

LAKSHDHAM HIGH SCHOOL
SECONDARY SECTION
SECOND SEMESTER PRELIMINARY EXAMINATION (2021-2022)
SUBJECT: CHEMISTRY (SCIENCE PAPER II)

Grade: X

Date: 25-02-22

Maximum Marks: 40

Time allowed: 1.30 Hrs.

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 10 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

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

The intended marks for 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.

[10]

(Do not copy the question, Write the correct answer only.)

(i) An alloy of Aluminium

- (a) Magnalium
- (b) Brass
- (c) Steel
- (d) German silver

(ii) An acid used in the preparation of non-volatile acid

- (a) HCl
- (b) H_2SO_4
- (c) HNO_3
- (d) H_2SO_3

(iii) _____ is a dibasic acid.

- (a) Nitric acid
- (b) Hydrochloric acid
- (c) Sulphuric acid
- (d) Both a and b.

(iv) Electrodes used in the electrolysis of Aluminium.

- (a) Iron
- (b) Carbon
- (c) Aluminium
- (d) Platinum

(v) Melting point of organic compounds is _____.

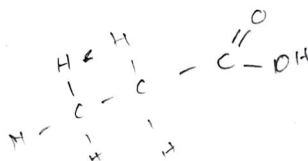
- (a) low
- (b) high
- (c) same as inorganic compounds
- (d) None

(vi) A Trivial name of propene

- (a) Propylene
- (b) Propyne
- (c) Methyl acetylene
- (d) propanol

(vii) A gas produced when metals react with dil. Acids.

- (a) Carbon dioxide
- (b) Oxygen
- (c) Nitrogen
- (d) Hydrogen



(viii) An organic compound with two carbon atoms whose functional group is an aldehyde.

- (a) Acetylene
- (b) Ethanol
- (c) Ethane
- (d) Ethanal

Handwritten mark

(ix) The colour of the precipitate formed when Lead nitrate reacts with Ammonium hydroxide:

- (a) Reddish brown
- (b) Chalky white
- (c) Gelatinous white
- (d) Pale blue

(x) In the laboratory preparation of Nitric acid, the apparatus should be completely made up of _____.

- (a) Plastic
- (b) Glass
- (c) Graphite
- (d) Metal

SECTION B [30 marks]

(Attempt **any three** questions from this Section.)

Question 2

(i) Copy and complete the following table:

[3]

Alkane	Alkene	Alkyne
Saturated Hydrocarbon	Unsaturated Hydrocarbon	_____
Contains C-C single covalent bonds	_____	Contains C-C triple covalent bonds
_____	Addition reaction	Addition reaction

(ii) Write the reactions at cathode and anode on electrolysis of Alumina pertaining to the extraction of Aluminium.

[2]

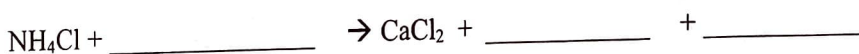
(iii) Answer the following questions pertaining to the laboratory preparation of Ammonia gas:

[3]

(a) Write the chemical name of the drying agent.

(b) Why is ammonia gas collected by downward displacement of air?

(c) Complete and balance the following equation.



(iv) Nitric acid is not used in the preparation of Hydrogen gas. Give reasons.

[2]

Question 3

(i) Write a balanced equation for the following:

[3]

(a) Sodium sulphite reacts with dil. Hydrochloric acid.

(b) Catalytic oxidation of Ammonia

(c) Zinc sulphate from Zinc oxide and Sulphuric acid.

- (ii) Name the following: [2]
- (a) The substance added to the ore to get rid of the matrix.
 - (b) A metal that occurs in a free state.

- (iii) Draw the branched structural formula of the following organic compounds. [3]
- (a) But-2-ene (2- Butene)
 - (b) Pentane
 - (c) Propyne

- (iv) State the property of Conc. Sulphuric acid in the following reactions. [2]
- (a) Conversion of Carbon to Carbon dioxide
 - (b) Conversion of glucose to Carbon

Question 4

- (i) Copy and complete the following sentences. [2]
- In Hall- Heroult process of extraction of Aluminium, the addition of _____ enhances the conductivity of the electrolyte mixture since pure _____ is almost a non-conductor of electricity.

- (ii) Define the following terms: [2]
- (a) Hydrocarbon
 - (b) Isomers

- (iii) State the precautions to be taken during laboratory preparation of Nitric acid. [3]

- (iv) Name the two gases which can be used to study the fountain experiment. State the common property demonstrated by the fountain experiment. [3]

Question 5

- (i) Answer the following: [4]
- (a) Name the process used for large-scale manufacture of Sulphuric acid.
 - (b) Name the catalyst used for the conversion of Sulphur dioxide to Sulphur trioxide.
- Write the balanced chemical equation for the same.
- (c) Write the chemical name of Oleum.

(ii) State a, b and c pertaining to the manufacture of ammonia gas:

[3]

Name of the process	Reactants	Conditions
Haber's process	(a) _____	(b) Temperature _____ (c) Pressure _____

[3]

(iii) Name the following organic compound:

- (a) The product formed on catalytic hydrogenation of ethene.
- (b) The hydrocarbons whose general formula is C_nH_{2n-2} .
- (c) The compound formed when bromine reacts with ethene.

Question 6

[3]

(i) Copy and complete the following table.

Common Name	Chemical Name	Formula
(a) _____	Zinc sulphide	ZnS
(b) Iron Pyrite	_____	FeS ₂
(c) Haematite	Iron [III] oxide	_____

(ii) Give the test to distinguish dil. Sulphuric acid from dil. Hydrochloric acid and dil. Nitric acid.

[2]

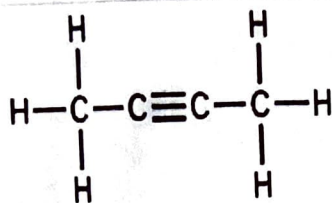
(iii) State the observation for the following:

[2]

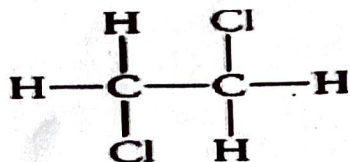
- (a) Ferrous sulphate reacts with ammonium hydroxide.
- (b) Glass rod dipped in ammonia solution brought near vapors of HCl.

(iv) Write the IUPAC name of the following organic compounds.

(a)



(b)



(c)

