ARMY PUBLIC SCHOOL & COLLEGE KWL

Subject: Chemistry **Class:XI**

Long Questions

1. Discuss the methods of preparation of amines.
2. How can you bring about following conversions?
   i. A halogenoalkane into an alcohol
   ii. An alcohol into carboxylic acid.
   iii. An aldehyde into ester.
   iv. 2-methyl-2-butaol into 2-methyl-2-butene.
   v. Ethanol to diethyl ether.
   vi. An alcohol into ketones.
3. Explain 6 methods to prepare alcohols.
4. What is B-elimination & Nucleophilic substitution reactions? Explain with example.
5. What is mass spectrometry explain its working and tell how data is analyzed?
6. Explain postulates of valence shell electron pair repulsion theory and give its all Types with suitable examples.
7. Define hybridization? Explain its sp, sp2 and sp3 with suitable examples.
8. SO2 is air pollutant it contributes to acid rain. Calculate mass of SO2 absorbed by 33g of NaOH.
   $SO2 + 2NaOH \rightarrow Na2SO3 + H2O$
9. Ammonia is produced by the following reaction. When 200 g of ammonium chloride and 100 g calcium hydroxide are used then
   a. Calculate the amount of ammonia in grams produced during this reaction.
   b. Calculate the amount of excess reactant left unreacted after the completion of chemical reaction.
   $2NH4Cl + Ca(OH)2 \rightarrow CaCl2 + 2H2O + 2NH3$
10. a. Compare the reactivity of different Alkyl halides (R-F, R-Cl, R-Br and R-I). Explain your answer.
    b. Write down the identifying test of halogens Also write down the equations involved.
    c. Reducing power of halide ions increases down the group. Explain this fact with the help of reaction of Cl- and Br-1 ions with conc. H2SO4.
11. Define HESSS Law, Explain the complete note on its applications using energy graph.
12. Define Le-Chateliers principle? Explain industrial applications of Le-Chateliers principle?
13. When ethanol burns in oxygen, carbon dioxide and water is formed.
    a- Write equation which describe this reaction.
    b- Using the following data, calculate enthalpy of combustion for ethanol.
    ΔHf of ethanol= -277kjmol, ΔHf of CO2= -393.5kjmol, ΔHf of H2O= -285.8kjmol
14. Define order of reaction. Explain its types with suitable chemical reactions.
15. How does the concept of activation energy relate to speed of chemical reaction.
16. A-Calculate the H+ ion concentration of an aqueous solution having pH=10.6.
    B- An aqueous solution contain 1×10^{-9} moldm3 of OH- ios, Calculate pOH.
17. Compare and contrast the concept of strong acids and weak acids and significance of dissociation constant Ka in predicting behavior of weak acid.
18. Explain the difference between hemolytic and heterolytic fissions of covalent bonds.How can hemolytic fission initiate halogenation of alkanes.

19. Give complete mechanism of ozonolysis of but-1-ene.
20. Explain the mechanisms of carbonyl compound reactions.

KEY:

MCQ's	Answer
1.	B
2.	D
3.	C
4.	A
5.	A
6.	A
7.	A
8.	A

Short Questions:

1. Pg no 71
2. Pg no 72,73
3. Pg no 82

4. Pg no 79

LONG Questions:

1. Pg no 82-85