QP CODE: 21100031

21100031

Reg No : .....

Name : .....

# B.Sc DEGREE (CBCS ) EXAMINATION, FEBRUARY 2021

## Fifth Semester

## Core Course - CH5CRT06 - ORGANIC CHEMISTRY-III

B.Sc Chemistry Model I, B.Sc Chemistry Model II Industrial Chemistry, B.Sc Chemistry Model III Petrochemicals

2017 Admission Onwards

C84F6B2E

Time: 3 Hours Max. Marks : 60

### Part A

*Answer any **ten** questions.*

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

1. The reagent used for quantitative determination of nitro groups in a compound is.....
2. Give the product when nitromethane is reduced with Zn and HCl.
3. Which are the electrophile involved in nitration and sulphonation?
4. $C_6H_5N_2^+Cl^- + KI \rightarrow ?$
5. What happens when quinoline is treated with alkaline potassium permanganate solution?
6. Draw the structure of ethyl cyanoacetate.
7. What are epimers? Give example.
8. Name the monosaccharide unit in Cellulose.
9. Draw the structure of chloramphenicol.
10. What is the cause of malaria? Name one drug which is used as an antimalarial.
11. Name two natural food colourants.
12. What are inorganic polymers? Give one example.

(10×1=10)

### Part B

*Answer any **six** questions.*

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

13. How will you convert benzamide to aniline? Discuss mechanism.

14. Suggest a method to prepare diazomethane. Explain its structure.

15. How are heterocyclic compounds classified? Give two examples for each class.

16. Rationalise the acidity of methylene protons in active methylene compounds with examples.

17. What are reducing and non-reducing sugars? Explain the reducing property of glucose using suitable reactions.

18. What are disaccharides? Draw the structure of any two disaccharides, name them and mention the monosaccharide units present in each one.

19. Write briefly on psychotropic drugs.

20. What are acidic, basic and direct dyes? Describe the structural feature and give one example in each case.

21. Write a note on recycling of plastics.

(6×5=30)

**Part C**

*Answer any two questions.*

*Each question carries 10 marks.*

22. (a) Explain separation of a mixture of 1°, 2° and 3° amines using Hinsberg reagent. (b) Explain use of Quaternary amine salts as phase-transfer catalysts.

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
(b) $C_6H_5Li$ at 100°C
(d) Fuming $H_2SO_4$ at 250°
(e) $MeCOCl/AlCl_3$

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)How are Novolac and Resole resins prepared? Explain the reactions and mention their important uses.
(b) Differentiate between LDPE and HDPE.

(2×10=20)