



Chemistry_XII | Sample Mock Paper Class 12th SA2(Paper_4)

Name :

Date : 15-03-2022

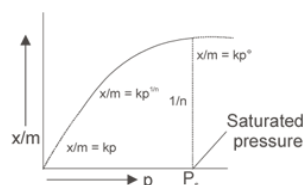
Time : 120 Mins

M.M. : 35

General Instructions:

- Question 1 to 3 Short answer type (SA1) questions of 2 Mark each.
- Question 4 to 11 Short answer type (SA2) questions of 3 Mark each.
- Question 12 Long answer type (LA) questions of 5 Mark each.

- Q1 Illustrate the following name reactions giving a chemical equations in each case: 2
 (a) Clemmensen reaction (b) Cannizzaro's reaction
- Q2 (a) Write down the IUPAC name of the following complex. $[\text{Cr}(\text{en})_3]\text{Cl}_3$. 2
 (b) Write the formula for the following complex. Potassium trioxalato chromate (III)
- Q3 The values of Λ_m° for NH_4Cl , NaOH and NaCl at infinite dilution are respectively 129.8, 248.1 and $126.4 \text{ ohm}^{-1} \text{ cm}^2 \text{ mol}^{-1}$. Calculate Λ_m° of NH_4OH . 2
- Q4 Give the structures of A, B and C in the following reactions: 3
 (a) $\text{CH}_3\text{Br} \xrightarrow{\text{KCN}} \text{A} \xrightarrow{\text{LiAlH}_4} \text{B} \xrightarrow[273 \text{ K}]{\text{HNO}_2} \text{C}$
 (b) $\text{CH}_3\text{COOH} \xrightarrow[\Delta]{\text{NH}_3} \text{A} \xrightarrow{\text{Br}_2 + \text{KOH}} \text{B} \xrightarrow{\text{CHCl}_3 + \text{NaOH}} \text{C}$
- Q5 Silver is electrodeposited on a metallic vessel of surface area 900 cm^2 by passing a current of 0.5 ampere for 2 hours. Calculate the thickness of the silver deposited. Given the density of silver as 10.50 g/cc (Atomic mass of Ag = 108 u). 3
- Q6 Discuss the effect of pressure and temperature on the adsorption of gases on solids. 3



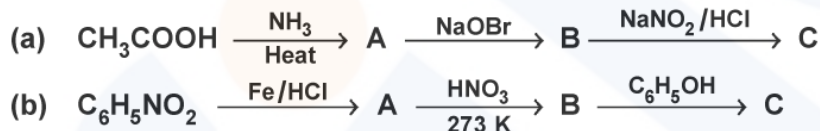
- Q7 Explain the following: 3
- A dark blue precipitate is formed when sodium hydroxide solution is added to copper sulphate solution. The precipitate darkens on heating.
 - Cuprous chloride is insoluble in water and dilute HCl but dissolves in concentrated HCl.
 - CuS is not precipitated by passing H₂S through copper sulphate solution containing KCN.
 - Silver nitrate solution is kept in dark coloured bottles.

- Q8 Assign reason for each of the following: 3
- Ce³⁺ can be easily oxidised to Ce⁴⁺.
 - E° for Mn³⁺/Mn²⁺ couple is more positive than for Fe³⁺/Fe²⁺ couple.
 - Lu(OH)₃ is a weaker base than La(OH)₃.

- Q9 Complete the given reactions: 3



- Q10 Give the structures of A, B and C in the following reaction: 3



- Q11 A first order reaction takes 30 minutes for 50% completion. Calculate the time required for 90% completion of this reaction. ($\log 2 = 0.2010$) 3

- Q12 Identify A and E in the following series of reactions: 5

