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HILL UNIVERSITY
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University under section 2(f) of UGC Act, 1956

Sessional I (Even) Semester Examination, March 2025

Roll no.....

Name of the Course and semester: B. Pharmacy-IVth Semester
Name of the Paper: Pharmaceutical Organic Chemistry-III
Paper Code: BP401T
Time: 1.5-hour Maximum Marks: 30

Note:
(i) This question paper contains three sections.
(ii) All the questions are compulsory.

Section-A

Q1. Multiple Choice Questions – Attempt all questions (10 X 1 = 10 Marks)

a. Which of the following does not belong to stereoisomers? CO1
i. Optical isomers
ii. Geometrical isomers
iii. Position isomers
iv. Confirmational isomers

b. The compound that can rotate the plane polarized light is known as: CO1
i. Optically active
ii. Optically inactive
iii. Racemic mixture
iv. None of the above

c. The concept of chirality was given by: CO1
i. Kelvin in 1881
ii. Kelvin in 1882
iii. Kelvin in 1883
iv. Kelvin in 1884

d. How many chiral carbons are present in the structure of glucose? CO1
i. One
ii. Two
iii. Three
iv. Four

e. The organic compound having at least one stereogenic centre and form non-superimposable mirror image of each other is known as: CO1
i. Chiral compound
ii. Enantiomer
iii. Diastereomer
iv. Meso compound

f. The restricted rotation around C=C double bond is characteristics of: CO2

i. Optical isomers
ii. Structural isomers
iii. Geometrical isomers
iv. All of the above

g. For geometrical isomerism, it is essential that: CO2

i. At least one C=C double bond should be present
ii. At least two C=C double bonds should be present
iii. C=C double bond is not essential
iv. The presence of carbon is not essential

h. Which of the following is not the nomenclature of geometrical isomers? CO2

i. Cis-trans nomenclature
ii. E-Z nomenclature
iii. D-L nomenclature
iv. Syn-anti nomenclature

i. Cyclohexane can exist in: CO2

i. Chair form
ii. Boat form
iii. Both A and B
iv. Neither A nor B

j. The reaction in which both dextro or levo stereo compounds cab be formed are known as: CO2

i. Stereoselective reactions
ii. Stereospecific reactions
iii. Stereoregional reactions
iv. Stereogenic reactions

Section B

Q. 2 Short Questions: Attempt any twoquestions **(2X 5 = 10 Marks)**

a. Explain different ways to represent 3-D structures of organic compounds. CO1

b. Write a note on CIP rules to assign priority to the atoms or groups attached to chiral carbon. Give example for each rule. CO1

c. Define atropisomerism. What are the conditions required for a compound to exhibit atropisomerism. CO2

Section C

Q. 3 Long questions: Attempt any one question **(1X10= 10 Marks)**

a. Explain R-S system of nomenclature in detail. Write in brief about different chemical reactions of chiral compounds. CO1

b. What is geometrical isomerism? Write a detailed note on the nomenclature of geometrical isomers. CO2