



East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

QUESTION BANK

Pharm D

4th Year



East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

Pharmacotherapeutics-3

Chapter 01 GASTROINTESTINAL SYSTEM

LONG ESSAY 10 MARKS

1. What is peptic ulcer? Explain etiology, pathogenesis, signs and symptoms, lab tests and pharmacotherapy of PUD
2. Explain the pathogenesis and pharmacotherapy of helicobacter pylori associated ulcers
3. What is gastro esophageal reflux disease? Discuss Etiology, pathogenesis clinical presentation and pharmacotherapy of GERD.
4. Discuss on pathophysiology with therapeutic intervention in the management of GERD
5. Discuss about etiopathogenesis, clinical manifestations and pharmacotherapy of IBD.
6. What are the clinical presentation of Ulcerative colitis & Explain pharmacotherapy of Ulcerative colitis and complication?
7. What are the clinical presentation of Crohn's disease & Explain pharmacotherapy and complication of Crohn's disease?
8. Discuss about etiopathogenesis, clinical manifestations and pharmacotherapy of ALD.
9. Explain in detail etiology, pathogenesis, clinical presentation, management of HBV. Add a note on preventive measures for hepatitis.
10. Explain in detail etiology, pathogenesis, clinical presentation, management of HCV with an emphasis on management in special population.

SHORT ESSAY 5 MARKS

1. Pathogenesis and management of H.Pylori associated ulcer.
2. Write in detail about treatment of NSAIDs induced peptic ulcer
Write a short note on 3 drugs and 4 drugs regime to eradicate H.Pylori associated ulcer
4. Write a short note on Zollinger- Ellison syndrome
5. Write a note on therapeutic approaches for the management of GERD in its various phases
6. Write the etiology and pharmacotherapy of GERD
7. Pharmacological and life style management of GERD

8. Compare and contrast monotherapy and combine therapy in GERD
9. Differentiate between Crohn's disease and Ulcerative Colitis? Explain pharmacotherapy of Crohn's disease.
10. Differentiate between Crohn's disease and Ulcerative Colitis? Explain pharmacotherapy of Ulcerative colitis.
11. Explain pharmacotherapy of Crohn's disease.
12. Explain pharmacotherapy of Ulcerative colitis.
13. Draft an algorithm for the treatment of ulcerative colitis
14. Draft an algorithm for the treatment of Crohn's disease.
15. Risk factors in alcoholic liver diseases and explain the effect of Hepatitis C in ALD.
16. Pathogenesis of Alcoholic liver disease and its management.
17. Explain Portal hypertension and its management in ALD
18. What are the goals in the treatment of acute HCV & discuss on general approach to treatment
19. Diagnosis and treatment algorithm of Hepatitis B
20. Write the signs and symptoms, diagnosis and treatment of Jaundice
21. Etiopathogenesis of Hepatitis A & B.
22. Explain about the groups recommended for pre exposure of Hepatitis B vaccination
23. Tabulate the recommended schedule of immunoprophylaxis to prevent perinatal or sexual transmission of HBV infections
24. Explain the various types of jaundice
25. Mention any 5 drugs which cause liver disorder. Explain any two with its mechanism
26. Explain various drug induced liver disorders with an example each.

SHORT ANSWER 02 MARKS

1. Write the differences between gastric ulcer and duodenal ulcer.
2. What are the factors that contribute to unsuccessful eradication of H pylori associated ulcers?
3. Write a short note on management of stress related mucosal bleeding
4. What are the different strategies used to reduce the risk of NSAID's induced ulcerrelated upper GI complications.

5. Treatment goals for peptic ulcer disease
6. Non-pharmacologic treatment of Peptic ulcer diseases
7. Classes of drugs used in Peptic ulcer disease.
8. Common forms of Peptic Ulcer Disease
9. Drug regimens for the eradication of H.Pylori infection
10. What is the clinical controversy in treatment of ulcer
11. Treatment of refractory ulcer
12. Complications of PUD
13. Diagnostic test for PUD
14. Write the diagnostic tests for GERD
15. Therapeutic interventions in the management of GERD
16. Write the clinical presentation of GERD
17. Life style management GERD
18. Factors which promote GERD
19. List out the goals of treatment of GERD
20. Adverse effects of PPIs
21. Write the patients counseling for GERD
22. Explain invasive and noninvasive tests for H. pylori.
23. List out the drugs used in the treatment of IBD
24. Types of clinical presentations of IBD
25. Treatment goals of IBD
26. Role of immunomodulators in IBD.
27. What are the common systemic manifestation of IBD
28. Complications of IBD
29. Effect of smoking in IBD
30. Patient counseling for IBD
31. Diagnosis and treatment of fatty liver
32. Define liver Cirrhosis?
33. Role of beta blockers in ALD
34. Management of portal hypertension in ALD
35. Management of variceal bleeding in ALD
36. Hepatic encephalopathy in ALD

37. List out the counseling points for ALD
38. Role of Disulfuram in ALD
39. Spontaneous bacterial peritonitis
40. List out the groups at increased risk of hepatitis A
41. Role of Immunoglobulin in prevention of hepatitis A
42. List out the clinical presentation of acute hepatitis A
43. Classify Jaundice
44. Write a note on first line therapy of HCV
45. Recommendations for HBV
46. Recommendations for HAV
47. Mention any 4 drugs which induces liver disorder
48. Write any 4 clinical presentation of drug induced liver disorder
49. Drug induced hepato cellular necrosis and cirrhosis.

Chapter 02: HAEMATOLOGICAL SYSTEMS : Anaemias, Venous Thromboembolism, Drug Induced Blood Disorders

LONG ESSAY 10 MARKS

1. Discuss etiology, clinical manifestation, diagnosis and pharmacotherapy of CVT.

SHORT ESSAY 5 MARKS

1. Explain the role of Ascorbic acid and Folic acid in Anaemia
2. Add a note on therapeutic approach to the management of Anemia.
3. Discuss the pathogenesis and the management of Vitamin B12 deficiency in anemia.
4. Explain the symptoms and pharmacotherapeutic management of microcytic anemia
5. Discuss the patient education for outpatient VTE therapy
6. Treatment of VTE in pediatric patients
7. Explain treatment of heparin induced thrombocytopenia (HIT)
8. Enumerate on drug induced Hemolytic anaemia
9. Enlist the types of drug induced hematological disorders with examples.
10. Give the definition, symptoms, classification and treatment in case of drug induced agranulocytosis.
11. Give the definition, symptoms, classification and treatment in case of drug induced Aplastic anemia
12. List drug induced blood disorders (Any 5) and explain the pharmacotherapy of any one.
13. What is the recommended dose and monitoring parameters for direct thrombin inhibitors to treat HITs
14. Define Aplastic anemia. Explain causes, signs and symptoms, diagnosis and treatment of Aplastic anemia
15. Define and classify anaemia, discuss the etiology, pathogenesis, clinical presentation and management of Thalassemia.
16. Enlist various types of anemia. Describe signs and symptoms, diagnostic tests and pharmacotherapy of any two.
17. Discuss etiology, pathogenesis, clinical presentation and management of sickle cell anemia.

Chapter 03 HAEMATOLOGICAL SYSTEMS Anaemias, Venous

Thromboembolism,

Drug Induced Blood Disorders

1. Discuss etiology, pathogenesis, clinical presentation and management of sideroblastic anemia.
2. Management of CVT in pregnancy
3. Discuss etiology, clinical manifestation, diagnosis and pharmacotherapy of DVT.

SHORT ANSWER 02 MARKS

1. Explain the role of iron and ascorbic acid in anaemia
2. Classifications of Anemia
3. Treatment goal of anemia
4. Etiology of pernicious anaemia.
5. Write the formula for calculating the dose of elemental Iron requirement for a patient in case of anaemia and blood loss.
6. ADRs of Iron Dextran
7. Diagnostic test for Aplastic anemia
8. Etiology of venous thromboembolism
9. Risk factors for venous thromboembolism.
10. Streptokinase.
11. Heparin induced thrombocytopenia.
12. Mention any 4 drugs which induce Thrombocytopenia
13. Mention any 4 drugs which induce agranulocytosis
14. Low molecular weight heparin V/S unfractionated heparin in VTE

Chapter 04 NERVOUS SYSTEMS : Epilepsy, Parkinsonism, Stroke, Alzheimer's Disease

LONG ESSAY 10 MARKS

1. Discuss the different types of seizures. Explain pharmacotherapeutic approach to treat epilepsy.
2. Tabulate and discuss on the treatment algorithm and write the first line drugs for the different types of epilepsy
3. Explain etiopathogenesis, clinical features, diagnosis and treatment for Parkinson's disease.
4. Discuss about the pathophysiology, clinical manifestations and pharmacotherapy of Stroke
5. Write the pathogenesis and the clinical management of Alzheimer's disease.
6. Explain the various stages of Alzheimer's disease and their clinical manifestations.
7. Explain signs, symptoms and pharmacotherapy of Ischemic stroke. What are the desired outcomes in the treatment of stroke?
8. Write a note on evaluation of therapeutic outcomes & Monitoring of therapeutic care plan in stroke. Draft the algorithm for stroke and TIA (Transient ischemic attack) management
9. What is end of dose deterioration (wearing off effect) and how to overcome during pharmacotherapy of Parkinsonism? What are the approaches to drug induced psychosis in Parkinson's disease
10. Explain the cascade of cerebral ischemia and the risk factors in ischemic stroke

SHORT ESSAY 05 MARKS

1. Management of seizure disorder during pregnancy.
2. Draft the algorithm for management of epilepsy
3. What are the clinical presentations of epilepsy?
4. Write a note on American academy of neurology guideline for discontinuing AEDs in seizure free patients.
5. Management of Status epilepticus
6. Write a note on Guidelines applicable for effective drug control for epilepsy.
7. Explain clinical features and diagnosis including stages of Parkinson's disease.
8. Explain with algorithm for the treatment of early IPD and advanced IPD
9. Explain the clinical manifestation of Parkinson's disease

10. Discuss the drug therapy monitoring of Parkinson's disease
11. What are the merits and demerits of Anticholinergic medication in Parkinson's disease
12. Discuss on motor fluctuations and possible interventions in IPD
13. Explain the drug induced Parkinson's disease
14. What is the general approach in treatment of stroke patients?
15. Explain signs, symptoms and pharmacotherapy of ischemic Stroke
16. What are the desired outcomes in treatment of stroke
17. What are the non pharmacological therapy of ischemic stroke
18. Write the clinical presentations of AD
19. List out the laboratory test in diagnosing AD
20. Etiology and pathophysiology of AD.
21. Write a note on management of AD
22. Explain the supportive care for AD

SHORT ANSWER 02 MARKS

1. Drugs of choice for specific seizure disorder
2. Diagnosis of Epilepsy.
3. List the adverse effects of valproate sodium
4. List the adverse effects of phenytoin
5. TDM of phenytoin
6. International classification of epileptic seizures.
7. Non pharmacological therapy for epilepsy
8. First line drugs in treatment of partial seizures
9. First line drug and alternative drug in generalized seizures
10. Treatment of tonic-clonic epilepsy
11. Management of febrile seizures in pediatrics
12. Explain various stages of Parkinson's disease
13. Motor complications of Levodopa
14. Rationality of using Levodopa and Carbidopa combination
15. Antiparkinson's drugs
16. What is the genetic role in the development of Parkinson's disease
17. Diagnosis of Stroke

