

Model Question Paper
Organic Nitrogen Compounds - Part I

12th Standard

Chemistry

Reg.No. :

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I. Answer all the questions.

II. Use blue pen only.

Time : 01:30:00 Hrs

Total Marks : 70

5 x 1 = 5

Part-A

- 1) Bromo ethane reacts with silver nitrite to give
(a) $C_2H_5NO_2$ (b) $C_2H_5 - O - NO$ (c) $C_2H_5Ag + NaBr$ (d) C_2H_5NC
- 2) The isomerism exhibited by $CH_3 - CH_2 - N \begin{matrix} \diagup O \\ \diagdown \end{matrix}$ and $CH_3CH_2 - O - N = O$ is
(a) position (b) chain (c) functional (d) tautomerism
- 3) In nitroalkanes $-NO_2$ group is converted to $-NH_2$ group by the reaction with
(a) Sn/HCl (b) Zn dust (c) Zn/ NH_4Cl (d) Zn/NaOH
- 4) When nitromethane is reduced with Zn dust + NH_4Cl in neutral medium, we get
(a) CH_3NH_2 (b) $C_2H_5NH_2$ (c) CH_3NHOH (d) C_2H_5COOH
- 5) The compound that is most reactive towards electrophilic nitration is
(a) Toluene (b) benzene (c) benzoic acid (d) nitrobenzene

Part-B

5 x 3 = 15

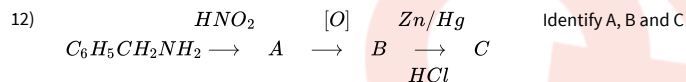
- 6) How are nitro alkanes prepared ?
- 7) Write about the functional isomerism of nitro methane ?
- 8) Give the reduction of nitro methane in (a) acid medium, (b) neutral medium.
- 9) Mention the uses of nitro methane.
- 10) How will you convert benzene to m-dinitrobenzene ?

B **I** \times_2 \times^2

Part-C

6 x 5 = 30

- 11) When benzamide is treated with bromine and alkali gives compound A. Also when benzamide is reduced by $LiAlH_4$ compound B is formed. Find A and B. Write the equations.



- 13) An aromatic primary amine A with molecular formula C_6H_7N undergoes diazotisation to give B. B when treated with hypophosphorous acid gives C. Identify A, B and C.
- 14) An aromatic simplest nitro compound A on reduction using Sn and HCl gives B. B undergoes carbylamine reaction. Identify A and B. Give any one use of compound A.
- 15) Compound A is yellow coloured liquid and it is called oil of mirbane. A on reduction with tin and HCl gives B. B answers carbylamine test. Identify A and B.
- 16) An organic compound A of molecular formula C_2H_5ON treated with bromine and KOH gives B of molecular formula CH_5N . Identify A and B. Write the equation involved

Part-D

2X10=20

- 17) a) An organic compound A of molecular formula C_2H_5NO on treatment with Na/ C_2H_5OH gives B (C_2H_7N) and with Br_2/KOH gives C (CH_5N). Identify A, B, C.
b) An aromatic hydrocarbon A on nitration gives B which is known as oil of mirbane. B on warming with conc. H_2SO_4 gives compound C. Identify A, B and C.
- 18) a) An organic compound 'A' C_7H_7NO when treated with Br_2 / alkali gives 'B' C_6H_7N . 'B' undergoes diazotisation reaction. Identify 'A' & 'B'.
b) An organic compound (A) of molecular formula C_2H_5NO reacts with $Br_2/NaOH$ to give compound (B) of molecular formula CH_5N (A) is reduced by $LiAlH_4$ to give compound (C) of formula C_2H_7N . Identify (A), (B) and (C).
