

Reg. No

Name

24U525

B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2024

SEMESTER 5 : CHEMISTRY

COURSE : 19U5CRCHE06 : ORGANIC CHEMISTRY – III

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

Time : Three Hours

Max. Marks: 60

PART A

Answer All (1 mark each)

1. Give one example of a reagent used for allylic and selective bromination?
2. Chloroquine belongs to which class of drugs ?
3. Analgin is the trade name for.....
4. 2,3-dimethylbut-2-ene on reaction with N-bromosuccinimide gives?
5. Draw the structure of monomer of Nylon 6.
6. Which is the catalyst used for the conversion of benzene to cyclohexane?
7. Define ABS.
8. Give an example for epoxy resin.

(1 x 8 = 8)

PART B

Answer any 6 (2 marks each)

9. Chiral tertiary amines are not resolvable. Why?
10. What are sulpha drugs? Give two examples.
11. Which are the different types of synthetic detergents.
12. What is 1,4 addition? Explain by taking butadiene as an example.
13. Define the term molecular ion.
14. How will you synthesize Benzonitrile from aniline?
15. Compare between soaps and detergents.
16. Name the type of transitions in UV spectroscopy and arrange them in the order of decreasing energies.

(2 x 6 = 12)

PART C

Answer any 4 (5 marks each)

17. What are polyurethanes? Outline the formation of a typical polyurethane. What is their importance?
18. Give reason: i) Amines have lower boiling point than alcohol of same molar mass.
ii) Amines are insoluble in water.
19. Draw the structure of Sulphanilamide. What is the mode of antibacterial action of sulphanilamide?
20. Describe Norrish type II reaction with an example.

21. How will you synthesize N-Bromosuccinimide? Give two applications.
22. N-ethyl aniline is more basic than N-methyl aniline. Explain.

(5 x 4 = 20)

PART D

Answer any 2 (10 marks each)

23. a) How will you synthesize diazomethane ? Give two resonance forms of diazomethane. Give one synthetic application of diazomethane.
b) Explain the synthesis of diazoacetic ester. Write the resonance forms of diazoacetic ester. Give two synthetic applications of diazoacetic ester.
24. Discuss the factors affecting vibrational frequencies in IR spectroscopy and explain the various types of electronic transitions in UV spectroscopy.
25. Describe briefly the classification of dyes based on a) molecular structure and b) method of application.
26. a) Discuss the various products formed during the reduction of aromatic nitrocompounds under different conditions.
b) Explain the use of quaternary ammonium salts as phase transfer catalysts.

(10 x 2 = 20)