



Semester: 4th
Programme: B.Pharm

SUPPLEMENTARY EXAMINATION-2025
4th Semester B.Pharm
PHARMACEUTICAL ORGANIC CHEMISTRY III
BP 401T

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

*Answer Question No.1 (Part-A) is compulsory,
any SEVEN from Part-B and any TWO from Part-C.
The figures in the margin indicate full marks.
All parts of a question should be answered at one place only.*

PART-A

1. Objective Answer Type Questions (Answer All) [2 × 10]
- What is Atropisomerism?
 - What is enantiomer?
 - Describe the aromaticity of Thiophene.
 - What is Birch reduction?
 - What is specific rotation?
 - Write the medicinal uses of Thiophene.
 - Write the structure of Acridine, Oxazole.
 - What is sequence rule? Write its application.
 - What is Imidazole? Give two drug examples contain Imidazole ring in their structure.
 - What is resolution? Name various methods for resolution.

PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- Write a short note on Thiazole.
 - What is Conformational isomerism? Write the Conformational isomerism of Cyclohexane.
 - Write its synthesis, chemical reactions of Pyrimidine.
 - Write the medicinal uses of Oxazole and Pyrimidine.
 - Write a short note on E & Z configuration of geometrical isomers with suitable examples.
 - Write a short note on stereoisomerism.
 - Classify the heterocyclic compounds on various basis with suitable examples.
 - Differentiate cis and trans geometrical isomers with examples.
 - Write a short note on Oppenauer oxidation and Darkins reaction.

PART-C

Long Answer Type Questions (Answer Any Two)

- Define geometrical isomerism, Classify it. Write a detail note on identification of geometrical configuration with suitable example. [10]
- Define stereoisomerism, classify it and write a detail note on enantiomers. [10]
- What is Furan? Write its synthesis, chemical reactions and medicinal uses. [10]



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SUPPLEMENTARY EXAMINATION-2025
4th Semester B.Pharm

MEDICINAL CHEMISTRY I
BP 402T

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Time: 3 Hours

Full Marks: 75

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PART-A

1. Objective Answer Type Questions (Answer All) [2 × 10]
- (a) Write the Henderson-Hasselbalch equation for weakly acid drug.
 - (b) Write the structure of Methyl DOPA.
 - (c) Write the uses of Prazosin.
 - (d) How the benzodiazepines affects the action of GABA.
 - (e) Differentiate between sedatives and hypnotics.
 - (f) Write the structure of Acetylcholine.
 - (g) Write the uses of Melathion.
 - (h) Write the structure of Amphetamine.
 - (i) Write the mechanism of action of methyl sergide.
 - (j) Write down the structure for anti-adrenergic drug.

PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Write the factors affecting the drug metabolism.
 - (b) Write a note on Bioisosterism.
 - (c) Write the brief history and development of Medicinal chemistry.
 - (d) Explain the SAR of Barbiturates.
 - (e) Write the synthesis of Propranolol.
 - (f) Write the synthesis of Diazepam.
 - (g) Discuss major Therapeutic uses of Anti-cholinesterases.
 - (h) Write the SAR of cholinolytic agents.
 - (i) Write the synthetic scheme for Salbutamol.

PART-C

Long Answer Type Questions (Answer Any Two)

- 3. Discuss in detail the SAR of sympathomimetic agents. [10]
- 4. Classify the sedatives and hypnotics. Write down the SAR of Benzodiazepines. [10]
- 5. Classify the Muscarinic and Nicotinic receptors with their distributions and cellular response of receptors. [10]



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SUPPLEMENTARY EXAMINATION-2025
4th Semester B.Pharm

PHYSICAL PHARMACEUTICS-II
BP 403T

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

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PART-A

1. Objective Answer Type Questions (Answer All) [2 × 10]
- (a) Define degree of flocculation.
 - (b) Differentiate between gel and sol based on dispersed phase and dispersion medium.
 - (c) If all the conditions remain constant, the wider the distribution of particle size, the lower will be the viscosity. True or false, justify.
 - (d) Define thixotropic.
 - (e) Express bulkiness in two sentences.
 - (f) Write Kozeny –carman equation and mention its application.
 - (g) Write down the names of different types of viscosity.
 - (h) Define concertation.
 - (i) Find that in a first- order reaction, time required for completion of 99.9 % is 10 times of half-life of the reaction.
 - (j) Flocculated suspensions have more stability than deflocculated suspension. True or false, justify.

PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Write down the derived properties of powder and explain about densities as a derived property.
 - (b) Write at least 2 theories of emulsification.
 - (c) Explain in brief about DLVO theory.
 - (d) Describe the kinetic properties of colloids.
 - (e) Define Gold number and write its application in brief.
 - (f) Derive an equation for zero order reaction and calculate its half-life and shelf life.
 - (g) Highlight the contrasting characters between flocculated and deflocculated suspension.
 - (h) Write a short note on angle of repose.
 - (i) How viscosity is determined by Ostwald viscometer?

PART-C

Long Answer Type Questions (Answer Any Two)

- 3. Write a note on non-Newtonian systems. [10]
- 4. Explain the electrical properties of colloidal dispersion. [10]
- 5. Write down the methods for determining surface area directly by measuring the surface area of the powder. [10]



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4th Semester B.Pharm
PHARMACOLOGY-I
BP 404T
(For 2023 Admitted Batch)

2.

Time: 3 Hours

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PART-A

1. Objective Answer Type Questions (Answer All) [2 × 10]
- Symptoms of organophosphorus compounds poisoning.
 - Define spare receptors and orphan receptors.
 - Define pharmacovigilance.
 - What is significance of therapeutic index?
 - What is drug addiction with examples?
 - Define antagonist with examples.
 - What is the drug receptor interaction?
 - Explain about first and zero order kinetics of elimination.
 - Explain tolerance and dependence with examples.
 - What is potency and efficacy?

PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) What is adverse drug reaction? What are the types of adverse drug reaction?
 - (b) Write a short note on different phases of clinical trials.
 - (c) Write the principle & mechanism of drug action.
 - (d) Write a short note on narcotic and anti-narcotic drugs.
 - (e) Explain drugs used in glaucoma & myasthenia gravis.
 - (f) Write a short note on pharmacokinetics. Describe the factors affecting drug absorption.
 - (g) Difference between general anesthesia and local anesthesia.
 - (h) Write down the classification of anti-depressants drugs.
 - (i) Classify peripherally-acting skeletal muscle relaxants.

PART-C

Long Answer Type Questions (Answer Any Two)

3. What are G-protein coupled receptors? Explain about the G-protein transduction mechanism. [10]
4. Classify sympathomimetic drugs. Give pharmacological action, adverse effect & uses of adrenaline. [10]
5. What is biotransformation/metabolism? Describe the significance of plasma protein binding. Explain phase-1, phase-2 reactions. [10]



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SUPPLEMENTARY EXAMINATION-2025
4th Semester B.Pharm
PHARMACOGNOSY & PHYTOCHEMISTRY-I
BP 405T

(For 2023 Admitted Batch)

Time: 3 Hours

Full Marks: 75

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any SEVEN from Part-B and any TWO from Part-C.
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PART-A

1. Objective Answer Type Questions (Answer All) [2 × 10]
- Define Pharmacognosy.
 - Write the biological source and uses of Chaulmoogra oil.
 - What is stomatal index?
 - What is mutation?
 - Define secondary metabolites.
 - Write any two applications of Auxin.
 - Write the biological source and chemical constituents of Acacia.
 - Define terpenoids with examples.
 - Write the biological source and uses of Tragacanth.
 - Define Foreign Organic Matter.

PART-B

2. Focused-Short Answer Type Questions-(Answer Any Seven) [5 × 7]
- (a) Explain Lycopodium spore method.
 - (b) Describe the various methods used for pest control in the cultivation of medicinal plants.
 - (c) Write a note on Edible vaccines.
 - (d) Write a note on hybridization with special reference to medicinal plants.
 - (e) Give a note on Resins.
 - (f) Write the theory and principle of Ayurveda.
 - (g) Explain about natural allergens with suitable examples.
 - (h) Write the pharmacognostical profile of cotton.
 - (i) Give a note on marine drugs.

PART-C

Long Answer Type Questions (Answer Any Two)

3. Define adulteration of crude drugs and Explain about different types of adulterants with suitable examples. [10]
4. What is plant tissue culture? Write about types of cultures, Nutritional requirements and applications of plant tissue culture in pharmacognosy. [10]
5. Define Glycosides. Write the classification, properties and tests for identification of glycosides. [10]
