

B.Pharm I Year II Semester (R23) Supplementary Examinations March 2026

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|--|----|
| (a) Write the structure and medicinal uses of thiophene. | 2M |
| (b) Outline the synthesis of pyrrole. | 2M |
| (c) State Anti-Markownikoff's rule with example. | 2M |
| (d) Write the structure and medicinal uses of chloroform and ethyl chloride. | 2M |
| (e) Write any two qualitative tests for naphthol. | 2M |
| (f) Write the structure and medicinal uses of methyl salicylate and benzyl benzoate. | 2M |
| (g) Write the structure and medicinal uses of paraldehyde and formaldehyde. | 2M |
| (h) Write any two qualitative tests for glycerol. | 2M |
| (i) Define chiral and achiral molecules with suitable example. | 2M |
| (j) Define DL system of nomenclature of optical isomers. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

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|---|-----|
| 2 (a) Discuss in detail SP ³ hybridization in alkanes. | 5M |
| (b) Write a note on halogenation of alkanes. | 5M |
| OR | |
| 3 (a) Classify heterocyclic compounds with examples. | 5M |
| (b) Discuss in detail SP ² hybridization in alkenes. | 5M |
| 4 Write the kinetics and mechanism for SN ¹ and SN ² reactions. | 10M |
| OR | |
| 5 Discuss the free radical addition reactions of conjugated dienes. | 10M |
| 6 Write the reaction and mechanism for Benzoin and Perkin condensation reaction. | 10M |
| OR | |
| 7 Write the reaction and mechanism for Cannizzaro and crossed Cannizzaro reaction. | 10M |
| 8 Discuss the acidity of phenols. Add a note on effect of substituents on acidity. | 10M |
| OR | |
| 9 Explain basicity. Add a note on effect of substituents on basicity of aliphatic amines. | 10M |
| 10 (a) Explain in detail asymmetric synthesis. | 5M |
| (b) Write any three important reactions for chiral molecules. | 5M |
| OR | |
| 11 (a) Discuss in detail stereoisomerism in biphenyl compounds. | 5M |
| (b) Write a note on stereospecific reactions. | 5M |

B.Pharm I Year II Semester (R23) Regular & Supplementary Examinations September/October 2025

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|--|----|
| (a) Enumerate the uses of paraffins. | 2M |
| (b) Outline the synthesis of furan. | 2M |
| (c) State Markownikoff's rule with example. | 2M |
| (d) Write the structure and medicinal uses of tetrachoroethylene and iodoform. | 2M |
| (e) Write any two qualitative tests for chlorbutol. | 2M |
| (f) Write the structure and medicinal uses for vanillin and hexamine. | 2M |
| (g) Write any one reaction for benzoic acid. | 2M |
| (h) Write any two qualitative tests for Amphetamine. | 2M |
| (i) Define optical activity with suitable example. | 2M |
| (j) Define RS system of nomenclature of optical isomers. | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | | |
|-----------|--|-----|
| 2 | Write synthesis and reactions for Furan and Pyrrole. | 10M |
| OR | | |
| 3 | Explain the method of preparation, reactions of conjugated dienes. | 10M |
| 4 | Write the kinetics and mechanism for E1 and E2 reactions. | 10M |
| OR | | |
| 5 | Discuss in detail the stability of conjugated dienes. Add a note on SN1 versus SN2 reaction. | 10M |
| 6 | Write the reaction and mechanism for Aldol and crossed Aldol condensation reaction. | 10M |
| OR | | |
| 7 | Explain any three qualitative tests each for chloral hydrate, cinnamaldehyde and benzaldehyde. | 10M |
| 8 | (a) Discuss in detail the basicity of amines. | 5M |
| | (b) Write a note on effect of substituents on basicity. | 5M |
| OR | | |
| 9 | Explain the acidity of aromatic acids and explain the effect of substituents on acidity of aromatic acids. | 10M |
| 10 | (a) Discuss in detail racemic modification. | 5M |
| | (b) Write a note on resolution of racemic mixture. | 5M |
| OR | | |
| 11 | Explain the methods of determination of configuration of geometrical isomers. | 10M |

B.Pharm I Year II Semester (R23) Supplementary Examinations April/May 2025

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) Define isomerism with one example. | 2M |
| (b) Write any one method of synthesis of pyrrole. | 2M |
| (c) Explain Markownikoff's orientation. | 2M |
| (d) Write the structure and uses of iodoform and ethylchloride. | 2M |
| (e) Write the structure and uses of chloro butanol. | 2M |
| (f) What is benzoin condensation? | 2M |
| (g) Write the structure and uses of citric acid. | 2M |
| (h) Write the structure and uses of dimethyl phthalate. | 2M |
| (i) Define enantiomerism and diastereoisomerism. | 2M |
| (j) What are meso compounds? | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