18. Role of fibrinolytics in Ischemic Stroke
19. What is the advantage of heparin preferred over warfarin in Stroke
20. Clinical presentation of Hemorrhagic stroke
21. Write any 2 environmental factors which leads to AD
22. Benefits of anticholinesterases in AD
23. List out cognitive and non cognitive symptoms of AD
24. List out the laboratory test in diagnosing AD
25. What is the genetic role in the development of Alzheimer's disease

Chapter 05 PSYCHIATRY DISORDERS: Schizophrenia, Affective Disorders, Anxiety Disorders, Sleep Disorders, Obsessive Compulsive Disorders

LONG ESSAY 10 MARKS

1. Define Schizophrenia. Explain in detail etiopathogenesis, sign and symptoms, Diagnosis and management of schizophrenia.
2. Explain the various theories and pathogenesis of schizophrenia its management.
3. Explain etiopathogenesis, diagnosis and management of Depression.
4. Mention the types of anxiety disorders and explain the clinical presentation, diagnosis and treatment for GAD.
5. Classify sleep disorders. Explain insomnia and pharmacotherapy of insomnia in detail.
6. Enlist various types of sleeping disorders. Describe signs and symptoms, diagnosis and therapy of narcolepsy.
7. Discuss on circadian rhythm disorders and its management
8. Explain goals of therapy, clinical presentation and pharmacotherapy of OCD

SHORT ESSAY 05 MARKS

1. Discuss the different types of Schizophrenia.
2. Extrapyramidal side effects induced by antipsychotic drugs.
3. DSM IV TR criteria for schizophrenia
4. Stabilization therapy in schizophrenia
5. What are the initial treatment in an acute psychotic episode
6. Discuss the advantages and disadvantages long acting or depot injectable antipsychotics
7. What are the nonpharmacological approaches to the treatment of schizophrenia
8. What are the outcomes in evaluation of antipsychotic therapy
9. Explain the treatment options in Depression.
10. Treatment algorithm for bipolar disorder.
11. Management of antidepressants side effects
12. Write a short note on DSM-IV-TR criteria for diagnosis of depression
13. List out signs and symptoms of cocaine intoxication and withdrawal during treatment of depression
14. Role of Tricyclic antidepressant and SSRI's in Anxiety disorders.
15. Pharmacotherapy of generalized anxiety disorder

16. Discuss on buspirone therapy in anxiety
17. What are the non pharmacological therapy of anxiety
18. List out various antidepressants used in the treatment of post traumatic stress disorders
19. What are the pharmacokinetic drug interactions with BZD
20. Define Narcolepsy. Explain symptoms, diagnosis and treatment of Narcolepsy.
21. Pharmacotherapy of obstructive sleep apnea
22. Explain pharmacotherapy of OCD
23. Discuss on antidepressants used in the treatment of posttraumatic stress disorder

SHORT ANSWER 02 MARKS

1. Mention positive and negative symptoms of schizophrenia.
2. Non pharmacological approaches to the treatment of schizophrenia.
3. Why atypical antipsychotics are preferred than typical antipsychotics
4. What are the endocrine effects of antipsychotic agents
5. Extrapyramidal side effects of antipsychotic agents
6. Symptoms of Depression
7. Clinical manifestation of Mania
8. Use of lithium in Mania
9. Role of dopamine in affective disorders
10. What are the effects of benzodiazepine discontinuation
11. Enlist the drug which induces anxiety
12. Enlist the drugs used in GAD (generalized anxiety disorder)
13. Treatment of SAD (social anxiety disorder)
14. Treatment of panic disorder
15. What are the serious complications of benzodiazepine therapy
16. Definition of Somnambulism
17. Nightmares and it's causes
18. Define Narcolepsy
19. Nocturnal myoclonus (periodic leg movement)
20. Define Panic attack and obsessive compulsive disorder
21. Clinical manifestations of OCD
22. CBT (Cognitive behavioral therapy)

23. Classify sleep disorders
24. What are the alternative drug treatment available for OCD
25. Central sleep apnea
26. Classify OCD
27. Goals of OCD therapy
28. Non pharmacological therapy of OCD
29. List any four drugs causes insomnia
30. Nonpharmacological recommendations for insomnia
31. What are the goals to reduce the symptoms of acute depression
32. Phases of anxiety therapy
33. Obstructive sleep apnea
34. Withdrawal treatment of cocaine intoxication
35. Drug interactions with BZD

Chapter 06 Pain Management Including Pain Pathways, Neuralgias, Headaches.

LONG ESSAY 10 MARKS

1. Discuss on pharmacologic treatment of oncology patients
2. With a short note on pathophysiology and clinical presentation and explain the management of cluster headache.

SHORT ESSAY 05 MARKS

1. Discuss the management of various types of Pain.
2. What are the barriers to effective pain management in cancer patients?
3. Nonpharmacological therapy of pain
4. Explain WHO pain ladder management
5. Explain various types of neuralgias and its management.
6. Explain trigeminal neuralgia and its management.
7. Tabulate, International Headache Society classification system with focus on clinical manifestations of migraine headache.
8. Detailed classification of headache
9. Pathogenesis and pharmacotherapy of migraine headache.
10. Classify HIS diagnostic criteria for migraine
11. Draft the treatment algorithm for migraine headaches.
12. Discuss the pain management in cancer patients.

SHORT ANSWER 02 MARKS

1. What are the characteristics of neuropathic pain
2. Major adverse effects of opioid analgesics.
3. Discuss on clinical presentation of pain
4. Give the grading scales of pain
5. Treatment goals for neuralgia due to herpes infection
6. Types of Neuralgia.
7. Management of Neuralgia.
8. First line treatment of migraine
9. Precipitating factors associated with migraine
10. Clinical presentation of migraine headache
11. List out the goals of therapy in migraine management.
12. Role of propranolol
13. Non pharmacological management of migraine

Chapter 07 Evidence Based Medicine

SHORT ESSAY 5 MARKS

1. Write a checklist for critical appraisal of articles addressing pharmacotherapeutic decision
2. Write a note on level of evidence and strength of recommendation taxonomy in EBM.
3. What is EBM? Mention the modalities of EBM
4. What are the patient specific factors must be consider in the final analysis in EBM
5. Write short note on EBM process.

SHORT ANSWER 02 MARKS

1. Define evidence based medicine, and write the different steps involved in EBM
2. Significance of EBM
3. Mention the modalities of EBM
4. Mention the patient specific factors to be considered in EBM
5. Mention the level of trust in EBM
6. Aims of EBM
7. Need of EBM
8. Recommendation taxonomy in EBM
9. Role of pharmacist in EBM
10. Critical appraisal.



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HOSPITAL PHARMACY

Chapter 1: Hospital-its organization and functions

1. Describe hospital organization with the help of a chart? (10)
2. Classify hospitals using different criteria and mention their functions? (10)
3. Define the functions and objectives of a modern hospital? (10)
4. Classify various types of hospitals with suitable examples? (5)
5. Describe the supportive services in a hospital? (5)
6. Describe the Role and responsibilities of the supportive services in a hospital? (5)
7. What are the primary and secondary care hospitals? (5)
8. Define hospital? (2)
9. What is a tertiary care hospital? (2)
10. List out the supporting services required in a hospital? (2)
11. What is a primary care hospital?

Chapter 2: Hospital pharmacy –Organization and management

1. Describe the organizational chart of hospital pharmacy? (10)
2. Describe the location, layout and infrastructure of a hospital pharmacy? (10)
3. Describe the scope and responsibilities of a hospital pharmacist? (10)
4. What are the Roles and responsibilities of hospital pharmacist in the various areas of a hospital (10)
5. What are the functions and objectives of hospital pharmacy? (5)
6. Write the procedure for material management in a hospital pharmacy? (5)
7. What are the administrative and professional equipments used for hospital pharmacy practice? (5)
8. Draw a typical layout of hospital pharmacy? (2)
9. What is floor space requirement for a hospital pharmacy in a hospital? (2)
10. How is the pharmacist requirement in a hospital calculated based on bed strength? (2)
11. What are the objectives of material management in hospital pharmacy? (2)
12. Define hospital pharmacy?

Chapter 3: The Budget-Preparation and implementation

1. How is the budget prepared in hospital pharmacy? (5)
2. Explain the role of a pharmacist in budget preparation and implementation? (5)
3. Explain about the revenue accounts in the hospital? (2)
4. Explain about the income accounts in the hospital? (2)
5. List of out important parts of a budget/ (2)
6. Define hospital budget? (2)
7. What are different sources of income to meet the operating emphasizing in a hospital? (2)
8. Define hospital formulary? (2)

Chapter 4: Hospital drug policy

1. Role and responsibilities of pharmacist in pharmacy and therapeutic committee? (10)
2. What is hospital formulary? Give its guiding principles and contents? (10)
3. Describe the steps involved in the preparation of hospital formulary? (10)
4. Explain in detail the preparation of hospital pharmacy? (10)
5. Explain the function of pharmacy and therapeutic committee? (5)
6. Define hospital formulary? List its objectives? (5)
7. Write the guiding principles involved in the use of hospital formulary? (5)
8. Explain the composition and functions of Institutional Ethics committee? (5)
9. Explain the composition and functions of infection control committee? (5)
10. What is an infectious control programme? (5)
11. What is the role of pharmacist in infectious control committee? (5)
12. What is the role of pharmacist in Institutional ethics committee? (5)
13. What are the benefits of therapeutics guidelines? (5)
14. Explain the process of development of slandered therapeutics guidelines?
15. What are factors affecting the implementation and use of therapeutic guidelines? (5)
16. Explain the members of pharmacy and therapeutic committee? (2)
17. Give the composition of pharmacy and therapeutic committee? (2)
18. Define pharmacy and therapeutic committee? (2)
19. Discuss the role of pharmacy and therapeutic committee in adverse drug reaction? (2)
20. Discuss the role of pharmacy and therapeutic committee in automatic stop order for dangerous drugs? (2)
21. Discuss the role of pharmacy and therapeutic committee in emergency drugs? (2)
22. Discuss the role of pharmacy and therapeutic committee in drug safety? (2)
23. Discuss the role of pharmacy and therapeutic committee in investigational drug use in hospital? (2)



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24. Role of pharmacy and therapeutic committee in drug product defect reporting programme? (2)
25. What are the guiding principles involved in the use of hospital pharmacy? (2)
26. What are the advantages and disadvantages of hospital pharmacy? (2)
27. How is the hospital formulary revived/ (2)
28. How are the drugs to be addition and deleted in hospital formulary? (2)
29. Define infects control committee? (2)
30. Role of Institution ethics committee in the hospital? (2)
31. Role of infection control committee in hospital? (2)
32. What are therapeutic guidelines? (2)
33. Write the significance of pharmacy and therapeutics committee? (2)
34. Define hospital pharmacy news letter? (2)
35. What are the key parts of the pharmacy bulletin? (2)
36. What are the advantages of a pharmacy bulletin? (2)
37. Write a note on importance of news letter? (2)
38. Write a note on contents and formats of news letter? (2)

