Reg. No ..... Name **25U550**

B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2025

SEMESTER 5 : CHEMISTRY

COURSE : **19U5CRCHE06 : ORGANIC CHEMISTRY – III**

(For Regular 2023 Admission and Supplementary 2022/ 2021/ 2020/ 2019 Admissions)

Time : Three Hours Max. Marks: 60

PART A

Answer All (1 mark each)

1. Give an example for epoxy resin.
2. Give an example for semi synthetic polymer.
3. Which was the first antibiotic discovered?
4. Which is the reagent used for the conversion of 1,2 diols to carbonyl compounds?
5. TFM percentage in Grade II soaps.
6. Give one example of a reagent used for allylic and selective bromination.
7. Analgin is the trade name for....
8. Draw any two resonance forms of diazomethane.

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. Illustrate the limitations of soap as a cleansing agent.
10. How conjugated and non-conjugated diene can be distinguished by UV spectroscopy.
11. Compare between soaps and detergents.
12. Why uv-visible spectroscopy is called electronic spectroscopy?
13. Give a brief account of the structure of cyclobutane detailing the bond angle.
14. Between $CH_3CH_2CH_2NH_2$ and $(CH_3)_3N$, which has higher boiling point and why?
15. Amines are basic in nature . Explain
16. Draw the structure of paracetamol. Mention its uses.

(2 x 6 = 12)

PART C

Answer any 4 (5 marks each)

17. What is Nylon 6,6? Why is it so called? How can it be produced?
18. Give the products of the reactions of nitromethane with
    a) $LiAlH_4$ b) Zn-NH_4Cl c) $SnCl_4$ - HCl
19. Draw the structure of ampicillin. What is the mode of antibaceterial action of ampicillin?
20. Describe Norrish type II reaction with an example.
21. How will you synthesize Lead tetra acetate? Give two synthetic applications?
22. Explain Hoffman bromamide reaction.

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. a) Discuss the various products formed during the reduction of aromatic nitrocompounds under different conditions.
    b) Explain the use of quarternary ammonium salts as phase transfer catalysts.

24. Explain the relative basicity of amines.
25. The 1HNMR spectrum of a compound with molecular formula $C_8H_{11}N$ shows signals with δ values, 1.4 (doublet), 1.6 (singlet), 4.1 (quartet) and 7.3 (singlet). Deduce the structure of the compound.
26. Outline the preparation of a) Phenolphthalein b) Methyl orange c) Bismark brown d) Malachite Green and e) Indigo

(10 x 2 = 20)