

GREENLAWNS SCHOOL, WORLI
TERMINAL EXAMINATION: 2025-26
CHEMISTRY

Std: X

Marks: 80

Date: 16/09/2025

Time: 2 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.

Section A is compulsory. Attempt **any four** questions from **Section B**.

SECTION A

(Attempt **all** questions from this Section)

Question 1

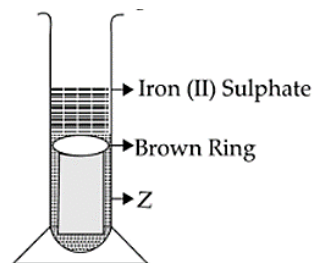
Choose the correct answers to the questions from the given options.

[15]

(Do not copy the question, write the correct answers only.)

- (i) The organic compound mixed with ethanol to make it spurious is:
(a) Methanol (c) Methanal
(b) Methanoic acid (d) Ethanoic acid
- (ii) When HCl is prepared by the reaction of NaCl with Sulphuric acid, the property of Sulphuric acid exhibited is:
(a) Dehydrating agent (c) Oxidising
(b) Drying agent (d) Non-volatile acid
- (iii) Rajveer tested a salt solution by adding ammonium hydroxide dropwise, forming a reddish brown precipitate. On adding excess ammonium hydroxide, the precipitate is insoluble. The cation present in the salt is:
(a) Copper (II) ion (c) Iron (III) ion
(b) Iron (II) ion (d) Zinc ion
- (iv) Which ion is detected by the test shown below:

- (a) Sulphate
(b) Chloride
(c) Ammonium
(d) Nitrate

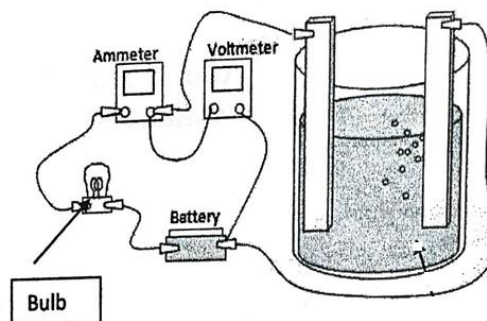


- (v) Which of the following compounds has all three bonds – ionic, covalent and coordinate?
(a) Sodium hydroxide (c) Calcium chloride
(b) Ammonium chloride (d) Ammonia

- (vi) The number of molecules in 4.25 g of ammonia (N=14, H=1) is:
 (a) 1.0×10^{23} (c) 1.5×10^{23}
 (b) 2.0×10^{23} (d) 3.5×10^{23}
- (vii) **Assertion (A):** Atomic size increases along a period.
Reason (R): Effective nuclear charge increases with atomic number.
- (a) Both A and R are true and R is the correct explanation of A.
 (b) Both A and R are true but R is not the correct explanation of A.
 (c) A is true but R is false.
 (d) A is false but R is true.
- (viii) Amphoteric oxides and hydroxides react with _____ & _____ to give salt and water only:
 (a) Acid, alkali (c) Acid, base
 (b) Base, alkali (d) None of these
- (ix) Electrolyte A, B and C were placed in an electrolytic container and following observations were made:

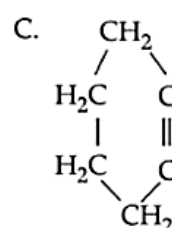
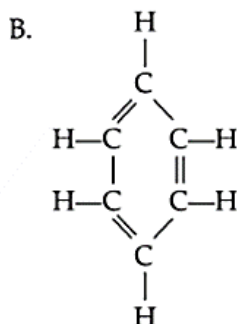
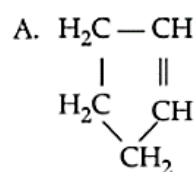
Electrolyte A: Bulb did not get lit
 Electrolyte B: Bulb lights brightly
 Electrolyte C: Bulb lights dimly

