

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019**SEMESTER – 5: CHEMISTRY (CORE COURSE)****COURSE: U5CRCHE6 – BASIC ORGANIC CHEMISTRY - II***(For Supplementary 2014 Admissions)*

Time: Three Hours

Max. Marks : 60

PART - A*Answer **all** questions. Each question carries **1** mark*

1. Name the product when diazomethane reacts with ethene?
2. Hoffmann Bromamide reaction is not possible in the case of substituted amides. Why?
3. Mention any one environmental impact of detergent.
4. What is phosphorescence emission?
5. What is the structure of Ampicillin?
6. Ethanal is warmed with Tollen's reagent in a water bath. What is your observation?
7. Give any two uses of OsO₄ reagent?
8. Fehling's Solution, Benedict's Solution and Barfoed's reagent – one is having a different medium. Which is the reagent and the medium? (1 x 8 = 8)

PART - B*Answer **ANY SIX** questions; each question carries **2** marks.*

9. Explain phase transfer catalysis?
10. Explain Arndt Eistert Synthesis?
11. How are detergents classified? Give examples.
12. Explain Otto Witt's theory of colour.
13. Bromination of butadiene leads to formation of 1, 4 – dibromo – 2 – butane. Explain?
14. How is DCC prepared? Give one application of DCC.
15. Indicate which of the following compounds would or would not show splitting of NMR signals?
a) Toluene b) n – Butane c) Ethyl formate
16. Write the synthesis and applications of N-bromo succinimide? (2 x 6 = 12)

PART - C*Answer **ANY FOUR** questions. Each question carries **5** marks*

17. Write the synthesis and applications of Bakelite and Nylon 6?
18. a) How can you prepare o- and p-dinitro benzene? (2½)
b) Suggest reactions for the conversion of Aniline to biphenyl. (2½)
19. Explain the relative stability of cyclohexane and cyclobutane?
20. How can you convert benzene diazonium chloride to
a) Phenol b) nitrobenzene c) Phenyl hydrazine
21. What is Chemical shift? What are the factors affecting chemical shift? Explain?

22. An organic compound C_7H_7Cl shows a strong IR band around 800 cm^{-1} , two bands at 1800 cm^{-1} and 1900 cm^{-1} (the band at 1900 cm^{-1} being stronger) and three IR bands at 3100, 2930 and 2860 cm^{-1} . Suggest a suitable structure for the compound. (5 x 4 = 20)

PART - D

Answer ANY TWO questions; each question carries 10 marks.

23. a) Nitrobenzene undergoes reduction under different conditions to different products. Explain using suitable reactions? (6)
b) How can you prepare m – nitro phenol from benzene? (4)
24. 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
25. a) Give reagents and reactions to bring about the conversion of anthranilic acid to Indigo. (4)
b) Discuss the synthesis of monomers and the polymer-SBR. (3)
c) Explain with mechanism the action of $HIO_4 \cdot 2 H_2O$ on cis – glycols. (3)
26. Give a detailed account of the IR and NMR spectral characteristics of the following :- butadiene, acetaldehyde, crotonaldehyde and ethanol. (10 x 2 = 20)
