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

Time: 3 Hours ***Total Marks: 75***

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

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?

(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.

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

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.

(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.

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QP23EP2_290 | 31-07-2023 13:30:21 | 125.20.113.226