

**FOURTH PHARM D-PHARMACOTHERAPEUTICS-III**

<b>1. GASTROINTESTINAL SYSTEM:</b> Peptic Ulcer Disease, Gastro Esophageal Reflux Disease, Inflammatory Bowel Disease, Liver Disorders – Alcoholic Liver Disease, Viral Hepatitis Including Jaundice, Drug Induced Liver Disorders	20 hours
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**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 complications?
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

3. 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.

27. Draft an algorithm for the evaluation and management of ulcer patients present with clinical symptoms.

**SHORT ANSWER****2 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 ulcers-related 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.

<b>2. HAEMATOLOGICAL SYSTEMS :</b> Anaemias, Venous Thromboembolism, Drug Induced Blood Disorders	13 hours
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**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 pharmcotherapeutic 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.

18. Discuss etiology, pathogenesis, clinical presentation and management of sideroblastic anemia.
19. Management of CVT in pregnancy
20. Discuss etiology, clinical manifestation, diagnosis and pharmacotherapy of DVT.

**SHORT ANSWER****2 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

3. <b>NERVOUS SYSTEMS</b> : Epilepsy, Parkinsonism, Stroke, Alzheimer's Disease	18 hours
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**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****5 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****2 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

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<b>4. PSYCHIATRY DISORDERS:</b> Schizophrenia, Affective Disorders, Anxiety Disorders, Sleep Disorders, Obsessive Compulsive Disorders	15 hours
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**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****5 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****2 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
36. Dyssomnia

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5. Pain Management Including Pain Pathways, Neuralgias, Headaches.
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7 hours
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**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****5 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****2 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

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6. Evidence Based Medicine	2 hours
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**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**

**2 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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