

Reg. No.....

Name.....

B. Sc. DEGREE END SEMESTER EXAMINATION - OCTOBER 2019**SEMESTER –5: CHEMISTRY (CORE COURSE)****COURSE: 15U5CRCHE06: ORGANIC CHEMISTRY - III***(Common for Regular 2017 Admission & Improvement 2016/Supplementary 2016 /2015 Admissions)*

Time: Three Hours

Max. Marks: 60

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

1. Draw the tautomeric forms of nitromethane.
2. What is Borsch's reagent? Write any one use.
3. Which are the monomers of PET?
4. Draw the structure of paracetamol.
5. Explain thermal reactions with an example.
6. How many NMR signals do you expect for acetic acid?
7. What are cationic detergents? Give an example
8. What are auxochromes? Give an example (1 × 8 = 8)

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

9. Explain the reason why it is difficult to resolve the chiral tertiary amines?
10. Write the synthesis and applications of SeO₂.
11. Explain the method to convert propanoic acid into its higher homologue using Arndt Eistert Synthesis?
12. Explain chemical shift in NMR?
13. Draw the structure of sulphanilamide. What are its main uses?
14. Explain the cleansing action of soap.
15. Which is more basic pyrrol or pyridine, why?
16. Give two synthetic applications of phenylhydrazene. (2 × 6 = 12)

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

17. Explain Norrish reactions of acyclic ketones.
18. How dyes are classified on the basis of structure and method of application?
19. Discuss the Hinsberg method for the separation of amines.
20. Discuss the synthesis and applications of Nylon 6?
21. Explain with example how the structural features affect the basicity of amines.
22. Write down the difference between LAS and ABS detergents. (5 × 4 = 20)

SECTION D

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

23. (a) What are the reduction products of nitrobenzene in acid, base and neutral medium.
(b) Explain the use of quaternary ammonium salt as phase transfer catalyst.
24. (a) How is indigo synthesized starting from anthranilic acid.
(b) Discuss the synthesis and applications of epoxy resins.
25. (a) What is **Bayer's** strain theory? Explain why cyclopropane and cyclobutane are unstable compared to cyclohexane.
(b) Write a note on the synthesis and applications of N-bromo succinimide and lead tetra acetate.
26. (a) Draw and find the structure of the compound C_4H_8O . The IR spectrum of the compound showed a band at 1720cm^{-1} and the NMR of the compound showed three signals at δ values 0.9(t), 3.4(q) and 2.2(s)
(b) Write note on electron ionization in mass spectrometry? (10 × 2 = 20)