Chapter 5: Hospital pharmacy services

1. Explain the role of a pharmacist in the purchase of drugs for a hospital pharmacy? (10)
2. Describe the procedure for purchasing drugs in large hospital? (10)
3. Explain the role of pharmacist in central sterile supply services? (10)
4. What is ideal location for OPD in a hospital? Explain the different types of drug distribution for ambulatory patient? (10)
5. List out the different drug distribution system for IP and explain the merits and demerits of each? (10)
6. What is floor stock distribution of drugs in a hospital? Give its merits and demerits? (10)
7. Classify the methods of drug distribution/ Explain about unit dose drug distribution? (10)
8. Define drug distribution system? Explain in detail about individual prescription order method of distribution with its advantages and disadvantages? (10)
9. Explain the objectives and functions of CSSR in a hospital? (10)
10. Classify various techniques of inventory control? Explain any one? (5)
11. Write note on VED and EOQ in inventory control? (5)
12. Write a note on periodic and perpetual method of inventory? (5)
13. Draw and explain a layout of OPD in a hospital? (5)
14. List out the various inventory control methods and its application in drug store management? (5)
15. Describe the criteria for the distribution of drugs to the emergency wards and to the operation theater? (5)
16. Write the procedure involved in the distribution of controlled drugs in a hospital/ (5)
17. What are the control procedure in the hospital for prescribing narcotics and controlled substances? (5)
18. Describe a purchase order form? (2)
19. Draw a sample purchase request form? (2)

20. Write a note on the legal aspects involved in the storage of drugs? (2)
21. Mention the examples the various storage conditions of drugs? (2)
22. With suitable examples mention what is cold storage? (2)
23. Give 4 drugs to be stored at cold temperature? (2)
24. Define inventory control? (2)
25. What are the objectives of inventory control? (2)
26. What is buffer stock and safety stock? (2)
27. What is lead time, internal and external lead time? (2)
28. Give the formula for EOQ? (2)
29. What is re-order level? (2)
30. What is satellite pharmacy? (2)
31. What is bed side pharmacy? (2)
32. What advantages of unit dose dispensing? (2)
33. What are advantages of the drug basket method of distribution? (2)
34. What is envelop method of drug distribution? (2)
35. What is mobile dispensing unit? (2)
36. Define perpetual inventory? (2)
37. Define VED analysis? (2)
38. What are narcotics? Give two examples? (2)

Chapter 6: Manufacture of Pharmaceutical preparations

1. Discuss the composition of total parenteral nutrition? (5)
2. How is TPN is Prepared? (5)
3. Explain the manufactured of large volume parenterals? (5)
4. What are the indication for total parenteral nutrition? (2)
5. List out the essential components of TPN? (2)
6. Classify powders give 2 examples of each? (2)
7. What is the composition of ORS? (2)
8. Explain the Preparation of dusting powders? (2)
9. Define clean room? (2)
10. How are effervescent granules prepared? (2)
11. Composition and category of DNS? (2)
12. Mention the patients who should not be given TPN? (2)
13. What are the monitoring parameters during administration of total parenteral nutritions?(2)
14. How is TPN administered? (2)
15. What are the requirements for the manufacture of large volume parenterals in a hospital?(2)
16. Advantages of powders over tablets? (2)
17. What are the antimicrobial agents used in large volume parenterals/ (2)
18. Mention the different diluents in sterile formulations/ (2)
19. What is leakage test?(2)
20. What is pyrogen test? (2)
21. What are the disadvantages of tablets? (2)
22. What are the sealing methods for the ampoules? (2)
23. What are the advantages of capsules? (2)
24. Write a method to identify the presence of pyrogen? (2)
25. List anti-microbial agents in the manufacture of parenteral formulations? (2)

Chapter 7: Continuing professional development programs

1. Write a note on continuing professional development for pharmacist? (5)
2. What is the role of pharmacist in education training of HCP? (5)
3. List out the various methods of CPD and explain in brief about any one method to update the professional knowledge? (5)
4. Role of pharmacist in public awareness of disease prevention? (5)
5. List out the objective of CPD programme? (5)
6. Advantages of CPD programmes? (5)
7. Explain the role of hospital pharmacist in external teaching programs? (5)

Chapter 8: Radio Pharmaceuticals-Handling and packaging

1. Explain the packing of radio pharmaceuticals? (5)
2. What are the techniques to protect against radiations during the manufacture of radioisotopes? (5)
3. Give one method used for the production of radio pharmaceuticals? (5)
4. Discuss the radiation hazards and there preventive majors? (5)
5. What are radio pharmaceuticals give the therapeutic and diagnostic application of radioisotopes? (5)
6. Describe a radio isotope generator? (5)
7. Give 4 examples of radio pharmaceuticals with their uses? (2)
8. Define nuclear pharmacy? (2)
9. How should radio pharmaceuticals be disposed? (2)
10. Define radioactive half life? (2)
11. List of the functions of radio isotope committee? (2)
12. List out the characteristics of Alfa-radiation? (2)
13. What are the benefits of Beta-particles? (2)
14. Define radioactive decay? (2)



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Chapter 9: Professional Relations and practices of hospital pharmacist

1. What are the opportunities for professional relations for a pharmacist in a hospital? (5)
2. Explain the guidelines for the exchange of info between pharmacist and nurses? (5)
3. Explain the guidelines for the exchange of info between pharmacist and medical research staff?(5)
4. Explain the guidelines for the exchange of info between pharmacist and local pharmacist? (5)
5. What are the opportunities for hospital pharmacist to improve professional public goodwill? (5)
6. Mention a few of functions of hospital pharmacist in the drug information center? (5)
7. What is role of pharmacist in drug information service? (2)
8. List of the advantages of continuing education program? (2)
9. Mention the benefits of professional relationship with other health care professionals? (2)
10. List out the pharmacist role in infection control? (2)
11. List out the external teaching programs which can be undertaken by a hospital pharmacist? (2)



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Clinical Pharmacy



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CHAPTER 01: DEFINITIONS, DEVELOPMENT AND SCOPE OF CLINICAL PHARMACY

SHORT ANSWERS 02 MARKS

1. Briefly differentiate the roles of Clinical, Community and Hospital Pharmacist.
2. Scope of Clinical Pharmacy in India
3. Mention the Milestones of Clinical Pharmacy
4. Mention the areas where the clinical pharmacy can be applied
5. List out the barriers hindering the clinical pharmacy development in India
6. Can Clinical Pharmacist give better Patient care? Justify?
7. Differentiate Hospital Pharmacy services and Clinical Pharmacy Services



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CHAPTER 02: INTRODUCTION TO DAILY ACTIVITIES OF A CLINICAL PHARMACIST

LONG ESSAYS 10 MARKS

1. What is Drug Therapy Monitoring? Explain the concept of Medication Chart Review.
2. Write the advantages and Disadvantages of Patient Counseling from Pharmacist and Patients point of view.
3. Discuss the steps involved in Patient Counseling.
 - a. Brief the steps involved in Medication chart Review.
 - b. Difference between Medication chart review and medication History Interview.
 - c. Significance of Medication History interview.
4. Write the Goals of DUE in Hospital setup? Explain Typical DUE cycle in detail.
5. What are the goals of ward round participation by clinical Pharmacist? Describe the Types and significance of ward-round participation.
6. Brief the process involved in pharmacist intervention with health care professionals'. Brief the Significance of Clinical review.
7. Write the Goals of DUE in Hospital setup? Explain Typical DUE cycle in detail.
8. What is Drug Therapy Review. Explain the components of Drug Therapy Review.
9. Explain the role of Clinical pharmacist in
 - a. Quality assurance of Clinical Pharmacy services
 - b. Clinical review
10. Discuss the protocol and Importance of Drug Utilization Evaluation (DUE)

ESSAYS 05 MARKS SHORT

1. What is mean by the term Quality assurance in clinical pharmacy? Explain in detail about the same.
2. Discuss the various types of Audits in Clinical Pharmacy service.
3. Discuss in brief about the steps involved in Medication history interview
4. Discuss the quality assurance for Patient counseling
5. Discuss the quality assurance for Drug Information queries
6. Justify how the medication history interview will helps in taking clinical decisions? Discuss in brief on the structure of Medication History interview



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SHORT ANSWERS 02 MARKS

1. Distinguish DUE & DUR
2. Differentiate between qualitative and quantitative DUE studies
3. What is the significance of medication history interview?
4. Enumerate the barriers for effective patient counselling.
5. Write briefly on the use of various counselling aids.
6. Enlist sources of data for drug usage evaluation in hospitals
7. Define Post Marketing Surveillance
8. Define Dechallenge and Rechallenge
9. List out the Causality Assessment scales
10. How pharmacist can involve in Prevention of ADRs



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CHAPTER 03: PATIENT DATA ANALYSIS

SHORT ANSWERS 02 MARKS

1. Write the full form of: a) GERD b) MCHC c) SGOT d) COPD
2. Write the full form of: a) HbA1c b) HS c) CRP d) SOS
3. Write the full form of: a) BBB b) ANC c) AFB d) EEG
4. Write the full form of: a) PFR b) ZES c) SJS d)CAD
5. Define the following:a) Otorhinolaryngology b) Otitis media.
6. Structure of patient case history
7. Define the following:a) Cellulitisb) Dysplasia
8. What are the components of patient medication chart?
9. Define a) Cholecystectomy b) Rhabdomyolysis
10. Pharmacist's annotation in Case sheet
11. Components of Patient case History
12. Write the full form of: a) TIA b) TIBC



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CHAPTER 04: CLINICAL LABORATORY TESTS USED IN THE EVALUATION OF DISEASE STATES, AND INTERPRETATION OF TEST RESULTS OF SOME COMMONLY ORDERED LAB TESTS.

SHORT ESSAYS 05 MARKS

1. Mention the different tests in the evaluation of hematological disorders. How would you differentiate microcytic and macrocytic anemia.
2. Explain the different hematological tests useful in classifying types of anemias along with the normal values.
3. Discuss the Clinical significance of serum electrolytes of Sodium, Potassium and Calcium
4. Discuss the importance of various thyroid function tests
5. Explain in brief about the various Pulmonary function tests
6. Describe how infectious organisms are diagnosed by laboratory tests
7. List and explain the various liver function tests
8. Discuss in brief on Cardiac Markers
9. Explain the different methods of microbial culture sensitivity tests
10. Clinical Implications of commonly ordered Renal Function tests.

SHORT ANSWERS 02 MARKS

1. What is hyponatremia? List out the possible causes of hyponatremia.
2. What is the significance of a) BUN b) ESR?
3. What is the significance of test for Creatinine Kinase?
4. Explain how white blood cell count (WBC) and differential count (DC) are useful in diagnosing infections.
5. Clinical Implications for commonly ordered Renal Function tests.
6. Write the Cockcroft-Gault Equation
7. Write a note on SGOT, SGPT and their reference values
8. Application of Culture sensitivity tests
9. Clinical Implications of ECG
10. Significance of serum Magnesium and Phosphate



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11. Normal values of MCV and MCHC
12. Name the 2 drugs altering serum Potassium levels
13. Normal values of Troponin & LDH
14. Name the 2 drugs altering serum Sodium levels
15. Normal values and significance of Bilirubin
16. Normal value and clinical significance of ALP,AST
17. Name the 2 drugs altering serum calcium levels.
18. Normal value and Serum Creatinine and BUN
19. Normal value of ESR and its clinical significance
20. Normal value of HbA1c and its significance



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CHAPTER 05: DRUG & POISON INFORMATION

SHORT ANSWERS 02 MARKS

1. Write a note on Drug information center? Write the advantages and disadvantages of drug information resources with suitable examples.
2. Explain the role of DIC and its relationship with various healthcare professionals.
3. Discuss the various requirements for setting up of drug information center in detail.
4. Discuss the requirements of Drug and poison Information centers in detail.
5. Explain the systematic approach in answering the drug information query.
6. Explain in detail about the organization and information resources of poison information Centre.
7. Write in detail about the resources used in Drug information center.
8. Explain the differences between DIC and PIC.
9. Critical Evaluation of Drug Information literatures.
10. Preparation of written and verbal drug information query reports and documentation.

