LILAVATIBAI PODAR HIGH SCHOOL (ISC)
PRELIMINARY PAPER (SEM-2) 2021-22
SUBJECT : CHEMISTRY DURATION : 1 HOUR 30 MIN

(Candidates are allowed additional 10 minutes for only reading the paper. They must **NOT** *start writing during this time)*

Attempt all questions from Section A and any three questions from Section B

Intended marks for question questions or parts of questions are given in brackets [ ]

SECTION A (10 marks)
Attempt all questions

Question 1

Choose the correct answers to the questions from the given options. (Do not copy the question, Write the correct answer only. **[10]**

i. The IUPAC name of CH_3-CH_2-CH=CH-CH_3 is

a. But-2-ene
b. Pent-3-ene
c. Pent-2-ene
d. Pent-2-yne

ii. The second homologue member of alkyne is

a. Ethyne
b. Propyne
c. Butyne
d. Propene

iii. An ore of iron is

a. Steel
b. Argentite
c. haematite
d. Bauxite

iv. The name of the process for commercial preparation of sulphuric acid is

a. Haber's process
b. Contact process
c. Ostwald's process
d. Le-chateliar process

v. General formulae of alkane is

a. C_nH_{2n}
b. C_nH_{2n+2}
c. C_nH_{2n-2}
d. $C_nH_{2n}O$

vi. Glucose is treated with concentrated suphuric acid to give carbon black. the property of concentrated sulphuric acid exhibited by this reaction is

a. Acidic nature
b. Dehydrating agent
c. Oxidizing property
d. Non volatile acid

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vii. When sulphur is treated with concentrated nitric acid , the oxidised product formed by oxidation of sulphur by cocentrated nitric acid is

a. Sulphur dioxide
b. Hydrogen sulphide gas
c. Sulphuric acid
d. Sulphur trioxide

viii when ammonia is treated with PbO , the product formed are

a. PbO_2 , N_2
b. Pb , H_2O_2 , N_2
c. Pb , H_2O , N_2
d. PbO_2 , H_2O , N_2

ix An example of an alloy of aluminium and magnesium is

a. Solder
b. Brass
c. magnalium
d. Steel

X the product formed when ethene is treated with Br_2 is

a. 1,1,2,2 tetra bromo ethane
b. Bromo ethane
c. 1,2 – dibromoethane
d. Ethanol

SECTION B

(attempt any three questions from this section)

Question two

i. Define the following [2]

a. Ore

b. Alloy

ii. Write the product formed when [2]

a. Ethyne is treated with H_2 in presence of H_2 at 300°C

b. Bauxite reacts with NaOH

iii. Write IUPAC name of the following compounds [3]

a. C_2H_5OH

b. $CH_3\text{-}CH(CH_3)\text{-}CH_2\text{-}CH_3$

c. $H_3C\text{-}C(CH_3)_2\text{-}CH_3$

iv Write balanced equation for the following [3]

a. Ethane burnt with excess oxygen at high temperature

b. Ethane treated with chlorine in presence of sunlight

c. Ethene treated with H_2 in presence of Ni at 300 ° C

Question three

i. Identify the salt [2]

a. Salt **A** on reacting with ammonium hydroxide give reddish brown precipitate and gives white precipitate with $BaCl_2$ solution . Identify **A**

b. Salt **B** on heating with NaOH liberates a gas which turns red litmus blue and gives white precipitate with silver nitrate solution . Identify **B**

ii. Answer the following [2]

a. How is HCl gas collected in lab ? state the reason for the same

b How is ammonia formed separated from N_2 and H_2 in haber's process . Justify your answer

iii. State the observation [3]

a. Lead nitrate solution is added to HCl solution

b. Excess of ammonium hydroxide added to copper sulphate solution

c. A glass rod dipped in ammonical solution is brought close to HCl gas

iv. Write balanced equations for the following [3]

a. Carbon treated with concentrated sulphuric acid

b. Ammonium hydroxide with lead nitrate solution

c. Hydrochloric acid treated with sodium carbonate

Question four

i. Write balanced equation for the following [2]

a. Hydrochloric acid with ferrous sulphide

b. Excess ammonia is treated with Cl_2

ii. Give reason [2]

a. Fused alumina is reduced to aluminium by electrolytic reduction

b. Fused crylolite and fluorspar is added to electrolytic mixture of alumina in hall herault's process of electrolytic reduction

iii. Answer the following [3]

a. Write balanced equation for preparation of ammonia by haber's process

b. A drying agent used to convert aqueous hydrochloric acid to dry hydrochloric acid

c Product formed at cathode and anode by electrolysis of alumina

iv. Answer the following [3]

a. Name the process for commercial preparation of nitric acid

b. Write balanced equation when ammonia is burnt with O_2 in presence of Pt at 800°C

c. Give reason : water is not directly added to sulphur trioxide in absorption tower by commercial preparation of sulphuric acid

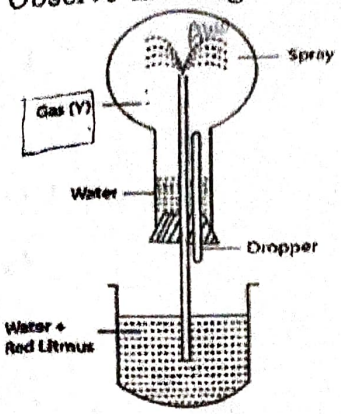
Question five

i. Write the balanced chemical equation for the following [2]

a. Sodium aluminate to aluminium hydroxide

b. Aluminium hydroxide to alumina

ii. Observe the diagram for fountain experiment [2]



a. If the gas **Y** is ammonia , what shall be the colour of the fountain

b. What two inference can be made about ammonia gas from the above experiment

iii. Name the following [3]

a. IUPAC name of CH_3COOH

b. Type of reaction when ethane is treated with Cl_2 in presence of sunlight

c. Type of isomerism between n-butane and iso-butane

iv For the lab preparation of HCl answer the following [3]

a. Why is concentrated sulphuric acid preferred as compared to concentrated nitric acid for lab preparation of HCl ?

b. Why should temperature be kept below 200°C

c. How is dry HCl gas identified

Question six

i. Distinguish test [2]

a. Dilute HCl solution and dilute HNO_3 solution [using silver nitrate solution]

b. Ammonium hydroxide and dilute sulphuric acid [using $BaCl_2$ solution]

ii. Give one word [2]

a. Organic compounds having the same molecular formula but different Structural formula

b. Property of an element to make self linking chain

iii. Write balance equation for the following and mention the type of chemical property of suphuric acid (acidic nature , dehydrating agent , oxidizing agent) associated with the reaction [3]

a. Sulphur treated with concentrated sulphuric acid

b. Blue vitriol treated with concentrated sulphuric acid

c. sodium hydroxide with dilute sulphuric acid

iv Answer the following [3]

a. General formulae of alkene

b. Draw the structure of 3-methyl pent-1-yne

c. IUPAC name of $CH_3 - CHO$