

22U306

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Name:

Reg.No:

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

(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. Which is more stable-but-1-ene or but-2-ene? Why?
2. Define hyperconjugation.
3. Which is the stronger acid- acetic acid or formic acid? Justify your answer.
4. The conformations of ethane cannot be isolated. Why?
5. State Huckel's rule of aromaticity.
6. Explain Williamson's synthesis using a suitable example.
7. How is phenolphthalein prepared?
8. Which is more basic-ammonia or methylamine? Why?
9. How can you convert ethanol to acetaldehyde?
10. Name two polysaccharides.
11. Name two kinds of secondary structure normally found among proteins.
12. Give two uses of eucalyptus 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. Describe conformational isomerism with regard to ethane.
15. Explain the directive influence of substituent groups in aromatic electrophilic substitution reactions.

16. Explain the order of acidity of ethyl alcohol, isopropylalcohol and tert-butylalcohol.
17. How can you prepare aniline from nitrobenzene? How can you convert aniline to phenyl isocyanide?
18. Discuss the secondary structure of protein.
19. Explain the source, structure and uses of menthol.

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. Discuss the aspects regarding the mechanism, kinetics and factors affecting the reactivity of SN¹ reactions?
21. Explain any five synthetic applications of benzenediazoniumchloride.

(1 × 10 = 10 Marks)