SHORT ANSWERS 02 MARKS

1. Write four examples of primary drug information resources.
2. Enumerate four Tertiary resources used in poison information Centre.
3. Write four examples of secondary drug information resource.
4. Write four examples of tertiary drug information resource.
5. Mention the various functions of DIC.
6. Write the advantages and disadvantages of Primary resources.
7. List out the skills required for drug information specialists.
8. Draw the layout of DIC.
9. Discuss in brief on the Material requirement for DIC & PIC.
10. Discuss in brief on the staff requirement for DIC & PIC.



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CHAPTER 06: PHARMACOVIGILANCE

LONG ESSAYS 10 MARKS

1. Define and classify adverse drug reactions. Explain the predisposing factors of ADRs.
2. Define ADR. Discuss about WHO and Naranjo's scale
3. Differentiate ADR and ADE. Classify ADRs and add a note on the mechanism of action for the same.
4. Define Pharmacovigilance. Explain the mechanism of type "A" and type 'B' ADRs.
5. Write the role of pharmacist in Prevention, monitoring and management of ADRs.
6. Discuss the predisposing factors for AD
7. Discuss in detail on voluntary reporting of ADRs. Give the reasons for ADRs under report?
8. Define and write the importance of Causality Assessment. Explain the WHO scale
9. Write in brief on the scope and aims of pharmacovigilance. Discuss on voluntary ADR reporting system in various countries
10. Discuss in detail on various methods of ADR monitoring



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CHAPTER 07: COMMUNICATION SKILLS, INCLUDING PATIENT COUNSELLING TECHNIQUES, MEDICATION HISTORY INTERVIEW, PRESENTATION OF CASES.

SHORT ANSWERS 02 MARKS

1. Enumerate the barriers for effective communication.
2. Explain the importance of good communication skills for a clinical pharmacist
3. Enumerate the stages of verbal communication
4. Define Communication? Mention the various factors affecting the communication?
5. Explain the various types of Communication in hospital setup.
6. Discuss on Patient counseling technique
7. Structure of case Presentation
8. Examples of open ended and closed ended question
9. Patient information Leaflets
10. Describe on Non-verbal communication



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CHAPTER 08: PHARMACEUTICAL CARE CONCEPTS

SHORT ANSWERS 02 MARKS

1. Define pharmaceutical care. Explain the role of clinical pharmacist in pharmaceutical care
2. Define and explain pharmaceutical care.
3. Write a short note on SOAP format and FORM format
4. Explain briefly the concepts of pharmaceutical care
5. Explain Pharmaceutical care at Community Pharmacy Setup
6. Write note on Pharmaceutical care at Institutional setup
7. Explain the PRIME Format for Providing Pharmaceutical care
8. Explain Patient related outcomes in Pharmaceutical Care
9. Skills and materials required for providing pharmaceutical care
10. Write the principles of pharmaceutical care



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CHAPTER 09: CRITICAL EVALUATION OF BIOMEDICAL LITERATURE

SHORT ESSAYS 05 MARKS

1. Describe Critical evaluation of biomedical literature? How do you evaluate the biomedical literatures?
2. Explain how the primary research is evaluated?
3. Define critical evaluation of biomedical literature? How do you evaluate a primary research paper?
4. Explain on Critical evaluation of Biomedical literature
5. Explain in brief on Critical evaluation of primary and secondary research paper
6. Describe on various study designs
7. Discuss on Systematic review and Meta-analysis
8. Define the terms: a) Randomization b) Blinding c) Biomedical literature d) EBM e) cohort study
9. Explain cohort study and EBM studies.
10. Discuss On randomization in research design.



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CHAPTER 10: MEDICATION ERRORS

SHORT ESSAYS 05 MARKS

1. Define Medication errors. Categorize the Medication errors with examples.
2. Classify Medication errors. What are the factors influencing the medication errors?
3. What are medication errors? Explain the role of pharmacist in prevention of medication errors
4. What are the different types of medication errors? Explain each with an Example
5. Classify Medication Error as per NCC-MERP.
6. Describe the causes of medication error
7. Role of pharmacist in the Prevention and Management of Medication error.
8. Write any five examples of Dispensing error which you have observed.
9. Write any five examples of Prescribing error which you have observed

SHORT ANSWERS 02 MARKS

10. Give 5 examples of look-alike and sound alike drugs.
1. Define medication Error and Medical error
2. Role of pharmacist in management of Medication error
3. Describe on COPE system
4. Give two examples of LASA drugs
5. Describe on administration errors
6. Safety measures for prescribing errors
7. Safety measures for administration errors
8. Structure of Medication error reporting form
9. Importance of Root cause Analysis in medication safety
10. How we can minimize the dispensing errors.

Biostatistics & Research Methodology

Chapter 01 Research Methodology

LONG ESSAYS 10 MARKS

1. Describe briefly the different interventional study designs.
2. Explain different observational study designs.
3. What are case studies? Why are they conducted, explain them in detail.
4. How will you design a clinical study methodologically? Explain briefly.
5. Explain in detail the Clinical Trial Design. Classify its designs. Explain graphically the parallel and crossover study designs.
6. Write notes on a) randomization, b) objectives c) direct and surrogate end point in Clinical study. (5+2+3)
7. Discuss briefly about designing the methodology for clinical studies B) Describe how a sample size is determined for simple comparative experiments. (5+5)
8. Discuss briefly about determination of sample size for simple comparative experiments and for confidence interval of specific width.
9. Discuss in detail about various clinical studies designs.
10. Describe various clinical study designs in detail? Write about the importance of Biostatistics?
11. What are case studies, Explain briefly.
12. Discuss different types of observational clinical studies in detail.
13. Discuss the designing methodology in clinical research.

SHORT ESSAYS 05 MARKS

1. Explain report writing in research methodology
2. Explain sample size estimation for simple comparative studies
3. Discuss observational studies
4. Advantages and disadvantages of Randomized control clinical trials
5. Explain cohort and cross sectional studies
6. How do you design a parallel group study?
7. Explain the clinical trial crossover design and its advantages.
8. What is a cohort study? When is it done and list its types and advantages
9. What are case control studies? And how will you design one?
10. List the elements that need to be incorporated in a clinical study protocol?

11. What are “retrospective designs” in observational case studies, list its advantages
12. Explain the clinical trial crossover design and its advantages.
13. List the elements that need to be incorporated in a clinical study protocol?
14. How do you design a parallel group study?
15. Give a detailed account of sample size determination.
16. Explain report writing and presentation of data.
17. Write short notes on observational studies.
18. Explain power of a study.
19. Discuss different types of observational clinical studies.
20. Explain in detail about cross-over and parallel clinical study design.
21. Write a note on randomization in clinical study.
22. What is sample size? Discuss briefly about determination of sample size for simple comparative experiments with suitable examples.
23. Write notes of interventional studies.
24. Explain about the steps involved in research design.
25. Role of sample size in the calculation of confidence interval.
26. Write note on Randomization and objectives of clinical studies.

SHORT ANSWERS 02 MARKS

1. Inclusion & exclusion criteria
2. Power of study
3. Classify Observational and experimental studies
4. Compare clinical trials and cross sectional studies
5. Cross sectional designs
6. Confidence interval
7. Importance of sample size determination in research
8. Role of sample size in calculation of confidence interval
9. list the characteristics of observational studies
10. What is blinding in clinical study.
11. Define bias in clinical study.
12. Define power of a study?
13. What is interventional study?

14. Relationship between sample size and power of the study.
15. What is case study
16. Define Cohort study.
17. What is sample size?
18. Classification of clinical study designs.
19. What is carry-over effect?
20. Define cross sectional study.
21. Define surrogate & direct end point.
22. Importance of control group in clinical study.
23. Inclusion and exclusion Criteria in clinical study.

Chapter 02- Biostatistics

LONG ESSAYS 10 MARKS

1. Describe the methods of measurement of central tendency
2. Describe the various types of measures of dispersion and their significance.
3. What do you understand by measures of central tendency? Describe the types of measures and their characters.
4. Explain different measures of central tendency with the help of a suitable examples. Give reasons why they are called as measures of central tendency.
5. Classify types of data and explain different measures of central tendency with the help of suitable examples.

SHORT ESSAYS 05 MARKS

1. Explain different methods of describing data using the measures of central tendency.
2. Explain about standard deviation and variance.
3. Explain median and mode.
4. Classify different types of data, explain any three measures of dispersion with example.
5. Describe variance and standard error of mean with suitable example.
6. Describe how Mean is the most appropriate measure of centrality with suitable example?
7. Why is central tendency measured?
8. Write note on standard deviation and standard error of mean with suitable example.
9. What is coefficient of variation? Explain its importance over standard deviation with an illustration.
10. In routine diagnostic investigation the following results: were obtained: 3,5,7,11,14 and 57 Compute the mean, standard deviation and coefficient of variation of the following Data

SHORT ANSWERS 02 MARKS

1. Differentiate SD and SEM.
2. Difference between nominal and ordinal type of data.
3. Characteristics of normal distribution.
4. Define coefficient of variation.
5. Define median and mode.
6. Define quantitative and qualitative variables.
7. Define the scope of descriptive and inferential statistics.
8. Define discrete and continuous variables.
9. What factors qualifies mean to be the best measure of central tendency?
10. What factors qualifies median to be the best measure of central tendency?
11. What factors qualifies mode to be the best measure of central tendency?

Chapter 03- Data Graphics

SHORT ESSAYS 05 MARKS

1. What characteristics of data can be represented by a) Histogram b) Pie chart c) Semi-logarithmic plots
2. What are the general rules for constructing and labeling a graph? b) Write a note on semilogarithmic plot.
3. How histograms, scatter plots, and semi-logarithmic plots are useful in presenting the data?
4. Describe the construction of any three types of graphical representation of statistical data with suitable examples.

SHORT ANSWERS 02 MARKS

1. Define histogram
2. Advantages and disadvantages Pie charts.
3. Define scatter plots.
4. Define semi logarithmic plots.
5. Applications of Semi Logarithmic plots.
6. What are the disadvantages of pie chart?
7. General rules for constructing and labeling a graph.
8. Define scatter plots and semi logarithmic plots.
9. Define data graphics.
10. Pie chart

Chapter 04 - Basics of testing of hypothesis

SHORT ANSWERS 02 MARKS

1. Discuss about the hypothesis testing of parametric data
2. Explain the hypothesis testing of non-parametric data
3. Explain Hypothesis Testing (HT) in detail. Discuss the clinical versus the statistical significance of HT.
4. What is hypothesis? What are different types of hypothesis? Explain how you will formulate a hypothesis with a suitable example.
5. Define correlation and regression. What are the different measures of correlation? Explain which measures are used for computation of correlation.
6. What is hypothesis? What are different types of hypothesis? Explain how you formulate the hypothesis with a suitable illustration.
7. Discuss various parametric tests used to determine level of significance of a clinical study.
8. Discuss various steps involved in testing the significance of single mean and difference between two means (independent samples) in small samples using Student's t test.
9. Explain the following: Null hypothesis, level of significance, power of test, p value.

