GREENLAWNS SCHOOL, WORLI

FINAL EXAMINATION: 2025-26

CHEMISTRY

Std: VIII | Marks: 80

Date: 18/02/2026 | Time: 2 hrs

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.

I A) Select the correct answers to the questions from the given options. [10]
(Do not copy the question. Write the correct answer only):

1) Which of the following sets of elements show variable valencies?
(a) Copper and sodium
(b) Iron and calcium
(c) Lead and mercury
(d) Silver and potassium

2) Which of the following reactions is a neutralization reaction?
(a) When carbon burns in air
(b) Sodium hydroxide reacts with dilute H_2SO_4
(c) Reaction between barium chloride solution and dilute HNO_3
(d) When zinc reacts with dilute HCl

3) Hydrogen is:
(a) Combustible
(b) Non-combustible
(c) Supporter of combustion
(d) Neither supporter nor combustible

4) The substance which can remove permanent hardness of water is:
(a) Sodium hydroxide
(b) Sodium bicarbonate
(c) Sodium chloride
(d) Sodium carbonate

5) The metal which burns in carbon dioxide is:
(a) Copper
(b) Magnesium
(c) Aluminium
(d) Iron

6) Which of the following is an example of a suspension?
(a) Milk
(b) Saline water
(c) Muddy water
(d) Sugar water

7) In which of the following reactions will heat be absorbed?
(a) Formation of NO in lightning
(b) Addition of water to quicklime
(c) Formation of NH_3
(d) Catalytic oxidation of SO_2

8) How many electrons does Magnesium have to lose to form Mg^{2+}?
(a) 1
(b) 3
(c) 2
(d) 4

9) Which is unrelated to the reaction of hydrogen with nitrogen?
(a) Iron is required as catalyst
(b) This reaction is irreversible
(c) Ammonia is the product
(d) This reaction is exothermic

10) Which type of coal has carbon content of 90%:

(a) Peat
(b) Lignite
(c) Bituminous
(d) Anthracite

B) Complete the following by choosing the correct answer from the bracket: [5]

1) A shorthand form of representing the result of a chemical change is called a chemical _____ (reaction / formula).
2) A soda acid fire extinguisher contains a cylinder containing _____ (Na_2CO_3 and Conc. HCl / $NaHCO_3$ and conc. H_2SO_4).
3) (Potassium / Sodium) _____ revolves on water surface and burns with a golden yellow flame when reacted with water.
4) Separation of CO_2 from hydrogen during the Bosch process is done by using _____ (KOH / Ammoniacal CuCl).
5) The catalyst used in conversion of SO_2 to SO_3 is _____ (V_2O_5 / Pt).

C) Identify the substances underlined in each of the following case: [5]

1) A type of <u>solution</u> which can pass through a filter paper but cannot pass through a semi-permeable membrane.
2) The <u>radical</u> with the formula $Cr_2O_7^{2-}$.
3) An amorphous <u>allotrope</u> of carbon used as a filler in rubber tyres.
4) The <u>acid</u> formed when carbon dioxide dissolves in water.
5) A <u>flame</u> of very high temperature around 2800^0C used for welding and cutting metals.

D) Explain the following terms: [5]

1) Redox reaction
2) Precipitation reaction
3) Promoter
4) Oxides
5) Deliquescent substance

E) Distinguish between the following pairs on the basis of the points given in the brackets: [5]

1) Acidic oxide and basic oxide (example)
2) Anion and cation (charge)
3) Positive and negative catalyst (meaning)
4) Pressure and temperature (effect on solubility of gases in water)
5) Pure hydrogen and Hydrogen-air mixture (test)

F) Give reasons for the following: [5]

1) Solid carbon dioxide is used for the refrigeration of food.
2) When conc. Sulphuric acid is added to sugar, sugar gets reduced to carbon.
3) Hydrogen gas is collected by downward displacement of water.
4) Dilute sulphuric acid is not used in the laboratory preparation of carbon dioxide.
5) It is dangerous to stand in a garage with the engine of an automobile running.

G) Complete and balance the following chemical equations: [5]

1) $KClO_3 \rightarrow$ _____ + _____
2) $P_2O_5 + H_2O \rightarrow$ _____

3) $ZnSO_4 + NH_4OH \rightarrow$ _____ + _____
4) $Na_2O + CO_2 \rightarrow$ _____
5) $CaCO_3 + HCl \rightarrow$ _____ + _____ + _____

II A) Given below are the same type of chemical reactions. Observe the chemical equations and answer the following questions: [5]

Sr. No	Chemical Equation
A	$CuSO_4 + Mg \rightarrow MgSO_4 + Cu$
B	$3ZnSO_4 + 2Al \rightarrow Al_2(SO_4)_3 + 3Zn$
C	$AgNO_3 + Cu \rightarrow CuNO_3 + Ag$
D	$NaNO_3 + K \rightarrow KNO_3 + Na$
E	$PbSO_4 + Fe \rightarrow FeSO_4 + Pb$

1) Identify the type of reaction in the above equations
2) Which metal is more reactive in chemical equation A?
3) Which metal is less reactive in chemical equation E?
4) Enlist all the metals involved in the given chemical reactions. Arrange them in increasing order of the reactivity.

