E 1749 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, OCTOBER 2015

Fifth Semester

Core Course—BASIC ORGANIC CHEMISTRY—II

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

[2013 Admissions]

Time : Three Hours Maximum : 60 Marks

Part A

Answer **all** *questions.*

Each questions carries 1 *mark.*

1. Phenyl hydrazine undergo reduction in presence of Zn/HCl to give ———.
2. Colour of an organic compound is due to the presence of ———.
3. BunoN is a co-polymer of ——— and ———.
4. Barfoed's reagent is ———.
5. Give the structure of chloranphenicol.
6. Give any two uses of OSO_4 reagent.
7. Why H_2 molecule is IR inactive ?
8. How many NMR signals do you expect for acetophenone ?

(8 × 1 = 8)

Part B

Answer any **six** *questions.*

Each question carries 2 *marks.*

9. Explain the tautomerism in Nitromethane.
10. Why amines are more basic than alcohols ?
11. Write the mechanism of Gomberg Reaction.
12. What is Arndt-Eistert synthesis ?
13. What is SBR ? How it is prepared ?
14. What is chlorombucil ? Give the structure.
15. Differentiate between LAS and ABS detergents.
16. Give synthetic uses of LDA.

Turn over

17. Explain base peak in mass spectroscopy.

18. What is TMS ? Indicate its use.

(6 × 2 = 12)

Part C

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

19. Discuss the important factors which influence the basic strength of Alkylamines and Arylamines.

20. Explain the synthetic applications of Diazomethane.

21. Explain the relative stability of cyclohexane and cyclobutane.

22. What are organic drugs ? How are they classified ? Give example.

23. What are detergents ? How do they act as cleaning agents ?

24. Write the synthesis and applications of Bakelite and Nitrite rubber.

(4 × 4 = 16)

Part D

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

25. (a) Explain the reduction of nitrobenzene under different conditions. Indicate the product formed in each.

    (b) Explain Hinsberg's method for the separation of Amines.

    (c) Explain the mechanism of SandMayer's reaction.

26. (a) How benzene diazonium chloride is prepared ? Discuss any *six* synthetic applications.

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

27. (a) Explain the mechanism of Norrish reactions of acyclic betones, photo fries rearrangement.

    (b) Write the synthesis and applications of urea formaldehyde resins and epoxy resins.

28. (a) Distinguish between the isomeric carbonyl compounds with molecular formula C_3H_6O using NMR spectroscopy.

    (b) Explain the following :—

        (i) Chemical shift in NMR.

        (ii) Electron ionisation in mass spectroscopy.

(2 × 12 = 24)