SHORT ANSWERS 02 MARKS

1. Explain α & β errors in hypothesis testing.
2. Classify and explain the measures of central tendency
3. Compare and contrast Nonparametric and Parametric data
4. Classify and explain the tests used for hypothesis testing of parametric data
5. Explain linear regression? How is it applied for pharmaceutical sciences
6. Explain accounting and general ledger systems
7. Explain Pearson's correlation & Spearman's correlation.
8. Define (a) error and error (b) Define confidence interval and (c) power of the test
9. What are the underlying assumptions of one way ANOVA? Explain under what circumstances ANOVA is the most preferred type of statistical data analysis?
10. Define Correlation and regression. What are the different measures of Correlation? Explain which measure is used for computing correlation between two quantitative variables.

11. Distinguish between parametric and non-parametric tests. For what type of data is Chi Square test performed?
12. Explain linear regression? How is it applied for pharmaceutical sciences
13. Write a note on null and alternate hypothesis
14. Explain Wilcoxon's signed rank test and Sign test
15. Write briefnote on statistical software of SPSS, Epi info and SAS.
16. Note on Correlation and Regression and their applications
17. Classify and explain different types of t tests and explain them.
18. Explain Wilcoxon signed rank test and Mann Whitney U test.
19. Explain the uses of chi-square test giving suitable examples
20. Describe analysis of variance by stating related assumptions. Explain why Student's t-test cannot be applied where ANOVA has to be applied.
21. What is ANOVA? Explain the method of one way ANOVA.
22. What is underlying assumptions of one way ANOVA? If these assumptions are not fulfilled which alternative non-parametric test do you suggest?
23. What is correlation? Name different types of correlation. Which are the different measures of correlation?
24. What are the assumptions under which chi-square test can be applied to analyze data. For what type of data chi-square test is applied.
25. Explain the need for testing of hypothesis in pharmaceutical research.
26. What is linear regression? How is it useful in pharmaceutical sciences?
27. Explain chi square test
28. List the pharmaceutical applications of Student's t test.
29. Calculate the variance and standard deviation for the following data Haemoglobin
9.1 to 10.1 to 11.1 to 12.1 to 13.1 to 14.1 to 15.1 to value (gm%) 10.0 11.0 12.0
13.0 14.0 ,15.0 16.0. Number of Individuals 11 14 28 22 16 12 8
30. Calculate the mean for the following data 1 to 6 Age in Years 1 to 6 7 to 12 13
to 18 19 to 24 25 to 30 31 to 36 Frequency 6 11 25 20 15 18

31. The following is the data on gain in body weight of two groups of young rats (28 to 30 days) maintained on two types of diet (high and low protein). Calculate whether the change in the body weight is observed due to diet or not using unpaired paired student t-test (Critical value=1.83) Group A (high protein diet) 95 98 101 90 89 105 110 85 100 102 Group B (low protein diet) 72 79 80 75 81 78 88 72 73 74
32. Haemoglobin value (gm%) were estimated before and after the treatment with vitamin B12 in 06 human volunteers. Calculate whether the changes were significant due to drug therapy or not by applying paired t-test. (critical value at 5% level of significance = 2.571)
Before treatment 12.2 11.3 14.7 11.4 11.5 12.7
After treatment 13.0 13.4 16.0 13.6 14.0 13.8
33. Determine if there is any association between whooping cough and tonsillectomy in a random sample of 100 children in a school with the following data (critical value = 5.41 at $P < 0.02$)
- | | Group whooping cough | No whooping cough | Total |
|------------------|----------------------|-------------------|-------|
| Tonsillectomy | 10 | 15 | 25 |
| No Tonsillectomy | 50 | 25 | 75 |
34. Find the mean, standard deviation and coefficient of variation for the following blood pressure measurements: 100,98,101,94,104,102,108,108.
35. The following data for blood protein (gm/100ml) were observed for the comparison of two drugs, both drugs being tested on each person in random manner.
- | patient | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Drug A | 8.1 | 9.4 | 7.2 | 6.3 | 6.6 | 9.3 | 7.6 | 8.1 | 8.6 | 8.3 | 7.0 | 7.7 |
|---------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Drug B | 9.0 | 9.9 | 8.0 | 6.0 | 7.9 | 9.0 | 7.9 | 8.3 | 8.2 | 8.9 | 8.3 | 8.8 | | | | | | | | | | | | | |
- Perform statistical test for drug differences at 5% level.
36. It is hypothesized that the difference between two drugs with regard to success rate is zero (i.e. the two drugs are not different). What size sample is needed to show a difference of 20% significant at the 5% level with a β error of 10% (assume that the response rate is about 50% for both drugs & study is a two independent sample design.
37. A tablet is produced with a labeled potency of 100mg. the standard deviation is known to be 10. What size sample should be assayed if we want to have 90% power to detect a difference of 3mg from the target. The test is done at 5% level.
38. A parallel design is used to measure the effectiveness of a new anti-hypertensive drug with one group of patient receiving the drug and the other group receiving the placebo, a difference of 6mm Hg is considered to be of practical significance, the standard deviation is unknown but is estimated as 5 based on preliminary data. α is set at 5% & β at 10%.
How many patients should be used in each group

SHORT ANSWERS 02 MARKS

1. What is Chi-square test?
2. Power of study
3. R values of Correlation
4. Explain: Range, Interquartile range and Variance
5. What is ANOVA.
6. Student's t-test
7. Applications of Student's t-test.
8. Standard Error of Mean
9. Pearson's Correlation
10. p-value
11. Sign test.
12. What is Type I and Type II errors in hypothesis testing.
13. One tailed and two tailed tests.
14. Mann Whitney U tests.
15. Explain one way analysis of variance.
16. Define Regression. Explain types of regression.
17. Types of correlation.
18. What is linear regression?
19. Define α and β error.
20. Level of significance.
21. Paired t – test.
22. Wilcoxon rank sum test.
23. Degree of freedom.
24. Confidence intervals.
25. Difference between statistics and parameter
26. Difference between ANOVA and student t test.
27. Differentiate parametric and nonparametric data.
28. Comparison of means between two distinct/independent groups which parametric and non-parametric test can be used in inferential statistics?
29. Comparison of two quantitative measurements taken from the same individual which parametric and non-parametric test can be used in inferential statistics?
30. Comparison of means between three or more distinct/independent groups which parametric and non-parametric test can be used in inferential statistics?

Chapter 05- Statistical Methods in Epidemiology

SHORT ESSAYS 05 MARKS

1. Define Epidemiology. Explain types of epidemiological markers .
2. Write notes on Incidence and prevalence.
3. Write notes on relative and attributed risk.

SHORT ANSWERS 02 MARKS

1. Types of epidemiological markers.
2. How will you calculate Incidence?
3. Define Relative Risk.
4. Define Attributable Risk.
5. Define Prevalence and Incidence.

Chapter 06 - Computer applications in pharmacy

LONG ESSAYS 10 MARKS

1. Explain the role of computers in patient medication profiles
2. List the applications of computing systems in hospital pharmacy.
3. Explain the role of computers in Patient medication profiles and Inventory control.
4. Elucidate the computer use in hospital pharmacy

SHORT ESSAYS 05 MARKS

1. Explain how computers can be used for patient record database management in hospital pharmacy
2. Explain accounting and general ledger systems
3. Explain the uses of computers in drug information retrieval and storage.
4. Computer medication order entry.
5. Explain Drug information retrieval and storage.
6. Write the use of computers for pharmaceutical care in community pharmacy.
7. What is inventory control? Explain the role of computers in inventory control.
8. Write a note on computer applications in prescription dispensing process.
9. Write out the patient record database management.
10. Advantages of Computerized Medication Order Entry.
11. Uses of Computers in Pharmaceutical care

SHORT ANSWERS 02 MARKS

1. Inventory control
2. Computerized literature retrieval
3. Computerized prescription dispensing.
4. Advantages of patient records database management.
5. Define community Pharmacy.
6. Define community Pharmacist.
7. Write about role of community Pharmacist.
8. What are the responsibility communities Pharmacist?
9. What is the scope of community Pharmacy?
10. What do you know about the responsibilities of Community pharmacist?
11. Remunerate about the role of Community pharmacist
12. Explain the scope of Community pharmacy in India.
13. What is the responsibilities of community pharmacist.
14. Enumerate about f community pharmacist

Chapter 07: Prescriptions: Parts of prescription, legality & identification of medication related problems like drug interactions.

SHORT ANSWERS 02 MARKS

1. Comment on Drug interaction.
2. Define prescription.
3. Enumerate about medication related problems.
4. Name the sources of drug interaction checkers.
5. Give examples of drug-drug interactions.
6. Give examples of drug-food interactions.
7. Give examples of drug-other body components interactions.
8. Define drug interactions.
9. How do you identify medication related problems.
10. What do you know about different parts of prescription.

Chapter 08: Inventory control in community pharmacy

Definition, various methods of Inventory Control, ABC, VED, EOQ, Lead time, safety stock.

SHORT ANSWERS 02 MARKS

1. What are the various methods of inventory control techniques. Explain any one method.
2. Explain about ABC analysis with example.
3. Explain about VED analysis with example.
4. Explain about EOQ analysis with example.
5. What is Lead time and reorder level?
6. Explain about safety stock buffer stock?
7. What are the different methods of Inventory control followed in community pharmacy?
8. Define ABC, VED, EOQ, buffer stock and lead time.
9. Define inventory control, safety stock, reorder level, minimum safety level and maximum safety level.
10. What do you know about ABC and VED analysis.

Chapter 09: Pharmaceutical care: Definition and Principles of

Pharmaceutical care

SHORT ESSAYS 05 MARKS

1. Define pharmaceutical care. Write in detail about the principles of pharmaceutical care
2. Explain in detail about principles of pharmaceutical care .
3. Discuss in detail about principles of pharmaceutical care
4. What do you mean by pharmaceutical care.
5. Describe about principles of pharmaceutical care.
6. Describe the principle involved for pharmaceutical care
7. What is the principles of pharmaceutical care.
8. Explain about pharmaceutical care
9. Write about importance of pharmaceutical care
10. Enumerate in detail about pharmaceutical care,

SHORT ANSWERS 02 MARKS

1. Define pharmaceutical care
2. What is the principle involved in pharmaceutical care.
3. Write in brief about pharmaceutical care.
4. Comment on pharmaceutical care.
5. Enumerate about pharmaceutical care.
6. Discuss pharmaceutical care.
7. Enumerate about role of Pharmacist in pharmaceutical care.
8. Comment on principles in pharmaceutical care.
9. Define Pharmacist role towards pharmaceutical care.
10. Write about pharmaceutical care.