Identify A, B and C

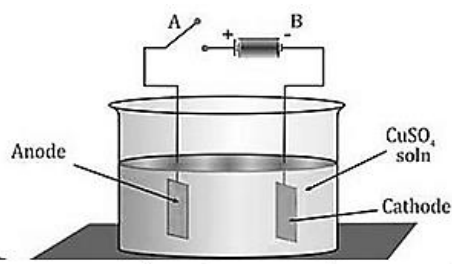


- (a) A: Ethyl alcohol, B: NaCl, C: Acetic acid
 (b) A: Acetic acid, B: NaCl, C: Ethyl alcohol
 (c) A: NaCl, B: Acetic acid, C: Ethyl alcohol
 (d) A: Acetic acid, B: Ethyl alcohol, C: NaCl
- (x) The main components of Bronze are:
 (a) Cu + Zn + Sn (c) Pb + Sn
 (b) Cu + Zn (d) Cu + Sn
- (xi) Which of the following electronic configuration suggests an element with highest electropositivity?
 (a) 2, 1 (c) 2, 7
 (b) 2, 2 (d) 2, 8

(xii) Which of the following compounds is benzene?



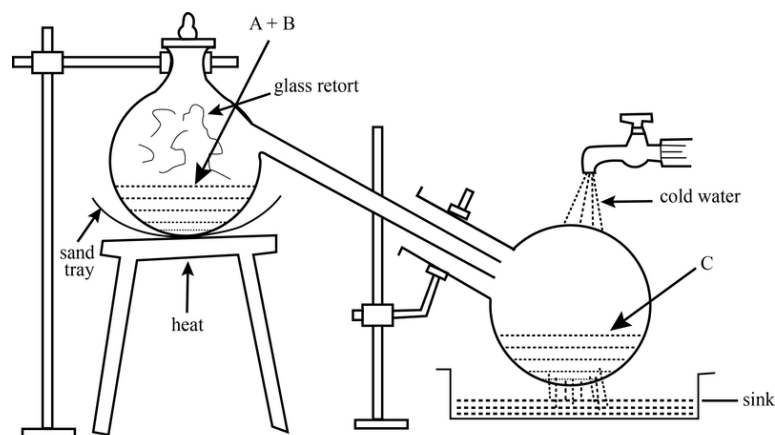
- (a) Compound A
(b) Compound B
(c) Compound C
(d) Compound B and C
- (xiii) Which of the following metallic oxides cannot be reduced by normal reducing agents?
(a) Magnesium oxide
(b) Copper (II) oxide
(c) Zinc oxide
(d) Iron (III) oxide
- (xiv) The diagram given below shows the electrolysis of aqueous Copper sulphate solution using active electrode copper.
What will be the correct observation if the active electrode is replaced by an inert electrode like platinum?



- (a) Copper metal is deposited at anode
(b) The blue colour of copper sulphate solution fades away
(c) The blue colour of copper sulphate solution is retained
(d) Sulphur dioxide is evolved at the cathode
- (xv) Element A is from period 3 and group 2. Element B is from period 3 and group 16. The formula when A combines with B is:
(a) A_2B_2
(b) AB_2
(c) A_2B_3
(d) AB

Question 2

- (i) The figure given below illustrates the apparatus used in the laboratory preparation [5]
of a compound.



- (a) Name A (a liquid), B (a solid) and C (a liquid).
(b) Give an equation that represents this preparation.
(c) Why is an all glass apparatus used in this preparation?
(d) Write an equation to show how this compound undergoes decomposition.
(e) Give an equation for the reaction in which copper is oxidized by this compound.
- (ii) Identify the following: [5]
(a) The industrial method of preparation of Sulphuric acid.
(b) The property by which carbon links with itself to form a long chain.
(c) Converting concentrated ore to metal oxide by heating in absence of air.
(d) The bond formed by sharing of electrons where both electrons are donated by the same atom.
(e) Gas released at anode during the electrolysis of acidified water.
- (iii) Complete the following by choosing the correct answers from the bracket: [5]
(a) Pure water consists almost entirely of _____ (ions / molecules).
(b) Excess of ammonia reduces chlorine to _____ (NH_4Cl / N_2).
(c) Addition of _____ (Iron (III) sulphide / Iron (II) sulphide) to dilute hydrochloric acid results in the liberation of hydrogen sulphide gas.
(d) 0.4 moles of gas 'X' will occupy a volume of _____ (5.6 l / 8.96 l).
(e) The impurities present in bauxite remain unaffected by conc. NaOH solution since they are _____ (amphoteric/volatile).

