnal transduction mechanism
2. What do you mean by drug receptor interactions?
3. What is significance of therapeutic index?
4. What are combined effects of drugs with examples?
5. What is dose response relationship with examples?
6. What are application of pharmacovigilance?
7. Write notes on ionchannel receptors
8. Write note on Tyrosine Kinase Receptors
9. Define pharmacovigilance.
10. Write short notes on drug receptor interaction.

**Unit-3 Pharmacology of peripheral nervous system**.

**Long essays**

1. Describe the neurohumoral transmission with examples.
2. Describe the neurohumoral transmission of adrenergic system.
3. Describe the neurohumoral transmission of cholinergic system
4. Write the classification of neurotransmitters with their functions.
5. Write the classification of parasympathomimetics. Explain the pharmacological actions, side effects and uses of acetylcholine.
6. Write the classification of parasympathomimetics. Explain the pharmacological actions, side effects and uses of atropine.
7. Write the classification of sympathomimetics. Explain the pharmacological actions, side effects and uses of adrenaline
8. Write the classification of sympathomimetics. Explain the pharmacological actions, side effects and uses of catecholamines
9. What are the non-selective beta blockers? Explain the pharmacological actions, side effects and uses of Non-selective beta- blockers.
10. What are the selective ß blockers? Explain the pharmacological actions, side effects and uses of any one selective beta blockers.
11. What are the ß1 blockers? Explain the pharmacological actions, side effects and uses of any one selective Beta1 blockers.
12. What are the beta 2 blocker? Explain the pharmacological actions, side effects and uses of any one selective B1 blockers.
13. What are the beta2 blocker. Explain the pharmacological actions, side effects and uses of any one selective Beta1 blockers.
14. Write the classification of neuromuscular blocking agents. Write the pharmacology of tubocurarine.
15. Explain the steps involved in neurohumoral transmission of ANS.

**Short essay**

1. Write any five are the functions of the autonomic nervous system
2. Explain the organization of the autonomic nervous system?
3. Explain different neurotransmitters in peripheral nervous system.
4. Explain the pharmacology of MAO inhibitors.
5. Explain the pharmacology of COMT inhibitors.
6. Explain the pharmacology of indirectly -acting sympathomimetics.
7. Write the pharmacology of any one ß adrenergic antagonist.
8. Write the pharmacology of any one a adrenergic agonist
9. Write the pharmacology of dopamine.
10. Write the pharmacology of any one ß adrenergic antagonist.
11. Write the pharmacology of any one a adrenergic antagonist
12. Write the pharmacology of any one dopaminergic antagonist.
13. Write the pharmacology of norademnaline.
14. Write the pharmacology of physostigmin.
15. Write the pharmacology of pancuronium.
16. Write the pharmacology of succinylcholine.
17. Write a note on acetylcholinesterase inhibitors.
18. Write a note on skeletal muscle relaxants.
19. What are the local anesthetic agents. Write the pharmacology of any one local anesthetic agent.
20. Explain the pharmacological actions, side effects and uses of reserpine.
21. Explain the pharmacological actions, side effects and uses of propranolol.
22. Explain the pharmacological actions, side effects and uses of atenolol.
23. Explain the Dales principle and supersensitivity theory.

**Short answers**

1. Enlist the neurotransmitters.
2. Write the classification of sympathomimetics
3. Write the classification of sympatholytic agent.
4. Write the classification of parasympathomimetics agents.
5. Write the classification of parasympathetic agents.
6. Write the classification of skeletal muscle relaxants.
7. Write about the functions of ANS.
8. What are the drugs used in myasthenia gravis?
9. What are the drugs used in glaucoma?
10. What is the difference between men depolarization and depolarization types of neuromuscular blocker?
11. What is the use of epidural anesthesia?
12. What is the use of conduction block?
13. Explain the mechanism of action of local anesthetic agents
14. Explain the pharmacology of Procaine

**UNIT-IV Pharmacology of central nervous system**

**Long Essays**

1. What are the different stages of general anesthetics
2. Write the Classification of Barbiturates. Explain the mechanism of action, pharmacology and uses of barbiturates.
3. Write the classification of skeletal muscle relaxant. Explain the pharmacology and uses of any one of Centraly acting muscle relaxant.
4. Write the classification of anti epileptics with examples. Explain the pharmacology, side effects and uses Of phenytoine.
5. Explain the steps involved in the neurohumoral transmission in the CNS
6. Explain the steps involved in the neurohumoral transmission of GABA
7. What are the stages of general anesthetics.
8. Explain the pharmacology, side effects and uses of alcohol
9. Write the Classification of Barbiturates. Explain the mechanisum of action pharmacology and uses of any One benzodiazepine..

**Short Essay”**

1. Write the mechanism of action and pharmacology of sodium valproate.
2. Write the pharmacology of gabapentin
3. What is the therapeutic application of Disulfiram.
4. What is the role of GABA in central nervous system.
5. What is the role of glycine in central nervous system.
6. Write the classification of antiepleptics with examples.
7. Write the classification of general anesthetics with examples. Explain the pharmacology of ketamine.

**UNIT-V Pharmacology of central nervous system**

**Long Essay**

1. Write the classify of antidepressant drugs. Explain the pharmacology of Imipramine.
2. Write the pharmacology of chlorpromazine
3. Write about the pharmacology of morphine.
4. Write the classify opioid analgesics. Write the Pharmacology and adverse effects morphine
5. Write the classify CNS stimulants with examples. Explain the pharmacology amephetamine.

**Short Essay**

1. Write brief notes on morphine antagonistic drugs
2. Write notes on morphine poisoning
3. Write notes on nootropic agents
4. Write note on drugs used in Alzheimers disease
5. Write about the pharmacology of 1-dopa
6. Write the classify of psychopharmacological agents with examples.
7. Explain about drug tolerance
8. What are the advantages of selective serotonin reuptake inhibitors
9. What is difference between Alzhermer’s diseases and dementia
10. Describe the mechanism of action, therapeutic uses and adverse effect of benzodiazepins
11. Write the classification of anti-parkinsonism drugs. Explain the pharmacology of L-Dopa.

**Short answers**

1. Define drug tolerance
2. What are the withdrawal symptoms of antidepressants
3. What is the therapeutic uses of Nalorphine
4. Define drug abuse
5. Define drug addiction
6. What is the therapeutic uses Naloxone
7. Write the classify opioid analgesics with examples
8. Write the classify CNS stimulant drugs with examples
9. Write the classify anti-Parkinson’s agents with examples
10. Write the classify hallucinogenic agents with examples
11. Write the classify anti-anxiety agents with examples
12. Write the classify antidepressant drugs with examples