Chapter 10: Patient counseling

Definition, outcomes, various stages, barriers, Strategies to overcome barriers
Patient information leaflets- content, design, & layouts, advisory labels

SHORT ESSAYS 05 MARKS

1. Explain various barriers of patient counseling
2. What are the different Methods to overcome patient counseling barriers?
3. Write briefly about the advantages and disadvantages of patient counseling?
4. What are the various stages of patient counseling?
5. Explain Patient information leaflet?
6. Write a note on design & layout of leaflets?
7. Discuss about the contents of PIL?
8. Explain Advisory labels in patient counseling?
9. Explain Advisory label for paracetamol.
10. Explain Advisory label for cough syrup.
11. Explain Advisory label for proton pump inhibitor.

SHORT ANSWERS 02 MARKS

1. Counseling tips for haematomics.
2. Define patient counseling.
3. Counseling tips for multi-vitamins.
4. Objectives of patient counseling.
5. Advisory label for antacids.
6. Define the terms Patient information leaflet, Advisory label.
7. Counseling tips for Antacids.
8. Counseling tips for Aspirin in pregnancy.
9. Counseling tips for sedatives.
10. Explain about communication skills.

Chapter 11: Patient medication adherence.

Definition, Factors affecting medication adherence, role of pharmacist in improving the adherence.

SHORT ANSWERS 02 MARKS

1. Define the term medication adherence.
2. Name any two medication adherence scales
3. Role of pharmacist in improving medication adherence
4. What are the different methods for measuring the medication adherence
5. Mention any four factors affecting medication adherence.
6. Explain the term medication adherence.
7. Name the factors affecting medication adherence.
8. What do you mean by medication non adherence.
9. Functions of Pharmacist in preventing medication non adherence.
10. Steps involved in medication adherence.

Chapter 12: Health screening services Definition, importance, methods for screening Blood Pressure / blood sugar/ lung function and Cholesterol testing

LONG ESSAYS 10 MARKS

1. Define Health screening explain about for cholesterol testing
2. What is the importance of health screening services explain about testing of blood pressure
3. Discuss about the lung function tests.
4. Define Health screening explain about for Blood sugar testing.
5. Explain the screening methods for estimating blood pressure.
6. Define screening methods for blood sugar.
7. Discuss about different test involved in cholesterol estimation
8. List out different pulmonary test explain about any one method
9. Discuss about different test involved in Blood sugar testing
10. Explore about health screening.

SHORT ESSAYS 05 MARKS

1. What are the screening techniques for blood sugar ?
2. Discuss about the cholesterol testing.
3. Explain about lung function test
4. Define health screening services for estimating blood pressure
5. Define health screening explain any one method
6. Explain about spirometry
7. What do you know about cholesterol testing.
8. What do you know about lung function test
9. What do you know about blood sugar
10. What do you know about blood pressure

Chapter 13: OTC Medication- Definition, OTC medication list & Counselling

SHORT ANSWERS 02 MARKS

1. Define OTC medication
2. Give the examples of OTC medications
3. When OTC medications are dispensed.
4. Write about concealing for OTC.
5. What is the role of Pharmacist in OTC medications.
6. Give some examples of OTC medications
7. Write about counsealing tips for OTC medications.
8. Enumerate about counselling for OTC medication.
9. What do you about OTC medication.
10. Comment on OTC medication.

Chapter 14: Health Education

WHO Definition of health, and health promotion, care for children, pregnant & breast feeding women, , and geriatric patients. Commonly occurring Communicable Diseases, causative agents, Clinical presentations and prevention of communicable disease Tuberculosis, Hepatitis , Typhoid, Amoebiasis, Malaria, Leprosy, Syphilis, Gonorrhoea and AIDS, Balance diet, and treatment & prevention of deficiency disorders Family planning – role of pharmacist

LONG ESSAYS 10 MARKS

1. Define Balanced diet. Write note on vitamins deficiency disorders and its prevention
2. Define health. Describe the pharmaceutical care for geriatrics
3. Define health. Describe the pharmaceutical care for pediatrics
4. Define health. Describe the pharmaceutical care for Breast feeding mothers
5. Define health. Describe the pharmaceutical care for pregnant women
6. Explain the causative organism, clinical presentation & prevention of Hepatitis & Typhoid?
7. Write briefly about Syphilis & Gonorrhoea?
8. What is balanced diet? Discuss the treatment & prevention of deficiency disorder?
9. Discuss about the causative organism, clinical presentation & prevention of TB & Malaria.
10. Discuss about the causative organism, clinical presentation ,life cycle of plasmodium species.
11. Explain role of community pharmacist in family planning. Write about different methods of family planning.
12. Discuss in detail about AIDS & Leprosy.
13. Define communicable disease. Discuss the role of community pharmacist in preventing communicable diseases.
14. Discuss about the causative organism, clinical presentation & prevention of Hepatitis.
15. Discuss about the causative organism, clinical presentation & prevention of Amoebiasis.

SHORT ANSWERS 02 MARKS

1. Diaphragm & Condom.
2. Pellagra & Scurvy.
3. Abstinence.
4. Beriberi.
5. Hormonal methods.
6. Amoebiasis.
7. vasectomy
8. Marasmus & Kwashiorkor.
9. Tubectomy
10. Balanced Diet
11. Causative organisms for malaria
12. Causative organisms for Typhoid

Chapter 15: Responding to symptoms of minor ailments

SHORT ESSAYS 05 MARKS

1. What are the GI disturbances, explain in detail.
2. Write a note on diarrhea.
3. Write briefly about Dyspepsia.
4. Common drug therapy to pain.
5. Vomiting.
6. Constipation.
7. Discuss worms infestations.
8. Write a note on Pyrexia.
9. Write a note on Nausea.
10. Write a note on ophthalmic symptoms.
11. Drugs used in the treatment of Nausea and vomiting.

SHORT ANSWERS 02 MARKS

1. Pyrexia.
2. Ophthalmic symptoms.

Relevant pathophysiology, common drug therapy to, Pain, GI disturbances (Nausea, Vomiting,

Dyspepsia, diarrhea, constipation), Pyrexia, Ophthalmic symptoms, worms infestations
(5marks / 2 marks)

3. Worms infestations.
4. Drugs used in ophthalmic disorders.
5. Write about worm infestations.
6. Write about Ophthalmic symptoms.
7. Write about Pyrexia.
8. Write about ophthalmic disorders.
9. Drugs used in worm infestations.
10. What do you know about ophthalmic symptoms.

Chapter 16: Essential Drugs concept and Rational Drug Therapy

SHORT ANSWERS 02 MARKS

1. Write a note on rational use of drugs.
2. Write a note on Essential drug concept.
3. Health indicators of essential drug concept.
4. Name Steps involved in the selection of essential drug.
5. Write about the rational drug therapy for injections.
6. Comment on rational use of drugs.
7. Write about rational use of drugs.
8. What do you know about rational use of drugs.
9. Write the principle of essential drug concept.
10. Enumerate about rational use of drugs.

Chapter 17: Code of ethics for community pharmacists

SHORT ANSWERS 02 MARKS

1. Define code of ethics.
2. Code of ethics of pharmacist in relation to his profession.
3. Write role of pharmacist in code of ethics.
4. Write on code of ethics in health care profession.
5. Write on code of ethics towards patients.
6. Write on code of ethics towards Society.
7. Write on code of ethics pharmacy profession.
8. Write on code of ethics towards professional relation.
9. Write note on autonomy and dignity.
10. Write note on trade of Pharmacy.



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Biopharmaceutics & Pharmacokinetics



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CHAPTER-I Biopharmaceutics: Absorption, Distribution, Elimination

LONG ESSAYS 10 MARKS

1. Define Absorption. Discuss in detail the various biological factors affecting drug absorption.
2. Discuss in detail the various physico-chemical factors affecting drug absorption.
3. Discuss in detail the various physiological factors affecting drug absorption.
4. Discuss in detail the various pharmaceutical factors affecting drug absorption.
5. Explain the various mechanisms of drug absorption.
6. Define drug distribution. Describe the factors affecting distribution.
7. Write in detail about protein binding and its significance.
8. Define biotransformation. Explain with examples phase I and phase II reactions.
9. What is clearance? Give the formula for the same. Explain organ clearance and hepatic extraction ratio.
10. Explain the process of renal elimination.
11. How do you calculate the pharmacokinetic parameters for a drug undergoing metabolism from the urine data? Give the relevant graphs.
12. How do you calculate the pharmacokinetic parameters for a drug (no metabolism) from the urine data? Give the relevant graphs.
13. Draw a typical plasma concentration time profile curve following oral, IV bolus and IV infusion and explain the pharmacokinetic parameters that can be determined from the same.
14. Compare and contrast passive diffusion versus active transport. Add a note on facilitated transport.
15. What do you understand by pH-partition theory? Give its importance and its limitations.



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SHORT ESSAYS 05 MARKS

ABSORPTION

1. Explain the differences between passive diffusion and active transport.
2. Explain passive diffusion of drugs and the principle behind it.
3. Explain pH partition theory.
4. Explain In-vitro methods for determining absorption of drugs.
5. Explain In-vivo methods for determining absorption.
6. Explain the pore transport process.
7. Explain the influence of gastric emptying and intestinal transit time on absorption of drugs.
8. Explain the structure of cell membrane with a neat labelled diagram.
9. Explain the effect of GI components on the gastric emptying rate.
10. What do you understand by gastric emptying and discuss factors affecting the same.
11. What factors affect the absorption of drugs when administered as tablets and capsules?
12. Explain the “Everted Sac Modification” technique for assuring the absorption.
13. Explain BCS classification of drugs.
14. Name the parameters considered in pH-partition theory. Mention the limitations of pH-partition theory.

DISTRIBUTION

15. Write about the significance of protein binding.
16. Explain the kinetics of protein binding.
17. Explain about binding of drugs to HAS (Human Serum Albumin).
18. Write about plasma protein binding of drugs.
19. Define volume of administration and give its significance.
20. Define volume of administration and how do you determine V_d ?
21. How is drug distributed to CNS through blood brain barrier?
22. Explain drug distribution to fetus through placental barrier.
23. Explain intracellular and extracellular binding of drugs.



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ELIMINATION

24. Explain renal clearance of drugs.
25. How do you determine renal clearance of drugs?
26. Explain hepatic extraction ratio and its importance.
27. Explain various non-renal routes of excretion.
28. Explain hepatic clearance.
29. Explain glucuronic acid conjugation.
30. Explain phase I reactions.
31. What is biotransformation and explain its importance.
32. Explain the hepatic metabolism of drugs.
33. Explain the presystemic metabolism of drugs.
34. List out the various factors affecting biotransformation and discuss any two.
35. List out the various factors affecting excretion and discuss any two.

SHORT ANSWERS 02 MARKS

1. Write briefly about Active transport
2. Draw the Structure of Cell membrane
3. What is Facilitated diffusion?
4. What is Pinocytosis and phagocytosis?
5. What is Endocytosis?
6. Write modified NoyesWhitney's equation.
7. What is polymorphism?
8. Name rate limiting steps in drug absorption.
9. What is the effect of food on absorption of drugs?
10. How particle sizes affect the drug absorption?
11. How do solvates and hydrates affect drug absorption?
12. Give two examples of drugs which are unstable in the GIT.
13. List out the methods to study absorption of drugs.
14. How drugs are classified according to BCS?



