19U319S (Pages: 2) Name: …….……

Reg. No……

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2020

(CUCBCSS-UG)

CC15U CHE3 C03 - ORGANIC CHEMISTRY

(Chemistry - Complementary Course)

(2015 to 2018 Admissions – Supplementary/Improvement)

Time: Three Hours Maximum: 64 Marks

Section A (One word)

Answer ***all*** questions. Each question carries 1 mark.

1. An electrophile is a Lewis _____
2. $-SO_3H$ is a/an _____ directing group.
3. In disaccharides, two monosacchrides units are joined by a _____ linkage.
4. Fats and oils are triesters of _____ with long chain fatty acids.
5. Geranial is the geometric isomer of _____
6. Stereo isomers that are mirror images of each other are called _____
7. 95.6 % solution of ethanol is called _____
8. The electrophile in Friedal-Craft alkylation reaction is _____
9. The chief source of coniine is _____
10. Hexamethylenetetramine is also known as _____

(10 × 1 = 10 Marks)

Section B (Short answer)

Answer any ***seven*** questions. Each question carries 2 marks.

11. What are carbocations? Compare the stability of alkyl carbocations. Justify your answer.
12. What is meant by chirality?
13. State and explain Huckel's (4n+2) rule of aromaticity.
14. What is meant by S_N2 reaction?
15. What is haloform reaction?
16. Illustrate Kolbe electrolysis.
17. Which is more basic-methyl amine or ammonia? Why?
18. What are diastereomers?
19. What are lipids?
20. What are essential oils?

(7 × 2 = 14 Marks)

Section C (Paragraph)

Answer any ***four*** questions. Each question carries 5 marks.

21. Discuss the optical isomerism in tartaric acid.
22. Discuss electron delocalization in benzene.
23. Discuss the chemistry of methanol poisoning.
24. Discuss structure of DNA.
25. What is meant by diazotization? Explain with example.
26. Explain the Lucas test to distinguish between 1^0, 2^0 and 3^0 alcohols.

(4 × 5 = 20 Marks)

Section D (Essay)

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

27. Discuss and illustrate the significance of the various electron displacement effects in organic molecules.
28. Give a comparative description of basicities of aniline, p-nitroaniline and p-anisidine.
29. What is meant by resolution of a racemic mixture? Explain various method used for the resolution of a racemic mixture.
30. Write short notes on:
    a) Walden inversion
    b) Williamson's synthesis
    c) Wurtz reaction.
    d) Wurtz-Fittig reactions.

(2 × 10 = 20 Marks)

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