

CHEMISTRY

STD X

Time 2hrs

Marks 80

Section I is compulsory. Attempt any four questions from section II

The intended marks for questions or parts of questions are given in brackets []

SECTION I

[Attempt all Questions from this section]

1 Identify the substance underlined in each of the following cases:

1 The ore of Zinc that is calcined.2. The electrolyte that is not used in electroplating an article with silver.3. An organic compound containing C-C bond between two carbon atoms.4. A diacidic base which is a pale blue precipitate and is insoluble in excess NaOH.5. A substance which becomes wet on exposure to air. (5)

2. Write balanced equation for each of the following type of reactions:

1. Hydrolysis 2. Dehydrohalogenation 3. Aluminothermy.

4. Catalytic hydrogenation. 5. Esterification 6. Dehydration.

7. Oxidation of Acetaldehyde. (7)

3. Complete the following table:

Name of the Process	inputs	Catalyst	Equation for the catalysed reaction	Output
1. _____	SO ₂ &O ₂	_____	_____	_____
2. _____	_____	Iron	_____	_____
3. _____	_____	_____	_____	Nitric acid

4. Write equations for the conversion of Bauxite to Alumina.? (3)

5. Name the following:

1. A ductile non metal.

2. A non metal with high melting point.

3. The green deposit formed on the surface of copper.

4. An element extracted by the reducing agent.

5. A metal without lustre.

6. A metal which is brittle.

7. A non metal which forms a positive ion.

(4)

8. A neutral oxide.

6. Write balanced equation and property of the acid listed below:

1. Zinc sulphide & dilute HCl.

2. H_2S & Concentrated H_2SO_4 .

3. Potassium bicarbonate & dilute Nitric acid.

(6)

4. Copper & concentrated Nitric acid.

7. Draw the structural diagram of the following compounds;

1. Ethanoic acid.

2. Methanal

(4)

3. 1,1,2,2-tetra bromoethane.

4. Dimethyl ether

(2)

8. Differentiate between ;Catenation & Calcination.

9. In the decomposition of potassium nitrate, calculate the mass of potassium nitrite formed if 3.5 moles of potassium nitrate is heated? Find the volume of Oxygen evolved at the same time. [K=39, N=14, O=16]

(3)

section II.

(Answer any four questions)

QUESTION II

1. Explain the trend in Electron affinity & Electro negativity down the group? (2)

2. Why I.P increases over a period from left to right ? (1)

3. Draw the electron dot diagram for the formation of MgO . {Mg=12, O=8} (2)

4. Define a co-ordinate bond? Draw the formation of hydronium ion ? (2)

5. Distinguish between the following pairs of compounds: A Lead salt & a Zinc salt.

Write its equation also?

(3)

QUESTION III

1. Name the method of preparation of the following salts and write its balanced equations:

a. Glaubers salt

b. Lead sulphate

c. Zinc sulphate

d. Cupric carbonate

(4)

2. Name a diacidic base? What is basicity of an acid? Write an equation to get a triacidic base using a weak alkali?

(3)

3. Fill in the blanks:

_____ is the anhydride of sulphuric acid. _____ do not react with dilute acids but reacts with conc. H_2SO_4 on warming to liberate HCl. A strong base undergoes _____ ionisation to produce high concentration of _____.

(2)

4. Write a test to distinguish between an Alkene & Alkyne.

(1)

QUESTION IV

1. Write balanced equations:

1. Aluminium hydroxide reacting with sodium hydroxide.

2. Zinc reacting with hot concentrated caustic soda solution.

3. Dilute HCl is added to sodium bisulphite solution .

(3)

2. State Avogadro's law? In the electrolysis of water $2H_2O \rightarrow 2H_2 + O_2$. If 2500cm^3 of Hydrogen being produced, what volume of oxygen is liberated at the same time?

Calculate the amount of water used in the reaction?

(3)

3. What do you observe at anode in the electrolysis of lead bromide?

(1)

4. Write equation at anode in the electrolysis of dilute sulphuric acid?

(1)

5. Name the anode in the electroplating of an article with silver. Write equation at anode in this electroplating?

(2)

QUESTION V

1. Write equation for the laboratory preparation of Nitric acid?

