

**LILAVATIBAI PODAR HIGH SCHOOL (ISC)**

**PRACTISE PAPER – 3**

**CHEMISTRY**

*(Candidates are allowed additional 10 minutes for only reading the paper.*

*They must **NOT** start writing during this time)*

Section I is compulsory , attempt **any three** questions from section II Intended marks for question questions or parts of questions are given in brackets [ ]

**SECTION I (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 acetic acid is
  - a. Ethane
  - b. Ethanoic acid
  - c. Ethyne
  - d. Ethanal
  
- ii. The general formula for alkyne is :
  - a.  $C_nH_{2n+2}$
  - b.  $C_nH_{2n-2}$
  - c.  $C_nH_{2n}$
  - d.  $C_nH_{2n+1}$
  
- iii. A metal present in cryolite other than sodium
  - a. Calcium
  - b. Magnesium
  - c. Aluminium
  - d. Zinc
  
- iv. Which type of reaction is shown in the conversion of  $SO_2$  to  $SO_3$ 
  - a. Endothermic
  - b. exothermic
  - c. reduction
  - d. Double displacement
  
- v. The general formula for alkene is :
  - a.  $C_nH_{2n+2}$
  - b.  $C_nH_{2n-2}$
  - c.  $C_nH_{2n}$
  - d.  $C_nH_{2n+1}$
  
- vi. Which of the following metal does not react with dilute sulphuric acid
  - a. Au
  - b. Fe
  - c. Zn
  - d. Al

- vii. Reaction between nitrogen and hydrogen to form ammonia proceeds with
- Decrease in volume
  - Increase in volume
  - Decrease in temperature
  - Decrease in pressure
- viii the colour of NO<sub>2</sub> gas is
- Yellowish green gas
  - Reddish brown gas
  - Colourless gas
  - Blue coloured gas
- ix** An ore of zinc which has sulphur
- Zinc blende
  - Calamine
  - Zincite
  - Haematite

- X which of them have -COOH as their functional group
- Alcohols
  - Alkanes
  - Alkenes
  - Acids

## SECTION B

(attempt any three questions from this section )

### Question two

- i. Define [2]
- Isomerism
  - Alloy
- ii. Mention the IUPAC names of the following [2]
- acetylene
  - Ethyl alcohol
- iii. Draw the structural diagram of: [3]
- 2-methylPropanal
  - 2-methybutanoic acid
  - 1,2-dibromopropane
- iv Answer the following: [3]
- Define homologous series
  - Mention the balanced chemical equation of the following:
    - ethene is treated with bromine
    - ethyne is heated with hydrogen in presence of nickel

**Question three**

- i. Identify the cation [2]  
a. Salt solution A gave dirty green precipitate with ammonium hydroxide. Identify the cation  
b. Salt solution B gave reddish brown precipitate with ammonium hydroxide. Identify the cation
- ii. State the following [2]  
a. The gas released when metal bicarbonates react with dilute HCl  
b. A colourless gas which becomes reddish brown when comes in contact with air
- iii. State the observation [3]  
a. Manganese dioxide is treated with conc HCl  
b. A piece of moist red litmus is placed in a gas jar of ammonia  
c. Dilute sulphuric acid is added to iron sulphide
- iv. Balanced equations [3]  
a. Sodium nitrate and conc sulphuric acid are reacted above 200°C  
b. Catalytic oxidation of ammonia  
c. Reaction between calcium bicarbonate and dilute HCl

**Question four**

- i. Give reasons: [2]  
a. Fused alumina cannot be electrolyzed on its own  
b. A layer of powdered coke is sprinkled over the electrolyte mixture in extraction of aluminium
- ii. Mention the components of the following ores [2]  
a. Duralumin  
b. Magnalium
- iii. Identify the term [3]  
a. The experiment which demonstrates high solubility of HCl gas  
b. The catalyst used in habers process
- c. Metallurgy
- iv. Complete the following table [3]

Substance reacted	acid	Gas released
C		CO <sub>2</sub> , NO <sub>2</sub>
S	Conc H <sub>2</sub> SO <sub>4</sub>	

**Question five**

- i. Name the following [2]  
a. Process by which bauxite ore is concentrated  
b. Process by which alumina is converted to aluminium

- ii. Answer the following [2]  
a. Write an equation for the reaction between excess of ammonia and chlorine  
b. Why an aqueous solution of ammonia is used for identification of cations
- iii. Name the following organic compound: [3]  
a. The compound with 3 carbon atoms whose functional group is an acid.  
b. The second homologue whose general formula is  $C_nH_{2n+2}$   
c. The compounds formed by complete combustion of methane.
- iv. In the laboratory preparation of hydrochloric acid, HCl gas is dissolved in water [3]  
a. Name the arrangement used for the same  
b. Why is such an arrangement necessary  
c. Why is conc  $HNO_3$  not used in the laboratory preparation of HCl gas

**Question six**

- i. Distinguish between the following [2]  
a. HCl solution and ammonium hydroxide solution  
b. Lead nitrate solution and zinc nitrate solution
- ii. Give one word [2]  
a. A naturally occurring mineral from which a metal is extracted profitably  
b. Two compounds having same molecular formulae but different structural formulae
- iii. Give one word for the property of conc or dilute sulphuric acid shown in the following reactions [3]  
a. Preparation of hydrogen chloride gas  
b. Preparation of copper sulphate from copper oxide  
c. Addition of conc  $H_2SO_4$  to sugar
- iv. Answer the following questions [3]  
a. Define catenation  
b. Draw the chain isomers of butane  
c. Mention the IUPAC name of the structures in (b)