- | | |
|--|----|
| 2 (a) Write the synthesis, reaction, and medicinal uses of furan. | 5M |
| (b) Write a note on the relative aromaticity and reactivity of pyrrole, furan and thiophene. | 5M |
| OR | |
| 3 (a) Explain common and IUPAC systems of nomenclature of alkanes with suitable examples. | 5M |
| (b) Write a note on sp ³ hybridisation in alkanes & sp ² hybridization in alkenes. | 5M |
| 4 (a) Explain SN ₁ reaction with example. | 5M |
| (b) Compare SN ₁ reaction with SN ₂ reaction. | 5M |
| OR | |
| 5 (a) Explain the E ₂ reaction with an example. | 5M |
| (b) Write a note on factors affecting E ₁ and E ₂ reactions. | 5M |
| 6 (a) Explain the aldol condensation reaction with examples. | 5M |
| (b) Write the qualitative tests, structure, and uses of ethyl alcohol and glycerol. | 5M |
| OR | |
| 7 (a) Explain the crossed Cannizaro reaction with examples. | 5M |
| (b) Write the qualitative tests, structure, and uses of hexamine and cinnamaldehyde. | 5M |
| 8 (a) What is acidity? Explain the effect of substituent on acidity. | 5M |
| (b) Write a note on reactions of benzoic acid. | 5M |
| OR | |
| 9 (a) Write the qualitative tests, structure, and uses of ethanolamine and amphetamine. | 5M |
| (b) Write the qualitative tests, structure, and uses of cresol and naphthol. | 5M |
| 10 (a) Explain the DL system of nomenclature of optical isomers. | 5M |
| (b) Write a note on conformational isomerism in ethane. | 5M |
| OR | |
| 11 (a) Write a note on racemic modification. | 5M |
| (b) Explain atropisomerism. | 5M |

B.Pharm I Year II Semester (R23) Regular Examinations September 2024

PHARMACEUTICAL ORGANIC CHEMISTRY - I

(B.Pharmacy)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- | | |
|---|----|
| (a) List out the various uses of Paraffins. | 2M |
| (b) Write any one method of Synthesis of Furan. | 2M |
| (c) Explain anti-Markownikoff's Orientation. | 2M |
| (d) Write the structure and uses of chloroform and trichloroethylene. | 2M |
| (e) Write the structure and uses of benzyl alcohol. | 2M |
| (f) What is Cannizzaro reaction? | 2M |
| (g) Write the structure and uses of lactic acid. | 2M |
| (h) Write the structure and uses of acetyl salicylic acid. | 2M |
| (i) Define chiral and achiral molecules. | 2M |
| (j) What is an element of symmetry? | 2M |

PART – B

(Answer all the questions: 05 X 10 = 50 Marks)

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|--|----|
| 2 (a) Write the synthesis, reaction, and medicinal uses of Thiophene. | 5M |
| (b) Define and classify Heterocyclic compounds with suitable examples. | 5M |
| OR | |
| 3 (a) Explain common and IUPAC systems of nomenclature of alkenes with suitable examples. | 5M |
| (b) Write a short note on halogenation of alkanes. | 5M |
| OR | |
| 4 (a) Explain the SN ₂ reaction with an example. | 5M |
| (b) Write a note on factors affecting SN ₁ and SN ₂ reactions. | 5M |
| OR | |
| 5 (a) Explain the E ₁ reaction with an example. | 5M |
| (b) Compare E ₁ reaction with E ₂ reaction. | 5M |
| OR | |
| 6 (a) Explain the nucleophilic addition reaction with examples. | 5M |
| (b) Write the qualitative tests, structure, and uses of methyl alcohol and propylene glycol. | 5M |
| OR | |
| 7 (a) Explain the Perkin condensation reaction with examples. | 5M |
| (b) Write the qualitative tests, structure, and uses of paraldehyde and vanillin. | 5M |
| OR | |
| 8 (a) What is Basicity? Explain the effect of substituent on Basicity. | 5M |
| (b) Write the structure and uses acetic acid, succinic acid, and benzyl benzoate. | 5M |
| OR | |
| 9 (a) Write the qualitative tests, structure, and uses of ethylenediamine and aryldiazonium salts. | 5M |
| (b) Write the qualitative tests, structure, and uses of phenol and resorcinol. | 5M |
| OR | |
| 10 (a) Explain the E/Z system of nomenclature of geometrical isomers. | 5M |
| (b) Write a note on conformational isomerism in cyclohexane. | 5M |
| OR | |
| 11 (a) Write a note on the method of determination of configuration of geometrical isomers. | 5M |
| (b) Explain stereospecific and stereoselective reactions. | 5M |
