



DAV PUBLIC SCHOOL, CRRC, MEDICAL ROAD, GAYA
Sunday Test – (17-11-2024)

Class : XII
Subject : Chemistry

Time : 40 Min
F.M. : 20

GROUP - A (2 X 5 = 10)

- A reaction is second order in A and first order in B
 - Write differential rate equation
 - How is the rate affected when concentration of both A and B are tripled?
- For a reaction : $2\text{NH}_3(\text{g}) \xrightarrow{\text{Pt}} \text{N}_2(\text{g}) + 3\text{H}_2(\text{g})$; Rate=K
 - Write order and molecularity of this reaction.
 - Write unit of K.
- Calculate half life of first order reaction when rate constant is 4 year^{-1} .
- Write IUPAC name of the complex $[\text{Cr}(\text{NH}_3)_4 \text{Cl}_2]^+$. Draw structures of geometrical isomers of this complex.
- When a coordination compound $\text{NiCl}_2 \cdot 6 \text{H}_2\text{O}$ is mixed with excess of AgNO_3 , 2 moles of AgCl are precipitated per mole of the compound. Write IUPAC name and structural formula of the complex.

GROUP - B (5 X 2 = 10)

- Show that in a first order reaction, time required for completion of 99.9% is 10 times of half life ($t_{1/2}$) of the reaction.
- Define Coordination number and Heteroleptic complex.
 - Write the state of hybridization shape and magnetic behaviour of the following complexes (i). $[\text{Ni}(\text{CN})_4]^{2-}$ (ii) $[\text{FeF}_6]^{3-}$