B) Observe the below given images and answer the following questions: [5]

(a)

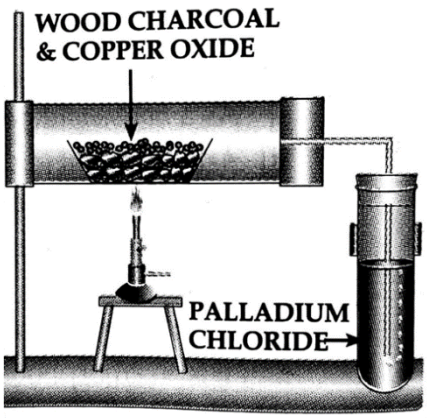
(b)

1) Describe the crystal lattice of figure (a).
2) Name the force which holds the layers of carbon together in figure (b).
3) Why does figure (a) finds application in jewellery?
4) Why does the carbon of figure (b) have low density?
5) Which property makes the carbon of figure (b) useful in the manufacture of refractory crucibles?

III A) A teacher was performing experiments in the chemistry lab and students were noting down the chemical equations in their journals. Rohit had written word equations instead of chemical equations. Rewrite all the word equations of Rohit as balanced chemical equations: [3]

1) Zinc sulphide + Oxygen → Zinc oxide + Sulphur dioxide
2) Ammonium chloride + Calcium hydroxide → Calcium chloride + Water + Ammonia
3) Ammonia + Copper (II) oxide → Copper + Water + Nitrogen

B) Swasti takes a mixture of wood charcoal and copper (II) oxide in a cup and places it in a hard glass test tube and heats it. Answer the following questions related to Swasti's experiment: [4]



1) What change is observed in copper oxide on heating with wood charcoal?

2) What will you observe when the gas released during this reaction is passed through palladium chloride solution?

3) What property of wood charcoal is seen in this experiment?

4) Give a balanced chemical equation for the reaction taking place in this experiment.

C) There are two different liquids in beaker A and beaker B respectively. Light was passed through beaker A and it was observed that there was no deviation in the path of light. When light was passed through beaker B, dispersion of light was observed. Using the given information, complete the below given table: [3]

Property	Beaker A	Beaker B
1) Size in nanometre		
2) Type of mixture		
3) Visibility under an ultra-microscope		

IV A) The presence of minerals in water determines whether the water is hard or soft. Observe the given below image and answer the following questions: [5]

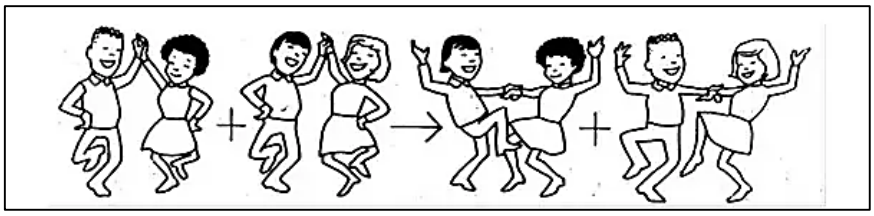
1) What causes the formation of white spots on the tap?
2) Name the salts present in water that cause the formation of white spots.
3) What are the disadvantages of this water?
4) How can you soften this water?
   Support your answer with a balanced chemical equation.

B) Give balanced chemical equations for the following conversions: [3]
1) Acidified water to hydrogen by electrolysis.
2) Lead to sodium plumbite using an alkali.
3) Iron (III) oxide to iron using hydrogen.

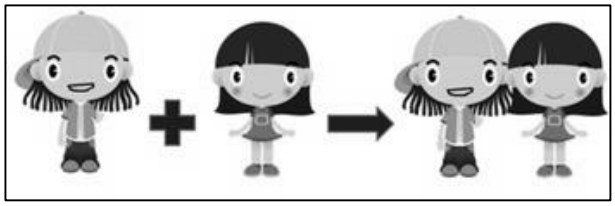
C) The element 'X' forms an oxide X_2O_3. [2]
1) What is the valency of element 'X'?
2) What will be the formula of carbonate of 'X'?

V A) Look at the figures given below and answer the questions that follow:

a)

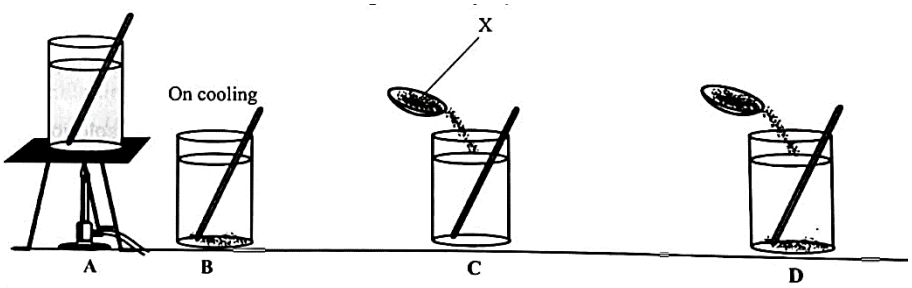


b)



1) Identify the type of reaction that the picture (a) and (b) depicts. [1]
2) Match the reactions given below with the figures (a) and (b): [1]
   i. Calcium oxide + Water → Calcium hydroxide
   ii. Barium chloride + Sodium sulphate → Barium sulphate + Sodium chloride
3) Give balanced chemical equations for the above word equations. [2]

B) The diagram shown below refer to the stages in the preparation of a supersaturated solution. [3]



1) Using letters – A, B, C and D, arrange the diagrams in the correct logical order.
2) What is 'X' called?
3) Which of the diagram represents:
   i. Unsaturated solution
   ii. Saturated solution
   iii. Supersaturated solution

C) CO is a highly poisonous gas and is therefore not usually prepared in the laboratory. [3] However, its method of preparation using formic acid and concentrated H_2SO_4 helps in understanding its chemical nature. Based on this information, answer the following:

1) What is the function of concentrated sulphuric acid in this reaction?
2) Write the balanced chemical equation for the reaction.
3) What can a victim of CO poisoning be given?

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