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15. List the orally administered dosage form in order of their increasing absorption.
16. Define drug distribution.
17. Define protein binding.
18. What are distribution characteristics of protein bond drug?
19. Mention the significance of protein binding.
20. Mention the significance of tissue binding.
21. Define biotransformation.
22. What are xenobiotic?
23. What is clearance? Give the formula for same.
24. What is enterohepatic cycle?
25. Define apparent volume of distribution.
26. What do you understand by inhibition and induction?
27. Name the various barriers for drug distribution.
28. List out the non renal routes of drug excretion.
29. Hepatic clearance. Mention its significance.
30. What is Total body clearance?
31. What is renal clearance? How do you calculate it?
32. Define extraction ratio.
33. Write the formula to calculate hepatic extraction ratio.
34. Define Clearance? Give the expression relating clearance to half-life
35. Why phase II reaction is called true detoxification reactions?
36. What the consequences are phase I reaction?
37. List out phase II biotransformation reactions.
38. What is first pass or presystemic metabolism
39. What is glucuronidation?
40. Give the relation between clearance and volume of distribution.
41. Define apparent volume of distribution.
42. What is sink condition?
43. Give the formula for determining Vd from plasma concentration (C).

CHAPTER II – INTRODUCTION TO PHARMACOKINETICS, ONE COMPARTMENT MODEL, TWO COMPARTMENT MODEL

LONG ESSAYS 10 MARKS

1. What do you understand by pharmacokinetic model? Classify the pharmacokinetic models; give their salient features, advantages and disadvantages.
2. Discuss in detail one-compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.
3. Discuss in detail one-compartment open model for a drug administered as IV infusion. Give the schematic representation, graphs and equations for the same
4. Discuss in detail two-compartment open model for a drug administered as IV Bolus. Give the schematic representation, graphs and equations for the same.
5. What is a compartment? Classify the compartment models. Give the schematic representation of the same.

SHORT ESSAYS 05 MARKS

1. Write a note on Catenary and mammillary modeling.
2. Write the importance of Compartment modeling in pharmacokinetic study.
3. With a neat labeled diagram explain the drug levels in blood after oral administration.
4. Explain various pharmacokinetic parameters after oral administration of drug.
5. Write the applications of pharmacokinetic models.
6. Explain how steady state level of the drug is achieved through I.V infusion.
7. Give schematic representation of two and three compartment models with brief explanation.
8. Explain the assumptions of one-compartment open model
9. Write about the advantages and disadvantages of compartment modeling.
10. Compare blood level curves between I.V and oral routes with a graph.



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11. Give the monoexponential and biexponential equations for drugs administered as IV bolus and explain the terms.
12. How do you determine KE using rate of excretion method from urine data.
13. How do you determine KE using sigma minus method from urine data?

NON-LINEAR PHARMACOKINETICS

1. Explain the various factors leading to non-linearity.
2. Explain Michaelis –Menten equation in determining non-linearity.
3. How do you estimate Km and Vmax.

BIOAVAILABILITY AND BIO-EQUIVALENCE

SHORT ESSAYS 05 MARKS

1. Define bioavailability. Mention the objectives of bioavailability studies.
2. Define bioequivalence. Explain various types of equivalence.
3. Explain about the subject's selection criterion in bioavailability studies.
4. Discuss the various study designs in for performing bioavailability.
5. Explain two way cross overdesign.
6. Discuss the various considerations for bioequivalence studies.
7. Explain any two methods to calculate AUC.
8. Explain how bioavailability is measured using plasma data.
9. Explain how bioavailability is measured using urinary data.
10. List out the various methods of assessment of bioavailability and explain any two.
11. What are the various methods of enhancement of bioavailability?



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SHORT ANSWERS 02 MARKS

1. Define pharmacokinetics.
2. In compartment modelling why does excretion takes place from central compartment
3. What are the limitations of one-compartment model
4. Define elimination rate constant?
5. Describe the influence of K_e on C_{max} , T_{max} and AUC.
6. Mention the methods for calculating of AUC.
7. Define biological half-life.
8. Enumerate the applications of pharmacokinetics.
9. What is first-order and second-order reaction?
10. What is Zero-order reaction?
11. Write equation for zero and first-order half life.
12. Define Volume of distribution
13. What do mean by therapeutic index?
14. Give an example for Mono exponential equation.
15. Give an example for Biexponential equation.
16. Draw the blood level profiles for oral and intravenous route of administration.
17. Enlist different pharmacokinetic parameters.
18. Define C_{max} and T_{max} .
19. Classify Pharmacokinetic models.
20. What is multicompartment model?
21. Give the schematic representation of one compartment open model-oral.
22. Give the schematic representation of one compartment open model-IV.
23. Give the schematic representation of two compartment open model-oral.
24. Give the schematic representation of two compartment open model-IV.
25. Give the schematic representation of three compartments model-oral.
26. Give the schematic representation of three compartments model-IV.
27. What are the assumptions of one-compartment model?
28. Give the formula AUC_{0-t} & $AUC_{0-\infty}$.



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BIO-AVAILABILITY AND BIOEQUIVALENCE

1. Define Bio-availability and Bio-equivalence.
2. Differentiate between absolute and relative bioavailability.
3. Give the significance of bio-equivalence.
4. List out the methods to calculate AUC.
5. Give an example for Latin square cross over design for the conduct of bioavailability study.
6. Name any four methods for enhancing bio-availability of drugs.
7. Define therapeutic equivalence and chemical equivalence.
8. Give the equation to calculate bio-availability from urine data?
9. Name the methods to calculate K_e from urine data.

NON-COMPARTMENT ANALYSIS

1. Explain statistical moment's theory.
2. Give the formula for AUMC and MRT.
3. What are the advantages of physiological model?
4. What is the difference between AUC and AUMC?
5. Define MRT and give its equation.
6. Give schematic representation for Physiological–Pharmacokinetic model

NON LINEAR PHARMACOKINETICS

1. What is the difference between linear and non-linear PK?
2. List out the reasons for non-linearity in PK studies.
3. Write the tests to determine non-linearity.
4. Give Michaelis-Menton equation. Explain the terms.
5. What is K_m and V_{max} ?



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MULTIPLE DOSAGE REGIMEN

1. Define loading and maintenance dose. Give the formula for the same.
2. Give the equations to calculate the steady state maximum, minimum and average drug concentrations.
3. Give the plasma concentration time–plot for multiple dosing of an IV bolus.
4. What do you understand by accumulation index and give the formula.
5. Explain principle of plateau or steady-state.
6. What are the factors which influence dosage regimen?
7. Name two parameters used in adjusting dosage regimen.
8. Define dosing frequency.
9. Give relation between loading dose and maintenance dose.
10. Give the plasma concentration time– plot for multiple oral administration.

CLINICAL TOXICOLOGY

CHAPTER 01: General principles involved in the management of poisoning

SHORT ESSAYS 05 MARKS

1. Explain ABCD management of Poisons.
2. Write the grading for the severity of CNS intoxication.
3. Write briefly on Acid-base disorders and its causes.
4. Explain in detail general principles involved in the management of poisoning?
5. Explain in detail the stabilization and evaluation in the management of poisoning.
6. Explain briefly Glasgow coma Scale.
7. Explain the role of Sodium bicarbonate in the management of poisoning?
8. Explain the electrolyte disturbance in poisoning?
9. Mention the drugs associated with pulse rate and blood pressure?
10. Add a note on toxic syndromes.
11. Explain toxic ophthalmological manifestations?
12. Discuss the dermal manifestation of poisoning.
13. Mention the poison/ drug induced oral manifestations

SHORT ANSWER 02 MARKS

1. Define Fluminant, Acute, Subacute and Chronic poisoning.
2. Mention the Toxicity rating of poisons.
3. Mention the Poisoning severity score for acute poisoning.
4. Define UFD and MLD.
5. Discuss the methods of preventing absorption of poisons.
6. Mention the Drug / toxin induced arrhythmias.
7. List the drugs causing non-cardiogenic pulmonary oedema.
8. Management of hyperthermia.
9. Management of hypothermia.
10. What is Coma cocktail?
11. List the drugs that induces tremor.
12. Management of tremor in poisoning.
13. Mention the drugs that cause movement disorders.
14. Give two examples for Drugs / poison which cause papillary changes (Miosis, Mydriasis and Nystagmus) for each.

15. Mention two drugs which cause failure of respiratory centre and respiratory muscle.
16. Give examples of drugs / toxins that cause acute renal failure.
17. Write the examples of drugs / toxins that cause hepatic damage?
18. Explain role of emesis in acute poisoning.
19. Mention the importance of bowel irrigation in poisoning.
20. Explain the role of chelating agents in acute poisoning.

CHAPTER 02: Antidotes and the clinical applications

SHORT ANSWER 02 MARKS

1. Define and classify antidotes.
2. Explain the role of antidote in poisoning.
3. Write a short note on antidotes and give examples with their clinical application?
4. Explain Accelerated detoxification and reduced toxic conversion antidote with examples.
5. Write the composition of Universal antidote?
6. Define Adjunctival antidotes with example.
7. Define and mention the composition of obsolete antidote.
8. Explain toxic effect bypass antidote action with example?
9. Explain receptor site competition antidote action with example?
10. Explain receptor blockade antidote action with example?
11. Add a note on inert complex formation antidote action with example.
12. Antidotes used in methanol poisoning.
13. List the modes of action of antidotes.
14. Name the specific antidotes for the following
 - a) Paracetamol
 - b) Organophosphorus compounds
 - c) Iron
 - d) Morphine

CHAPTER 03: Supportive care in clinical Toxicology

SHORT ESSAYS 05 MARKS

1. Give a short note on role of supportive care measures in poisoning.
2. Describe the role of basic supportive care in the management of poisoning?
3. Discuss the supportive care for Airway correction.
4. Explain the supportive care for breathing correction.
5. Explain the supportive care for Circulation correction.
6. Write a note on supportive care in clinical toxicology?
7. Write the importance of electrolytes as a supportive care in poisoning?
8. Explain the importance of supportive care in clinical toxicology.
9. Explain the supportive care to treat Sedation.
10. Explain the supportive care to treat seizure.
11. Explain the supportive care for restoration of renal function.

CHAPTER 04: Gut Decontamination

SHORT ESSAYS 05 MARKS

1. Describe the technique, contraindication, potential complication and adverse effect of emesis method of gut decontamination.
2. Explain the different methods of gut decontamination.
3. Explain the general principles of gut decontamination with advantages and disadvantages.
4. Write the techniques, indications, contraindications and complications involved in gastric lavage.
5. Discuss the technique, contraindication, potential complication and adverse effect of Activated charcoal method of gut decontamination.
6. Explain the role of gastric lavage and charcoal administration in Gut decontamination process.
7. Explain the technique, contraindication, potential complication and adverse effect of cathartics method of gut decontamination.
8. Explain the technique, contraindication, potential complication and adverse effect of whole-bowel irrigation method of gut decontamination.
9. Add a note on gastrointestinal decontamination risk-benefit analysis.
10. Explain the Oral binding agents in gut decontamination
11. List out the Gut decontamination methods.
12. Enumerate the contraindications in gastric lavage.
13. Write the gastrointestinal decontamination triangle?
14. Mention the complications of emesis in gut decontamination.
15. Disadvantages of Gut Decontamination
16. Multiple dose activated charcoal.
17. Uses of light kaolin and charcoal in poisoning.
18. Describe the mechanism and uses of EDTA in clinical toxicology.
19. List the complications of gastric lavage in gut decontamination.
20. Write the complications of Activated charcoal in gut decontamination?
21. Mention the complications of cathartics in gut decontamination.
22. Write the complications of whole-bowel irrigation in gut decontamination?

