

21U306

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Name:

Reg.No:

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U CHE3 C03 - ORGANIC CHEMISTRY

(Chemistry - Complementary Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 2

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Explain the term heterolysis.
2. What is meant by steric effect?
3. Which is weaker acid - acetic acid or chloro acetic acid? Justify your answer.
4. What is meant by stereoisomerism?
5. Show that naphthalene is aromatic based on Huckel's rule.
6. Give an example of a radical halogenation reaction.
7. Which is more acidic-phenol or para-nitrophenol? Explain.
8. Explain the reaction of propanal with HCN
9. Explain what happens when acetone is treated with sodium bisulphite solution.
10. Give the number of stereoisomers in aldotetroses.
11. What is fibrous protein?
12. Mention two uses of sandalwood oil.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Arrange ammonia, methylamine, dimethylamine and trimethyl amine in the increasing order of their basicities. Explain the theoretical basis of your answer.
14. What is a racemic mixture? How does it differ from a meso form? Explain with examples.
15. What is meant by nitration? Discuss the mechanism of nitration of benzene.

16. Explain the order of acidity of phenol, p-nitrophenol and p-methoxyphenol.
17. How can you convert aniline to (i)phenol, (ii) chlorobenzene.
18. What are epimers? Explain with examples.
19. Explain the source, structure and uses of citral.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Discuss the stability of different kinds of carbocations.
21. i) Discuss in detail, the geometrical isomerism in but-2-ene-1,4-dioic acid.
ii) Discuss the methods of distinguishing geometrical isomers.

(1 × 10 = 10 Marks)
