15U313 (Pages:2) Name: .....

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(CUCBCSS - UG)

Chemistry - Complementary Course

CC15U CHE3 C03 - ORGANIC CHEMISTRY

(2015 Admission)

Time : Three Hours Maximum : 64 Marks

SECTION A

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

1. Write down the structural formula of 4-Ethyl-2,3,5-trimethylhex-1-yne.
2. Which is more stable benzyl radical or allyl radical?
3. Free rotation about a –C-C- single bond results in .....isomerism.
4. Most stable conformation of ethane is ..... form.
5. An example for aromatic electrophilic substitution reaction is..... alkylation.
6. Macro cyclic polyethers are also known as .....
7. Which among the following is more basic ammonia methyl amine and aniline.
8. .....is an example of plant polysaacharide made up of α – glucose units.
9. In helmlock plant the alkaloid present is..... .
10. The main constituents of essential oils are ..... . **(10 x 1 = 10 Marks)**

SECTION B

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

11. What is electromeric effect?
12. Draw the resonating structures of aniline.
13. How is allyl cation stabilized?
14. Draw the conformations of cyclohexane
15. How is cis-2-butene distinguished from trans-2-butene?
16. Illustrate Wurtz Fittig reaction.
17. Acidity of para-nitrophenol is greater than that of phenol. Justify.
18. How is ethanol prepared by using methyl magnesium bromide
19. Explain the term specificity of enzymes.
20. Give the names and structures of the purine bases present in D N A.

(7 x 2 = 14 Marks)

SECTION C

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

21. Discuss hyperconjugation and its significance with examples.
22. Explain the stability of primary, secondary and tertiary carbocations.
23. Discuss the directive influence of -OH group in aromatic electrophilic reactions.
24. Explain the term racemization with asuitable example. .
25. What are terpenoids ? How are they classified?.
26. Explain mutarotation .

(4 x 5 = 20 Marks)

SECTION D

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

27. Discuss the following conversions with reaction conditions in detail.
    1. Acetic acid to lactic acid
    2. Benzene to m-nitro aniline.
    3. Ethyl alcohol to chloroform.
    4. Diethyl ether to C_2H_5I

28. a. State isoprene rule
    b. What is vulcanization? Mention its advantages.
    c. What are alkaloids? How are they classified?
    d. How is methyl orange prepared? Discuss the uses of it.

29. a. Explain DNA figure printing and discuss its applications.
    b. Discuss the optical activity of tartaric acid.
30. Discuss the resonance and molecular orbital concepts of the structure and stability of benzene.

(2 x 10 = 20 Marks)

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