Reg. No……. Name…….

B A, B SC, B COM DEGREE END SEMESTER EXAMINATION – OCTOBER 2025

UGP (HONS.) SEMESTER - 3: DISCIPLINE SPECIFIC COURSE

COURSE: 24UCHEDSC202 - ORGANIC CHEMISTRY I

(For Regular 2024 Admission)

Time: 1.5 Hours Max. Marks: 50

PART A.

Answer all questions. Each question carries 1 mark

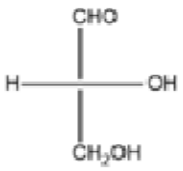
1.	Draw the structure of trans 2-butenedioic acid	U, CO1
2.	Draw the structure of (E)-3-methyl-2-pentene	A, CO1
3.	A racemic mixture is optically inactive due to ----------	U, CO1
4.	Draw the most stable conformation of n-butane	A, CO2
5.	What are homotopic hydrogens?	U, CO2
6.	Draw the structure of D- Lactic Acid in Fischer projection	R, CO2
7.	Name the electrophile in sulphonation reaction	U, CO4
8.	Give the product obtained when o-bromo anisole react with sodamide in liquid ammonia	A, CO4

(1 × 8 = 8)

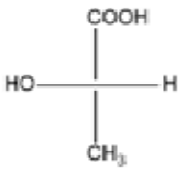
PART B

Answer any 5 questions. Each question carries 3 marks

9.	Draw the various configurations of tartaric acid	A, CO1
10.	What is prostereoisomerism?	U, CO2
11.	What is asymmetric synthesis?	U, CO2
12.	Draw the various conformers of ethane and explain their relative stability.	A, CO2
13.	Assign R, S notations for the following compounds	An, CO2



(i)



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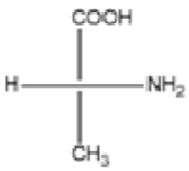

(iii)

14. Explain Huckle's rule of aromaticity taking any one example A. CO3
15. What will be the product obtained when nitrobenzene is subjected to nitration. Explain the reason An, CO4
16. Which will undergo nucleophilic substitution reaction faster p-chloro nitrobenzene or chloro benzene. Explain why? An, CO4

(3 × 5 - 15)

PART C

Answer any 2 questions. Each question carries 6 marks

17. What is resolution? Explain the different methods of resolution U, CO1
18. Explain the conformational analysis of methylcyclohexane. Draw the possible chair conformations and discuss which is more stable and why. An, CO2
19. Explain non benzenoid aromatic compounds taking three examples A, CO3
20. Explain the mechanism of Friedel Craft's alkylation reaction U, CO4

(2 × 6 = 12)

PART D

Answer any one question. Each question carries 15 marks

21. a) Explain the geometrical isomerism in oximes with suitable examples. (7.5 marks) U, CO1
    b) Explain the Bayer's ring strain theory. What are its limitations? (7.5 marks) U, CO2
22. a) Explain the effect of activating and deactivating groups in aromatic electrophilic substitution using suitable examples (7.5 marks) U, CO4
    b) Explain benzyne mechanism for aromatic nucleophilic substitution reaction (7.5 marks)

(15 × 1 = 15)