

Paper Id:

Roll No.

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**B PHARM**  
**(SEM IV) THEORY EXAMINATION 2022-23**  
**PHARMACEUTICAL ORGANIC CHEMISTRY-III**

*Time: 3 Hours*

*Total Marks: 75*

**Note:** Attempt all Sections. If require any missing data; then choose suitably.

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**SECTION A**

**1. Attempt all questions in brief. 10 x 2 = 20**

- (a) Differentiate between DL and dl system of nomenclature.
- (b) Define the term chiral compound and chiral carbon.
- (c) Write the necessary conditions for any compound to show GI.
- (d) Illustrate the Newmann projection of cyclohexane.
- (e) What are heterocyclic compounds? Give examples.
- (f) Give the reactivity order of Pyrrole, Furan and Thiophene.
- (g) Why pyridine is basic in nature? <https://pharmacyindia.co.in/>
- (h) Give the reaction involved in birch reduction.
- (i) Give the reaction involved in Dakin's reaction.
- (j) Draw the structure of any two heterocyclic compounds containing two hetero atoms.

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**SECTION B**

**2. Attempt any two parts of the following: 2 x 10 = 20**

- (a) Write synthesis, reaction and medicinal uses of pyrrole. Also comment on its resonance.
- (b) Discuss nomenclature of heterocyclic compounds with proper examples.
- (c) Explain the terms: enantiomers, mesomers, diastereomers, racemic modification and atropisomers.

**SECTION C**

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**3. Attempt any five parts of the following: 7 x 5 = 35**

- (a) Give the reaction, mechanism and synthetic importance of metal hydride reduction.
- (b) Give the reaction, mechanism and synthetic importance of Clemmensen reduction or Oppenauer oxidation.
- (c) Write synthesis, reaction and medicinal uses of pyridine.
- (d) Discuss the ESRs and medicinal uses of pyrazole and imidazole. <https://pharmacyindia.co.in/>
- (e) Classify heterocyclic compounds as per aromaticity and ring size.
- (f) What are the various naming systems of geometrical isomers? Explain with example.
- (g) Comment on the nomenclature of optical isomers.