(iv) Match column A with column B:

[5]

Column A	Column B
(a) Ammonia	1. Electrovalent compound
(b) Froth floatation	2. Dehydrating agent
(c) Magnesium chloride	3. Covalent compound
(d) Conc. Sulphuric acid	4. Haber's process
(e) Water	5. Sulphide ore

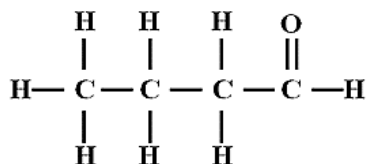
(v) (a) Draw the structural diagram for the following compounds:

[5]

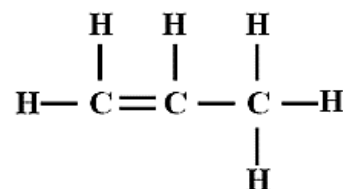
1. 2, 2 – Dichloro butane
2. 2 - Pentyne
3. Ethanoic acid

(b) Give the IUPAC name of the following organic compounds:

1.



2.



SECTION B

(Attempt **any four** questions)

Question 3

(i) Samantha is curious to know about hydrocarbons. Kindly help her by answering the below given questions: [5]

- (a) Which compound should be heated with sodalime to obtain ethane gas in the laboratory?
- (b) Write the equation for the reaction in (a) above.
- (c) Write a balanced equation for the complete combustion of ethane.
- (d) Name a solid which can be used instead of concentrated sulphuric acid to prepare ethylene by the dehydration of ethanol.
- (e) Ethylene forms an addition product with chlorine. Name this addition product and write its structural formula.

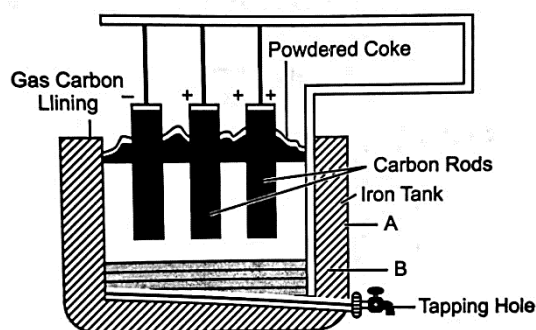
(ii) Ammonia is prepared in the laboratory from ammonium salts: [2]

- (a) Name the drying agent used in the laboratory preparation of ammonia.
- (b) Give electron dot structure for your above answer.

- (iii) Vapour density of a gas Z is 23. Calculate: [3]
- Number of moles
 - Weight in grams
 - Number of molecules in 6.72 dm^3 of gas at S.T.P.

Question 4

- (i) The electronegativity of element X is greater than that of element Y. [3]
- The reducing power of Y is _____ (more/less) as compared to X.
 - The electron affinity of Y is _____ (more/less) as compared to X.
 - State whether Y is likely to be placed to the left or to the right of X in the periodic table.
- (ii) Study the figure given below and answer the following questions: [4]



- Name this process and the element extracted by the process shown in the figure.
 - Give functions of the two substances added to the electrolytic mixture.
 - Why is the electrolyte covered with coke?
 - Write the electrolytic reaction taking place at cathode.
- (iii) Compound A and B are treated with bromine dissolved in carbon tetrachloride. [3]
A does not react while B gives 1, 2-dibromoethane.
- Identify to which homologous series do A and B belong?
 - Give the structural formula for B.
 - Give any one observation for the above reaction.