CHAPTER 05: Elimination Enhancement.

SHORT ANSWER 02 MARKS

1. Write the elimination enhancement methods in treatments of acute poisoning.
2. Mention urinary alkalinisation method of elimination enhancement of poisons.
3. Write the potential complication and indication of urinary alkalinisation method of elimination enhancement of poisons.
4. Write the importance of multiple doses of activated charcoal in elimination enhancement technique
5. What are extracorporeal techniques in elimination of poisons
6. Write the role of dialysis in elimination enhancement of poisons?
7. Explain the role of hemodialysis in the management of poisoning.
8. Define a) Hemoperfusion b) Haemodialysis c) Plasmapheresis d) Hemodiafiltration
9. Write the advantages and disadvantages of Hemoperfusion in elimination enhancement of poisons.
10. Write the significances of Haemodialysis in elimination enhancement of poisons?
11. What is Plasmapheresis? Mention its role in elimination enhancement of poisons?
12. Write the potential complications of multiple doses of activated charcoal technique for elimination of poisons?
13. Expand CAVHD, and write its significance.

CHAPTER 06 : Toxicokinetics

SHORT ANSWER 02 MARKS

1. Define and enlist the various parameters of toxicokinetics.
2. Define toxicokinetics and write its importance.
3. Write the clinical Applications of toxicokinetics?
4. Mention the toxicokinetic studies.
5. Write the toxicokinetics of paracetamol

CHAPTER 07: Clinical symptoms and management of acute poisoning of:

LONG ESSAYS 10 MARKS

1. What are the signs and symptoms of acute poisoning with organophosphorus compounds? Describe its clinical management.
2. Explain the signs and symptoms and management of organochlorine poisoning.
3. Enlist the various pesticides and explain the clinical symptoms and management of acute poisoning of any two.
4. Classify Pyrethroids. Explain the management of Pyrethroid poisoning.
5. What are signs and symptoms of opiates poisoning and its management?
6. Explain the clinical symptoms and management of acute poisoning with barbiturates and benzodiazpines.
7. Define and classify the antidepressants and explain the clinical symptoms and management of acute poisoning of tricyclic anti-depressants.
8. Explain in details about the management of acute poisoning with ethanol and methanol.
9. Explain signs and symptoms and management of Paracetamol, NSAID and salicylates.
10. Discuss the acute poisoning with hydrocarbons.
11. Define and classify caustics. Explain clinical features and management of acute poisoning with inorganic acids and alkalis.
12. Describe the clinical symptoms and management of radiation poisoning.

SHORT ESSAYS 05 MARKS

1. Write a note on the management of organophosphorus poisoning.
2. Mention the clinical features and management of carbamate poisoning.
3. Explain the management of opiate poisoning.
4. Write the clinical symptoms and management of TCA.
5. Discuss barbiturate overdose and its management.
6. Discuss the clinical symptoms and treatment of acute poisoning with Barbiturates.
7. Explain the clinical symptoms and treatment of acute poisoning with BZD.
8. Explain briefly clinical features and management of acute poisoning with ethanol.
9. Briefly explain clinical features and management of acute poisoning with methanol.
10. Write the manifestation of alcohol withdrawal syndrome?

11. Explain the clinical symptoms and management of acute poisoning with paracetamol overdose.
12. Explain the clinical symptoms and management of acute poisoning with aspirin.
13. Explain the clinical symptoms and management of acute poisoning with salicylates.
14. Discuss the nephrotoxicity of NSAIDs.
15. Explain briefly clinical features and management of acute poisoning with inorganic acids and alkali.
16. Explain the clinical symptoms and management of acute poisoning with hydrocarbons.
17. Enumerate the clinical symptoms and management of acute poisoning with radiation poisoning.
18. Explain the clinical symptoms and complications of radiation poisoning.
19. Explain the hepatotoxicity of paracetamol.

SHORT ANSWER 02 MARKS

1. Clinical effects of organophosphorous poisoning.
2. Write the role of atropine in OP poisoning?
3. Classify OP Compounds.
4. Classify pyrethroid pesticides with examples.
5. Mention the importance of PAM(Pralidoxime) in OP poisoning
6. Write the usual fatal dose of Morphine?
7. Mention the signs and symptoms of Opiates overdose.
8. Write the signs and symptoms of MAOI acute poisoning?
9. List out the Opioid antagonists
10. Toxicity of petroleum products.
11. Management of NSAIDS poisoning.
12. Explain management of salicylates poisoning.
13. Explain signs and symptoms of organochlorine poisoning.
14. Management of benzodiazepines poisoning.
15. signs and symptoms of Inorganic acid poisoning.
16. Clinical effect of methanol poisoning.
17. What are the clinical symptoms of hydrocarbon poisoning?
18. Clinical symptoms of radiation poisoning.

19. Management of acute poisoning with inorganic acids.
20. Signs and symptoms of paracetamol poisoning.
21. Treatment for acute methanol poisoning.
22. Alcohol withdrawal syndrome.
23. Clinical symptoms of barbiturate poisoning.
24. Signs and symptoms of poisoning with PEG.
25. Clinical symptoms of salicylism.
26. Signs and symptoms of acid injury.
27. Clinical effects of poisoning with inorganic acids.
28. Clinical symptoms of radiation poisoning.
29. Clinical symptoms of antidepressant poisoning.
30. Paracetamol toxicity.
31. Write the Treatment for Reye's syndrome.
32. What is Rumack matthew nomogram?
33. Stages of Acute Radiation Syndrome
34. Biological effects of ultraviolet radiation
35. Sources of non ionizing radiation
36. Mode of action of alkali poisoning
37. Treatment of alkali poisoning
38. Treatment of sulfuric acid poisoning

CHAPTER 08: Clinical symptoms and management of chronic poisoning with the following agents- Heavy metals: Arsenic, lead, mercury, iron, copper

LONG ESSAYS 10 MARKS

1. Describe the clinical symptoms and management of chronic poisoning with the heavy metals.
2. Discuss the clinical symptoms and management of chronic poisoning with arsenic and lead.
3. Describe the clinical symptoms and management of chronic poisoning with iron, mercury and copper.
4. Discuss various heavy metal poisoning emphasizing the clinical symptoms and its management.
5. Enumerate the clinical symptoms, laboratory tests and management of chronic poisoning with Lead.
6. Write a note on the general principles in the management of heavy metals poisoning?

SHORT ANSWER 02 MARKS

1. Mention the application of deferoxamine.
2. Enlist the application of chelating agents in heavy metal poisoning.
3. Write the laboratory test used for diagnosing lead poisoning?
4. Expand the BAL and DMSA.
5. Explain the clinical features of copper sulphate poisoning.
6. Discuss the various laboratory test used for diagnosing lead poisoning.
7. Write the signs and symptoms of arsenic poisoning?
8. Write the clinical effect of poisoning with mercury?
9. Explain the management of iron poisoning.
10. Write the Antidote for mercury poisoning?
11. Enlist the treatment options for mercury poisoning.

CHAPTER 09: Venomous snake bites: Clinical effects of venoms, general management as first aid, early manifestations, complications and snake bite injuries

SHORT ESSAYS 05 MARKS

1. Describe the signs and symptoms of venomous snake bite and its management.
2. Describe the Clinical effects of Venom, general first aid management for snake bite injuries?
3. Write a short note clinical effect of snake venoms?
4. Write the early manifestations, complications and management of snake bite injuries?
5. Enlist the signs, symptoms and treatment of snakebite poisoning.
6. Write the general first aid management for snake bite?
7. Classify the venomous snakes with examples.

SHORT ANSWER 02 MARKS

1. Write the differences between venomous and non-venomous snakes?
2. What is ASV?
3. Classify different type of venomous snakes.
4. Signs and symptoms of snake poisoning.
5. First aid measures for snake bite.
6. Distinguish between venomous and non-venomous snake bite.

CHAPTER 10: Plants poisoning- Clinical symptoms and management of Mushrooms,
Mycotoxins

SHORT ANSWER 02 MARKS

1. Add a note on Mycotoxins poisoning.
2. Write the management of Mycotoxins poisoning
3. Write the clinical symptoms of Mycotoxins poisoning
4. What is the role of atropine in mushroom poisoning?
5. Discuss the clinical features of mushroom poisoning.
6. Write the management of poisoning with mushrooms.
7. Short note on aflatoxin.
8. Name toxic mushroom.
9. Classify the mushrooms with examples.
10. Name the poisonous mushrooms.

CHAPTER 11: Food Poisonings- Clinical symptoms and management of Food Poisonings

SHORT ANSWER 02 MARKS

1. Give the complications of food poisoning.
2. Give the sources of food poisoning.
3. Write about shell fish poisoning
4. Management of microbial food poisoning.
5. Write on etiology of food poisoning
6. Mention the importance of ORT in food poisoning
7. Write the general treatment measures for food poisoning
8. Write the significance of IV rehydration therapy in food poisoning.
9. Write nonspecific anti diarrhoeal agents used in food poisoning.

CHAPTER 12: Envenomations- Clinical symptoms and management of Arthropod bites and stings

SHORT ANSWER 02 MARKS

1. What are the Clinical effects of arthropod bites and stings?
2. Write the management for Arthropods bite.
3. Discuss the management of scorpion bite.
4. Write the signs and symptoms and first aid for scorpion bite?
5. First aid of arthropod bites.
6. Write the signs and symptoms of wasp bite
7. Write the treatment of Bee bite

CHAPTER 13: Substance abuse- Signs and symptoms of substance abuse and treatment of dependence a) CNS stimulants: Amphetamine, b) Opioids, c) CNS depressants, d) Hallucinogens: LSD, e) Cannabis group , f) Tobacco

SHORT ESSAYS 05 MARKS

1. What are the signs and symptoms and treatment of opioid dependence?
2. Enumerate the signs and symptoms of substance abuse and treatment of dependence with amphetamine
3. Write the clinical features and management of substance abuse of CNS depressants?
4. Explain the clinical symptoms and management of cannabis dependence?
5. Discuss the clinical symptoms and management of hallucinogens and tobacco abuse.
6. Diazepam substance abuse.
7. Describe the Abuse potential of amphetamine.
8. Discuss the DSM-IV criteria for substance abuse.
9. Explain the management of cocaine detoxification.
10. Mention the role of nicotine therapy in smoking cessation.
11. Short note on tobacco dependence.
12. Explain the hallucinogenic drug abuse.
13. List down the symptoms of cannabis abuse and its treatment.
14. Explain the signs and symptoms of substance abuse and treatment of opioid dependence.
15. Explain the signs and symptoms of substance abuse and management of dependence with amphetamine



Vision and Mission of the Institution

Vision

The East Point College of Pharmacy aspires to be a globally acclaimed institution, **recognized for excellence in** pharmaceutical education, research and nurturing students for **holistic development**.

Mission

- M1** Create pharmacy graduates through **quality education**
- M2** Promote innovation, **creativity**, and excellence **in teaching**, learning, and **research**
- M3** **Inspire** integrity, teamwork, critical thinking, **personal** development, and ethics in **students** and lay **the** foundation for lifelong learning
- M4** **Serve** the **healthcare, technological, scientific**, and **economic** needs of then **society**.