Reg. No……..…….. Name…… **14U518**

B.Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER/NOVEMBER 2018

SEMESTER **–5: CHEMISTRY (CORE COURSE)**

COURSE: **U5CRCHE6: BASIC ORGANIC CHEMISTRY – II**

(For Supplementary - 2014 admission)

Time: Three Hours Max. Marks: 60

SECTION A

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

1. Hoffmann Bromamide reaction is not possible in the case of substituted amides. Why?
2. What happens when a 1˚ - nitroalkane is boiled with acid?
3. Fehling's Solution, Benedict's Solution and Barfoed's reagent – one is having a different medium. Which is the reagent and the medium?
4. Define thermosetting plastics with suitable examples.
5. Why H_2 molecule is IR inactive?
6. Why is the region 1300 - 900 cm^{-1} called the finger print region of the compound?
7. Give any two uses of OsO_4 reagent?
8. What are photosensitized reactions? (1 × 8 = 8)

SECTION B

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

9. Primary and secondary nitroalkanes are soluble in alkali. Explain?
10. How is diphenylamine synthesized?
11. Why amines are more basic than alcohols?
12. Indicate which of the following compounds would or would not show splitting of NMR signals?
    a) Toluene b) n – Butane c) Ethyl formate
13. Differentiate between thermal and photochemical reactions?
14. Explain Arndt Eistert Synthesis?
15. How is DCC prepared? Give one application of DCC.
16. How are detergents classified? Give examples (2 × 6 = 12)

SECTION C

*Answer **any Four** questions. Each question carries **5** marks*

17. a) What are the advantages of detergents over soaps? (2)
    b) How is anthraquinone converted to alizarin? (3)
18. a) How can you prepare o – and p – dinitro benzene? (3)
    b) How can you convert benzene to m – dichlorobenzene? (2)
19. What is Chemical shift? What are the factors affecting chemical shift? Explain?
20. What are organic drugs? How are they classified? Give example?

21. Discuss the important factors which influence the basic strength of alkyl amines and aryl amine?

22. a) How does soap detach dirt from skin or clothes? (3)

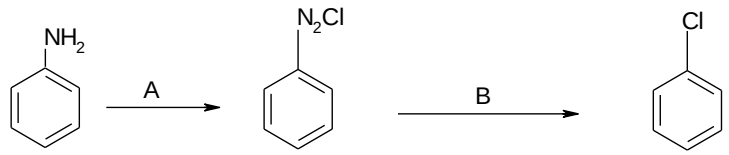
b) What is the structure and mode of action of Ampicillin. (2)

(5 × 4 = 20)

SECTION D

*Answer **any Two** questions. Each question carries **10** marks*

23. a) What are the reagents and conditions used in the following conversion? (5)



b) How is anthranilic acid converted to indigo? (5)

24. (a) Explain the mechanism of Sandmeyer's reaction? (4)

(b) How dyes are classified based on their application? (6)

25. a) Discuss the structure and applications of the following:-

i) Chloroquine ii) Paracetamol iii) Analgin (5)

b) Discuss the method of preparation and applications of the following reagents –

i) OsO_4 ii) LDA (5)

26. 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 $HIO_4.2\ H_2O$ on cis – glycols. (3)

(10 x 2 = 20)

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