Code No. G-13093/PCI

FACULTY OF PHARMACY

B. Pharmacy (PIC) IV - Semester (Backlog) Examination, March 2025

Subject: Pharmacology - I

Time: 3 Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define Bioavailability. Why the bioavailability of drugs is lower after oral administration.
2. Define prodrug. Give the examples of prodrugs.
3. Define plasma half life. Mention its significance.
4. Mention the uses of pre-anesthetic medication.
5. What is vasomotor reversal of Dale?
6. Enlist the drugs used in glaucoma.
7. What is dose response relationship? What are its advantages?
8. Name inhibitory neurotransmitters present in CNS.
9. What is drug tolerance? Give examples.
10. Mention the therapeutic uses and adverse reactions of benzodiazepines.

PART – B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. a) Write the pharmacological actions of acetylcholine.
    b) Explain the various therapeutic uses and adverse reactions of parasympatholytics.
12. Define Parkinsonism. Classify anti-Parkinson's drugs with examples.
    Write the mechanism of action and therapeutic uses of peripheral decarboxylase inhibitors.
13. Classify antiepileptic drugs. Explain the mechanism of action, adverse effects and uses of hydantoins and aliphatic carboxylic acids.

PART – C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Explain in detail about phase-I biotransformation of drugs with examples.
15. Describe the three major effector pathways through which G-protein coupled receptors function.
16. Discuss about pharmacokinetic drug interactions with suitable examples.
17. Mention the mechanism of action and uses of local anesthetic agents.
18. Classify neuromuscular blockers with examples. Write the mechanism of action, adverse effects and therapeutic uses of curare alkaloids.
19. Write the pharmacological actions of alcohol.
20. Write a note on various phases of clinical trials.
21. Write about the mechanism and stages of general anesthesia.
22. Discuss in detail the pharmacological actions of morphine.

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Code No. G-13090/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV - Semester (Backlog) Examination, March 2025

Subject: Pharmaceutical Organic Chemistry - III

Time: 3 Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Draw the conforrmations of Cyclohexane
2. Explain the DL system of Nomenclature.
3. What is the reason for Electrophillic Substitution at 2nd position in Pyrrole.
4. Write the Medicinal uses of Azepines.
5. Define Clemenson reductionand give the example.
6. Mention any two reactions of Thiophene.
7. Define elements of Symmetry
8. Write any two reactions of Acridine.
9. Write any two reactions of Pyrazole.
10. Give the importance of Dakin reaction.

PART – B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Define racemic mixture and Explain the various methods of resolution of racemic mixture.
12. Describe the Mechanism and applications of Following
    a). Beckmann rearrangement b). Oppenauer Oxidation.
13. Write any two Synthetic methods, three reactions and medicinal uses of Furan and Thiazole.

PART – C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Explain synthesis of Quinoline.
15. Describe stereospecific or stereoselective reactions with examples.
16. Write a note on Asymmetric synthesis
17. Explain the relative Aromaticity and reactivity of Pyrrole, Furan and Thiazole
18. Write the mechanism involved in Wolf -Kishner rearrangement.
19. Define Birch reduction and explain its reactions.
20. Write the different methods of determination of configuration of Geometrical isomers.
21. Write the reactions of Chiral molecules
22. Describe the mechanism of Clemmenson reduction and Mention its applications.

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FACULTY OF PHARMACY

B. Pharmacy IV - Semester (PCI) (Backlog) Examination, March 2025
Subject: Physical Pharmaceutics-II

Time: 3 Hours **Max. Marks: 75**

PART – A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Classify colloidal dispersions.
2. What is Zeta potential? Write its importance.
3. Mention the factors influencing viscosity.
4. What is compression and consolidation?
5. List the steps involved in preparation of suspension?
6. What is molarity of reaction?
7. What is phase inversion?
8. Differentiate plastic and elastic behavior of solids?
9. Define angle of repose and mention its significance.
10. What is Hydrolysis and how to prevent it?

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. Explain various methods of determining viscosity.
12. Describe the theories of emulsification and methods to enhance stability of emulsions.
13. Explain derived properties of powder and different methods of determining particle size distribution.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Explain Kinetic properties of colloids.
15. What are Newtonian systems and explain the concept of dilatant flow with its significance.
16. Explain DLVO theory and mention its significance for making disperse systems.
17. Describe factors influencing settling in suspension.
18. Write the construction and working of coulter counter.
19. Differentiate between flocculated and deflocculated suspensions.
20. Describe drug stabilization from oxidation and photolysis.
21. Compare specific and general acid base catalysis in drug degradation.
22. The initial drug dose is 200 mg. Its concentration is reduced to 190 mg in 24 months. Calculate the zero order constant, half-life and shelf life in years.

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Code No. G-13091/PCI

FACULTY OF PHARMACY

B. Pharmacy (PCI) IV - Semester (Backlog) Examination, March 2025

Subject: Medicinal Chemistry-I

Time: 3 Hours **Max. Marks: 75**

PART - A

Note: Answer all the questions. **(10 x 2 = 20 Marks)**

1. Define hydrogen bonding and how it effect drug action.
2. Define partition coefficient and give its significance.
3. Classify cholinergic receptors and their distribution.
4. Differentiate benzodiazepines and Barbiturates.
5. Define parasympathomimetics and write two structural examples.
6. Classify adrenergic receptors and write their distribution.
7. Write the structure and action of Pralidoxime.
8. Classify general anaesthetics and write two structural examples.
9. Give the structures and uses any two analogues of Alpha-adrenergic agonists.
10. Give the synthetic route of Halothane.

PART - B

Note: Answer any two questions. **(2 x 10 = 20 Marks)**

11. What is biotransformation? Explain about principles of drug metabolism including phase I and phase-II pathways.
12. Write the classification, Mechanism of Action, structure activity relationship of Antipsychotics with examples.
13. Write the synthesis Mechanism of Action and uses of a) Ketamine hydrochloride b) Methadone hydrochloride c) Ibuprofen d) Fentanyl Citrate.

PART - C

Note: Answer any seven questions. **(7 x 5 = 35 Marks)**

14. Explain the factors affecting drug metabolism including stereo chemical aspects.
15. Discuss the mechanism of action and SAR of Barbiturates with suitable examples.
16. Describe geometrical isomerism in relation to biological activity.
17. Explain Bioisosterism, its types and their role in drug discovery with suitable examples.
18. Write the synthesis and uses of Carbachol and Ipratropium bromide.
19. Write the synthesis and MOA of Chlorpromazine & Dicyclomine.
20. Classify Sedatives and write SAR of Barbiturates.
21. What are Narcotic agonists and antagonists? Explain SAR of Morphine analogues.
22. Give the structure, Mechanism of Action and uses of (i) Meperidine Hydrochloridel (ii) Valproic acid.

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