

19U405

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Name:

Reg.No:

FOURTH SEMESTER BSc DEGREE EXAMINATION, APRIL 2021

(CBCSS - UG)

CC19U CHE4 B04 - ORGANIC CHEMISTRY - I

(Chemistry - Core Course)

(2019 Admission - Regular)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

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

1. Which is the stronger acid- acetic acid or formic acid? Justify your answer.
2. Define hyperconjugation.
3. Which is more stable -cis-but-2-ene or trans-2-but-2-ene and why?
4. Define terms conformation and configuration.
5. What is the necessary and essential condition for a molecule to exhibit optical activity.
6. Differentiate between asymmetric and dissymmetric molecules.
7. State and explain Markonikov's rule.
8. What is E1 reaction?
9. How is propanone converted to propane?
10. What is S_N^2 reaction?
11. Name and formulate two benzenoid aromatic compounds.
12. How can benzene be converted toluene?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. Explain the different kinds of bond fission observed in organic reactions.
14. Draw the hyperconjugative structures of ethyl cation and ethyl free radical.
15. Describe conformational isomerism with regard to ethane.
16. State and explain Saytzeff's rule.
17. Discuss the potential energy profile for S_N^2 reaction with a suitable example.
18. Name and formulate two heterocyclic compounds that are aromatic. Explain their aromaticity on the basis of Huckel's rule.
19. Explain the term directive influence of substituent groups in aromatic electrophilic substitution reactions.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* questions. Each question carries 10 marks.

20. Discuss the stability of different kinds of carbanions.
21. Discuss elimination reactions and the two kinds of operative mechanisms with illustrative examples.

(1 × 10 = 10 Marks)
