

QP CODE: 19102027

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Reg No : .....

Name : .....

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**B.Sc. DEGREE (CBCS) EXAMINATION, OCTOBER 2019**

**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

A1866014

Maximum Marks: 60

Time: 3 Hours

**Part A**

*Answer any ten questions.*

*Each question carries 1 mark.*

1. Write the IUPAC name of a) 2-bromo-5 methyl-1,3,5-hexatriene b)2-methyl-1,3-butadiene
2. Write the formula to determine the formal charge
3. What is meant by chirality?
4. Illustrate the term Internal compensation?
5. Draw the conformations of cyclohexane molecule
6. How can you relate the dihedral angle and stability of a molecule with respect to ethane?
7. Convert 1,2 diphenyl ethanol to stilbene
8. What happens when vapours of alcohol are passed over heated calcium carbide?
9. What are Grignard reagents?
10. Nitrating mixture used for the nitration of Benzene to Nitrobenzene is .....
11. What happens when benzene is treated with  
a) phthalic anhydride and b) 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. Briefly discuss +M and -M effect

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14. What are the different types of organic reactions?
  15. Briefly explain the optical activity of biphenyls
  16. Write briefly on the different methods of resolution
  17. How will you synthesise n-butane from the following  
a) Ethyl bromide b) n-butyl bromide c) 2-butene
  18. Explain Saytzeff Elimination with mechanism and two examples.
  19. Explain why pyrene with 16  $\pi$  electrons is also considered as aromatic compound
  20. Sulphonation of naphthalene gives naphthalene -1- sulphonic acid at 80° C and naphthalene -2- sulphonic acid at 160° C.- Explain
  21. Explain the stereochemistry involved in the formation of 1,3- cyclohexadiene from cis -1,3,5- hexatriene

(6×5=30)

### Part C

*Answer any two questions.*

*Each question carries 10 marks.*

22. Briefly explain the formation of reactive intermediates
23. Comment on the stability of cyclohexane and its derivatives with emphasis to methyl cyclohexane
24. Discuss the mechanism and stereochemistry of bimolecular nucleophilic substitution
25. Discuss the mechanism of nitration of chlorobenzene and predict the position of the incoming nitro group.

(2×10=20)