QP CODE: 18103327

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Reg No : .....

Name : .....

B.Sc. DEGREE (CBCS) EXAMINATION, NOVEMBER 2018

Third Semester

CORE COURSE - CH3CRT03 - ORGANIC CHEMISTRY-I

(Common to B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry, B.Sc Chemistry Model III Petrochemicals)

2017 Admission Onwards

F72FFF91

Maximum Marks: 60 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **1** mark.

1. Differentiate homocyclic and heterocyclic compounds
2. Classify the following as nucleophile and electrophile : NH_3, $AlCl_3$, BF_3, C_2H_5OH
3. Write the formula to calculate the specific rotation of an enantiomer
4. What is meant by cis -trans isomerism?
5. Write the decreasing order of stability of n-butane conformations
6. Write the decreasing order of stability of various conformations of cyclohexane
7. What happens when alkyl halide is treated with Zn and acetic acid?
8. What is meant by Baeyer's reagent?
9. How will you prepare TEL from grignard reagent?
10. Convert benzene to m-nitrotoluene
11. Write the reaction between benzene and succinic anhydride
12. What is the role of dienophile in a Diels -alder reaction?

(10×1=10)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. How +I and -I effect influence the strength of acids?
14. What are the different types of addition reactions?

15. Briefly explain the optical activity of biphenyls

16. Write briefly on the different methods of resolution

17. Discuss the mechanism of following reactions
    a) Peroxide addition of HBr to propene
    b) Addition of Bromine to cis 2 butene

18. Compare the acidity of alkynes with alkanes and alkenes

19. Discuss briefly on aromaticity of Naphthalene

20. Convert the following
    a) Bromobenzene to aniline
    b) phenol to o - bromo phenol
    c) Bromobenzene to benzonitrle

21. Write the salient features of pericyclic reactions

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **10** marks.

22. Compare the relative stability of primary, secondary and tertiary carbocations with suitable examples

23. " Optical activity of a molecule is linked with the presence of asymmetric carbon atom" Justify your answer with tartaric acid molecule

24. Give the mechanism, stereochemistry and kinetics of SN_1 reactions

25. Write a detailed note on the electrophilic substitution reactions of Benzene.

(2×10=20)