24U306S (Pages: 2) Name: .....

Reg.No: .....

THIRD SEMESTER B.Sc./M.Sc. INTEGRATED GEOLOGY DEGREE EXAMINATION, NOV. 2025

(CBCSS - UG)

CC19UCHE3C03 / CC23CHE3IC03 - ORGANIC CHEMISTRY

(B.Sc. Chemistry - Complementary Course - Supplementary/Improvement)

(M.Sc. Integrated Geology - Regular/Supplementary/Improvement)

(2019 to 2023 Admissions)

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. Which is more stable-ethene or propene? Why?
3. Name two groups showing +M effect.
4. Draw the structures of maleic acid and fumaric acis. How they can be distinguished?
5. How can benzene be converted toluene?
6. Explain Wurtz reaction using a suitable example.
7. Give the structural formula of 3-bromo-5-ethyl-4-iodoheptane.
8. Give two methods for the preparation of acetaldehyde.
9. Explain what happens when acetone is treated with sodium bisulphite solution.
10. Explain the term specificity of an enzyme?
11. Mention two differences between DNA and RNA.
12. Comment on the physiological activity of nicotine

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. What is the order of stability of propene, but-1-ene and but-2-ene? Why?
14. Discuss the optical isomerism of lactic acid. Draw the pictures of the different isomers.
15. What is meant by Friedal -Crafts acylation reaction? Give its mechanism.
16. Explain the term Walden Inversion.

17. Illustrate (i) oxidation and (ii) dehydrogenation of primary alcohols.

18. Give two epimers of glucose with structures.

19. What is the difference between geranial and neral?

(Ceiling: 30 Marks)

Part C (Essay questions)

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

20. Discuss the preparation of primary, secondary and tertiary alcohols from Grignard reagent using suitable examples.

21. Explain how aniline can be converted into (i) benzene, (ii) bromobenzene, (iii) iodobenzene (iv) phenylcyanide.

(1 × 10 = 10 Marks)

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