

QP CODE: 22103390



22103390

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,
NOVEMBER 2022**

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

252CE9AD

Time: 3 Hours

Max. Marks : 60

Part A

Answer any **ten** questions.

Each question carries **1** mark.

1. Give the product when nitromethane is reduced with Zn dust and NH_4Cl .
2. Name the compound – $\text{C}_6\text{H}_5\text{CH}_2\text{N}(\text{CH}_3)_2$
3. What is Hinsberg reagent?
4. Which is more basic - ethylamine or aniline?
5. Draw the resonance structures of Furan.
6. Draw the structure of ethyl cyanoacetate.
7. What do you mean by inversion of sugar? Why is it called so?
8. What is gun cotton? Mention its uses.
9. What are broad spectrum antibiotics? Give example.
10. Give the name and structure of an anticancer drug.
11. What do you understand by the term bathochromic shift?
12. Give the structure of monomer unit of Nylon 6.

(10×1=10)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Suggest a method for the preparation of (a) Nitroethane and (b) Phenyl nitromethane.

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Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Suggest a method for the preparation of (a) Nitroethane and (b) Phenyl nitromethane.



14. How will you convert aniline to biphenyl? Give mechanism of final step.
15. Explain the electrophilic and nucleophilic substitution reactions of quinoline.
16. Explain a method for the preparation of ethylacetoacetate.
17. What are carbohydrates? How are they classified?
18. Draw the pyranose and furanose structures of Glucose and fructose.
19. Write briefly on psychotropic drugs.
20. Write the method of preparation of Indigotin and explain how it is applied on the Fabric.
21. Distinguish between thermoplastics and thermosetting plastics.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **10** marks.

22. How will you convert ethanoic acid to propionic acid using diazomethane? Discuss the mechanism involved in detail.
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?
(a) Br_2 at 300°C (d) Fuming H_2SO_4 at 250°
(b) $\text{C}_6\text{H}_5\text{Li}$ at 100°C (e) $\text{MeCOCl}/\text{AlCl}_3$
24. How are the following conversions effected?
(a) Aldopentose to Aldohexose (b) Aldose to Ketose (c) Aldose to its epimer
(d) Ketose to Aldose (e) Aldohexose to aldopentose
25. (a) Discuss the preparation and application of the synthetic rubbers:
(i) SBR
(ii) Neoprene
(b) What are conducting polymers? Explain with suitable example.

(2×10=20)