

ICSE Board
Class VIII Chemistry
Sample Paper – 1

Time: 2 hrs

Total Marks: 75

General Instructions:

1. *All questions are **compulsory**.*
2. *Questions 1 to 15 carry one mark each.*
3. *Questions in 2A and 2B carry one mark each.*
4. *Questions 3A and 3B carry five marks each.*
5. *Questions 4A and 4B carry 5 marks each.*
6. *Questions in 5A and 5B carry one mark each.*
7. *Questions in 6A and 6B carry one mark each.*
8. *Questions 7A and 7B carry five marks each.*

Question 1

Choose the correct answer out of the four available choices given under each question. [15]

1. The following diagram shows the various shells of electrons. The maximum number of electrons which can be accommodated in the M shell is _____.



- (a) 2
 - (b) 8
 - (c) 18
 - (d) 32
2. Which of the following is incorrect about a heterogeneous mixture?
 - (a) Constituents can be distinctly seen.
 - (b) Constituents are uniformly mixed.
 - (c) Different composition throughout.
 - (d) Sand in Water is an example of heterogeneous mixture.

3. Which of the following are combination reactions?

- i. $4K + O_2 \rightarrow 2K_2O$
- ii. $CuSO_4 + 2NH_4OH \rightarrow (NH_4)_2SO_4 + Cu(OH)_2$
- iii. $2ZnS + 3O_2 \rightarrow 2ZnO + 2SO_2$
- iv. $Na_2O + H_2O \rightarrow 2NaOH$

- (a) Reactions (i) and (ii)
- (b) Reactions (ii) and (iii)
- (c) Reactions (ii) and (iv)
- (d) Reactions (i) and (iv)

4. The following table gives the steps we use in writing the formulae of compounds. What is the correct formula of aluminium chloride?

	Aluminium	Chlorine
Symbols	Al	Cl
Valency	3+	1-
Interchanging Valency	1	3

- (a) $AlCl_3$
 - (b) Al_3Cl
 - (c) Al Cl
 - (d) Cl_3Al
5. Given the symbol A_ZC , what are the values of A and Z for carbon?
- (a) $A = 12, Z = 6$
 - (b) $A = 8, Z = 4$
 - (c) $A = 6, Z = 6$
 - (d) $A = 10, Z = 2$
6. Element _____ has symbol derived from its Latin name 'plumbum'.
- (a) Calcium
 - (b) Lead
 - (c) Carbon
 - (d) Hydrogen

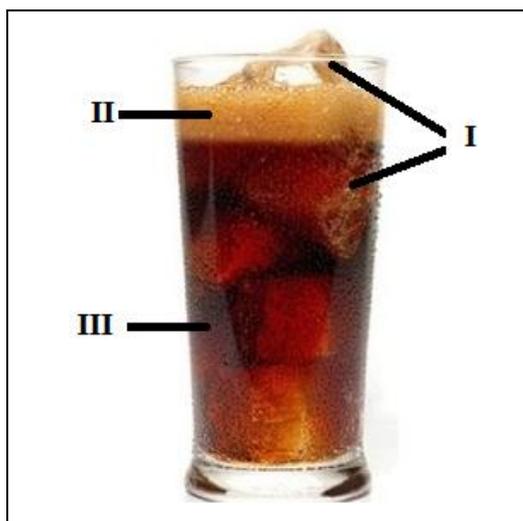
7. Valency of iron in FeO is ____ of chlorine in CaCl₂ is ____ .

- (a) 1+,2-
- (b) 2+, 1-
- (c) 2+,2-
- (d) 1+,1-

8. Melting of ice is

- (a) Irreversible change
- (b) Periodic change
- (c) Chemical change
- (d) Reversible change

9. Which is the correct answer about the states of substances I, II and III with reference to the following picture?

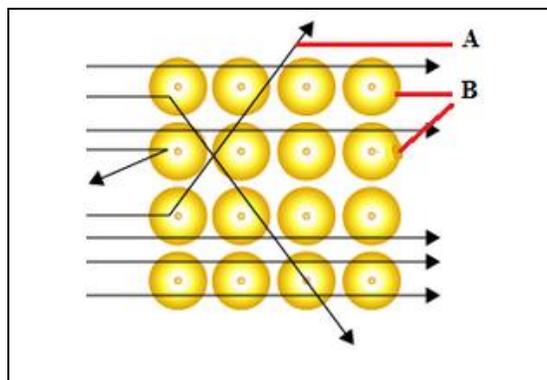


- (a) I - Solid, II - Liquid, III - Gas
- (b) I - Liquid, II - Gas, III - Solid
- (c) I - Solid, II - Gas, III - Liquid
- (d) I - Gas, II - Solid, III - Liquid