Question 5

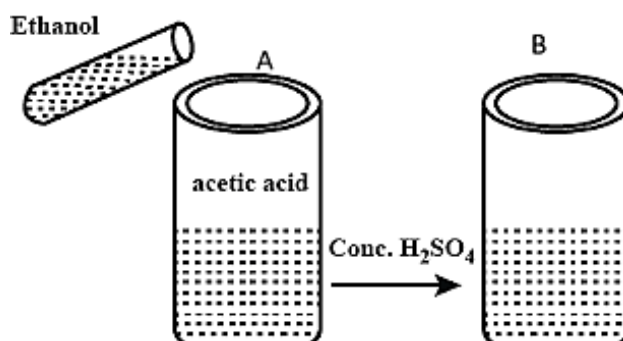
- (i) You are asked by your teacher to distribute 10^{-6} moles of sugar ($\text{C}_{12}\text{H}_{22}\text{O}_{11}$) to each of your 100 classmates. How many molecules of sugar each one of you would get? [2]
- (ii) Identify the reactant and write a balanced equation for the following: [2]
Hydrochloric acid reacts with a compound Z to give a salt MgCl_2 , water and sulphur dioxide.

- (iii) Ramnarayan wants to electroplate his key chain with nickel to prevent rusting. [3]
- Which electrolyte can Ramnarayan use to electroplate his key chain?
 - Name the anode in the above process.
 - Write the equation for the reaction taking place at the anode.
- (iv) State one observation in each of the following: [3]
- Sneha accidentally spilled conc. Sulphuric acid on sugar.
 - Ritwik adds hydrochloric acid to silver nitrate solution.
 - Bijal strongly heats a blue colour compound that gives a black residue, a colourless gas and a coloured gas.

Question 6

- (i) Sonali was asked to perform an experiment in the laboratory based on the instructions given below:

Mix equal molar amounts of acetic acid and ethanol in a beaker, add a few drops of concentrated sulphuric acid as a catalyst, and gently heat the mixture while monitoring the reaction with a thermometer. Observe the picture given below and answer the following questions: [3]



- Name the process.
 - Give balanced chemical equation for the above mentioned process.
 - Give one relevant observation.
- (ii) Answer the following questions based on the given table: [3]

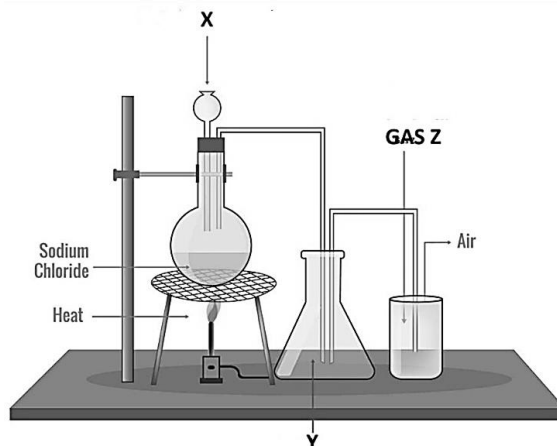
	Groups			
Period	2	16	17	18
2	A	B	C	D
3	E	F	G	H

- Identify the element with greater reducing property in group 2.
- Arrange elements of period 3 in order of decreasing ionization potential.
- Draw the electron dot structure for the formation of a molecule of G.

- (iii) Write balanced chemical equations for the following: [3]
- Laboratory preparation of acetylene from calcium carbide.
 - Action of heat on a mixture of sulphur and concentrated nitric acid.
 - Catalytic oxidation of ammonia.
- (iv) Define Ionisation potential. [1]

Question 7

- (i) Shloka and Swaati set up the apparatus for the laboratory preparation of an acidic gas 'Z'. Observe the diagram below and answer the following questions. [3]



- Give a balanced chemical equation.
 - Identify Y and state its significance.
 - Give a chemical test for gas 'Z'.
- (ii) Baeyer's process is used to concentrate bauxite ore into alumina. [3]
Give balanced chemical equations for the reaction taking place for the conversion from bauxite to alumina.
- (iii) Draw the position isomers of Butyne and give their IUPAC names. [2]
- (iv) Write the composition of the following alloys: [2]
- Stainless steel
 - Duralumin
