



23129041

QP CODE: 23129041

Reg No : .....

Name : .....

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,  
OCTOBER 2023**

**Fifth Semester**

**CORE COURSE - CH5CRT06 - ORGANIC CHEMISTRY-III**

Common for B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry & B.Sc  
Chemistry Model III Petrochemicals

2017 Admission Onwards

34AD5026

Time: 3 Hours

Max. Marks : 60

**Part A**

*Answer any **ten** questions.*

*Each question carries **1** mark.*

1. What is Borsche's reagent?
2. Electrolytic reduction of nitrobenzene under weakly acidic condition yields...
3. Give an example for phase transfer catalyst.
4. Suggest a reagent to convert benzene diazonium chloride to bromobenzene.
5. Write the structure of Indole. What happens when it is reduced with tin and HCl?
6. What is the intermediate formed in a Claisen ester condensation in preparation of ethyl acetoacetate?
7. Glucose constitutes a straight chain of six carbon atoms. Give evidence.
8. Draw the structure of maltose.
9. What do you mean by the terms 'bactericidal' and 'bacteriostatic'?
10. What are stimulants? Give one example.
11. Write the structure of a Vat Dye.
12. What is nitrile rubber? Mention any two uses.

(10×1=10)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Suggest and illustrate a method to find the structure of the parent amine of a quaternary ammonium halide.
14. Suggest a method to prepare diazoacetic ester. Compare its stability with diazomethane.
15. (a) Explain briefly the aromatic character of Thiophene on the basis of molecular orbital theory.  
(b) Discuss any four electrophilic substitution reactions of Thiophene.
16. What are enamines? Illustrate with example, how they are useful in alkylation of carbonyl compounds?
17. What are carbohydrates? How are they classified?
18. How are the following conversions effected (a) Fructose to Glucose. (b) Glucose to Mannose
19. Write a note on anticancer drugs and anti - HIV agents.
20. Write the method of preparation of Indigotin and explain how it is applied on the Fabric?
21. Distinguish between Addition polymerization and Condensation polymerization.

(6×5=30)

### Part C

Answer any **two** questions.

Each question carries **10** marks.

22. Discuss the various factors that affect the basicity of aliphatic and aromatic amines.
23. (a) Discuss the orientation of electrophilic substitution of pyridine in terms of relative stability of the intermediate.  
(b) Compare the relative reactivities of pyridine and benzene in electrophilic substitution reactions.  
(c) How does pyridine reacts with the following reagents?  
(i)  $\text{Br}_2$  at  $300^\circ\text{C}$  (ii) Fuming  $\text{H}_2\text{SO}_4$  at  $250^\circ$   
(iii)  $\text{C}_6\text{H}_5\text{Li}$  at  $100^\circ\text{C}$  (iv)  $\text{MeCOCl}/\text{AlCl}_3$
24. What are polysaccharides? Draw the structure of cellulose and discuss its industrial applications.
25. Discuss the preparation, structure and applications of the following polymers.  
(a) PET  
(b) Phenol -formaldehyde Resin  
(c) Urea-Formaldehyde Resin

(2×10=20)