10. When the temperature of water increases above 0°C up to 4°C, its density _____.

- (a) decreases
- (b) increases
- (c) becomes zero
- (d) remains unchanged

11. When an electric current is passed through acidulated water, _____ volume of hydrogen is formed at the cathode and _____ volume of oxygen is formed at the anode.
- one, two
 - three, one
 - one, three
 - two, one
12. A soluble solid is separated from insoluble solid by _____
- Fractional crystallisation
 - Solvent extraction
 - sublimation
 - Magnetic separation
13. The following picture represents Rutherford's gold foil experiment. The parts labelled A and B in the diagram represent _____ and _____, respectively.



- light rays, electrons
 - X-rays, nuclei of gold atoms
 - alpha rays, electrons
 - alpha rays, gold atoms
14. Anthracite is
- An inferior type of coal
 - A superior type of coal
 - A cheapest form of coal
 - None of above
15. Hydrogen is
- Combustible
 - Non-combustible
 - Supporter of combustion
 - Non-supporter of combustion

Question 2

(A) State the electronic configuration of the following atoms? [5]

1. Atom 'A' (Atomic Number = 8)
2. Atom 'B' (Atomic Number = 18)
3. Atom 'C' (Atomic Number = 11)
4. Atom 'D' (Atomic Number = 20)
5. Atom 'E' (Atomic Number = 3)

(B) Fill in the blanks and rewrite the sentences: [5]

1. Water reacts with metals to liberate _____ gas.
2. The process of change from the _____ state to the _____ state at a particular temperature is called liquefaction.
3. Atoms of the same elements differing in the number of _____ in their nuclei are known as isotopes.
4. The gas which has now replaced hydrogen in air balloons is _____
5. The crystal of _____ is opaque to light and is good conductor of heat

Question 3

(A) State whether the following statements are true or false. Rewrite the false statement. [5]

1. When potassium chlorate is heated strongly, potassium chloride is formed with evolution of carbon dioxide gas.
2. The maximum number of electrons which can be accommodated in the K shell is 8.
3. Mercuric oxide when heated gives mercury and oxygen. This is a displacement reaction.
4. Balanced chemical equation shows both the number of molecules and the number of atoms involved in the reaction.
5. The positive charge radicals are called as anions..

(B) State a method to separate the following mixtures: [5]

1. Two solid mixtures, one of which sublimes.
2. A solid-liquid mixture containing an insoluble solid in a liquid component.
3. To separate the mixture of an insoluble solid and a soluble solid.
4. To separate the mixture of different solid constituents in a liquid component.
5. To separate the mixture of a soluble solid from a liquid component.

Question 4

(A) Describe the formation of coal. What are its four types? [5]

(B) Define the following terms: [5]

1. Crystallisation
2. Water of crystallisation
3. Hydrated crystal
4. Anhydrous crystal
5. Crystal

Question 5

(A) What is atom? State the main postulates of Dalton's atomic theory. [5]

(B) What is meant by the metal activity series? What are its important features? [5]

Question 6

(A) Draw a diagram representing the atomic structures of the following: [5]

1. Hydrogen
2. Helium
3. Lithium
4. Carbon
5. Nitrogen

(B) Define the following terms: [5]

1. Atomic number
2. valency
3. Atomic mass number
4. Valence shell
5. Periodic table

Question 7

(A) 1. Write the balanced chemical equations [3]

a. Lead + Carbon \rightarrow Lead + Carbon dioxide

b. Calcium oxide + Water \rightarrow Calcium hydroxide

c. Hydrogen + Chlorine \rightarrow Hydrochloric acid

2. State the formula of the following compounds: [2]

a. Calcium nitrate

b. Sodium chloride

(B)

1. What are the types of mixtures? [2]

2. Differentiate between a compound and mixture. [3]