

FACULTY OF PHARMACY**B. Pharmacy II - Semester (PCI) (Backlog) Examination, March 2024****Subject: Pharmaceutical Organic Chemistry-I****Time: 3 Hours****Max. Marks: 75****PART – A****Note: Answer all the questions.****(10 x 2 = 20 Marks)**

1. Define the terms: Nucleophile and Homologues.
2. Write the structure for the following compounds: 2-Chloro-but-2-ene, 3-Methyl-2-pentanol.
3. Define 'free radical'. Explain its formation with an example.
4. Classify alkadienes with examples.
5. Explain the significance of the esterification test.
6. Write the structure and uses of chloroform.
7. Explain perkin condensation with an example.
8. Write the structure and uses of hexamine.
9. Write the structure and uses of amphetamine.
10. Explain the significance of tollen's test.

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

11. Describe structural isomerism with examples.
12. Explain the mechanism, kinetics and stereochemistry involved in SN¹ reactions of alkyl halides.
13. Explain the acidity of carboxylic acids with special emphasis on the effect of substituent on their acidity. Write the structure and uses of benzoic acid and acetyl salicylic acid.

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

14. Write the IUPAC rules for alkenes with suitable examples.
15. Explain about halogenation of alkanes with examples.
16. Explain Markovnikov's addition of alkenes with special emphasis on stability of carbocations.
17. Describe the mechanism and stereochemistry of SN² reactions.
18. Write any two qualitative tests to differentiate various classes of alcohols.
19. Explain the mechanism involved in the Cannizzaro reaction with examples.
20. Describe the Hinsberg method of separation of amines with examples.
21. Write any two methods of preparation each for aliphatic amines and carboxylic acids.
22. Explain the mechanism involved in the nucleophilic addition reactions of carbonyl compounds with an example.