

B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, APRIL 2017**Supplementary – 2014 Admission****SEMESTER V - CORE COURSE (CHEMISTRY)****CHE5BOC – BASIC ORGANIC CHEMISTRY II****Time: Three Hours****Maximum Marks: 60****PART A****I. Answer all questions. Each question carries 1 mark.**

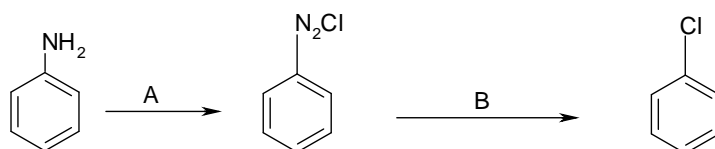
1. Name a reagent that can convert m-dinitrobenzene to m-nitroaniline.
2. Iodobenzene when heated in a sealed tube in presence of Cu powder forms a product. Name the product and the reaction.
3. What is Blue shift?
4. What is fluorescence emission?
5. How are copolymers classified?
6. Define Chemotherapy?
7. Fehling's Solution, Benedict's Solution and Barfoed's reagent – one is having a different medium. Which is the reagent and the medium?
8. What are the three regions of IR spectrum?

(8 x 1 = 8)**PART B****II. Answer any six questions. Each question carries 2 marks.**

9. How is diphenyl amine synthesised?
10. Explain why ethyl amine is a stronger base than aniline?
11. Phenolphthalein is colourless but give violet – pink colour in alkali medium. Explain?
12. Ethanal reacts with 2-methylpropene in presence of UV light to give a cyclic product. Name the reaction and write the structure of the product.
13. Differentiate between Nylon – 6 and Nylon – 6, 6.
14. Bromination of butadiene leads to formation of 1, 4 – dibromo – 2 – butane. Explain?
15. What are the advantages of detergents over soaps?
16. What are analgesic and antipyretic drugs? Give examples
17. Give Two applications of DCC.
18. What are the main components of IR spectrometer.

(6 x 2 = 12)**PART C****III. Answer any four questions. Each question carries 4 marks.**

19. What are the reagents and conditions used in the following conversion?



20. What are the requirements of a good dye?

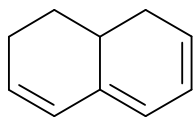
21. a) Explain singlet and Triplet states of an excited molecule.
b) Discuss the synthesis of polyurethanes.
22. a) What are the different types of soap?
b) What is the structure and mode of action of Ampicillin.
23. What is Ziegler – Natta catalyst. How does it work?
24. A saturated open chain compound, C_3H_8O shows an IR band at 2950 cm^{-1} but none near 3300 cm^{-1} and 1720 cm^{-1} . Deduce the structure of the compound.

(4 x 4 = 16)

PART D

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

25. How can the synthesis of the following conducted? i) Biphenyl from aniline
ii) Azobenzene from benzene iii) m – dichlorobenzene from Benzene.
26. a) How is anthraquinone converted to alizarin?
b) How is an epoxy resin synthesised?
27. a) Discuss the structure and applications of the following:-
i) Chloroquine ii) Paracetamol iii) Analgin
b) Discuss the method of preparation and applications of the following reagents –
i) OsO_4 ii) LDA
28. a) A compound having molecular formula C_9H_{12} gives two signals at $\delta = 2.27(9H)$ and $6.7(3H)$ respectively in NMR spectra. The area under the two peaks is 3 : 1. Assign structure to the compound.
b) Explain Woodward and Fieser Rules for calculating λ_{max} for alicyclic dienes and polyenes?
c) Calculate λ_{max} for the following compound?



(2 x 12 = 24)