E 2923

(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2022

Fifth Semester

Core Course—BASIC ORGANIC CHEMISTRY—II

(Common for B.Sc. Chemistry Model I, Model II B.Sc. Petrochemicals and Chemistry Environment and Water Management)

[2013 to 2016 Admissions]

Time : Three Hours

Maximum Marks : 60

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. In the nitration of benzene ring Con. HNO_3 and H_2SO_4, the attacking electrophile is ———.
2. Diasomethane react with acetylene to form.
3. What are reduction product of nitrobenes in alkaline medium ?
4. A group that causes duponity of the colour is known as ———.
5. Nylon 6 is a polymer of ———.
6. Give an example for cationic detergent.
7. The term chemotherapy was introduced by ———.
8. What is Tollens reagent ?

(8 × 1 = 8)

Part B

Answer any **six** *questions.*
Each question carries 2 *marks.*

9. Write a short note on Gabriel phthalamide reaction ?
10. How will you distinguish between 1°, 2° and 3° amine ?
11. What is diazotisation ? How is benzenediazonicons chloride prepared in the laboratory ?
12. Give the preparation of methyl orange.
13. What is Pattemo-Buchi reaction ?
14. Write a short note on nucleanization.
15. What are detergents ? How do they act as cleaning agent in hard water ?

Turn over

16. Give two examples for synthetic reagent.
17. Write a short note on mass spectrometry.
18. What is meant by chemical shift ?

$(6 \times 2 = 12)$

Part C

Answer any **four** *questions.*
Each question carries 4 *marks.*

19. How will you separate 1°, 2° and 3° amines from their mixture by Heinsberg method ?
20. Discuss the mechanism of Sandmery's reaction and Gaffermann reaction.
21. What are cycloalkane ? Write an essay on Bayer's strain theory.
22. Write down the structure and applications of chlorogaine and paracetamol.
23. Discuss the electronic transition involved in the ultraviolet region.
24. Depict the NMR signal of acetone, ethylene, acetaledehye and explain.

$(4 \times 4 = 16)$

Part D

Answer any **two** *questions.*
Each question carries 12 *marks.*

25. Briefly explain the principle of IR and NMR spectroscopic technique and their application in structural elucidation of organic molecule.
26. Discuss on :
    (i) Phase transfer catalysis.
    (ii) Hoffmann bromanide reaction.
27. Write the mechanism and synthetic applications of Arndt-Eistert synthesis.
28. Write briefly on :
    (i) Drug in chemotherapy.
    (ii) Norish reaction of acylcic ketone.
    (iii) 1, 4-addition of butadiene.

$(2 \times 12 = 24)$