

H-BP-401

B. Pharma (Semester-IV) Examination, 2022

PHARMACEUTICAL ORGANIC CHEMISTRY-III

Time Allowed : Three Hours

Maximum Marks : 75

Minimum Passing Marks : 28

PART – A

Note: Answer all questions. (10 x 2 = 20 Marks)

- 1 Differentiate enantiomers and diastereomers with examples.
- 2 Draw the conformational isomers of ethane and n-butane.
- 3 Write the biphenyl compounds with examples.
- 4 Define and classify Heterocyclic compounds.
- 5 Explain the basicity of pyridine.
- 6 Give any two applications of Clemmensen reduction.
- 7 Define Birch and Wolffkishner reduction.
- 8 Define the following terms:
(a) Mes-compounds (b) Specific rotation.
- 9 Draw the structures of:

- (a) Acridine (b) Indole.

10 Draw the structures of:

- (a) Quinoline (b) Isoquinoline.

PART – B

Note: Answer any two questions. (2 x 10 = 20 Marks)

- 1 What are the sequence rules and explain the RS system of nomenclature of optical isomers?
- 2 Write the mechanism and applications of metal hydride reductions:
(a) NaBH₄ (Sodium borohydride)
(b) LiAlH₄ (Lithium Aluminium hydride)
- 3 Write any two synthesis and three reactions and medicinal uses of:
(a) Imidazole
(b) Thiazole

(3)

PART – C

Note: Answer any seven questions. (7 x 5 = 35 Marks)

- 1 Define elements of symmetry with examples.
- 2 Discuss any 3 methods of resolution of racemic modification.
- 3 Write the significance of stereospecific and stereoselective reactions with examples.
- 4 Write about synthesis, reactions, and medical uses of Furan.
- 5 Write about reactions of pyridine.
- 6 Mention applications of opener-oxidation and Dakin reaction.
- 7 Write a note on geometrical isomers and the nomenclature of geometrical isomers.
- 8 Give the structure and specific uses of drugs of (one for each category):
 - (a) Azepines
 - (b) Thiophene
 - (c) Pyrazole
 - (d) Purines
 - (e) Pyrimidines

(4)

- 9 Explain the relative aromaticity and reactivity of:

- (a) Pyrrole
- (b) Furan
- (c) Thiophene