ICSE Board
Class VIII
Chemistry
Sample Paper –1

Time: 2 hrs **Total Marks: 75**

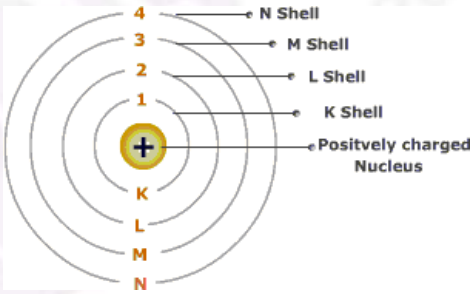
General Instructions:

1. All questions are compulsory.
2. Questions 1 to 15 carry 1 mark each.
3. Questions in 2A and 2B carry 1 mark each.
4. Questions in 3A and 3B carry 1 mark each.
5. Question 4A and 4B carry 5 marks each.
6. Question 5A and 5B carry 5 marks each.
7. Question 6A and 6B carry 5 marks each.
8. Question 7A and 7B carry 5 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. The maximum number of electrons which can be accommodated in an orbit is given by the formula__, where n is the number of orbit.

(a) $2(n + 2)$
(b) $2n + 2$
(c) $2n^2$
(d) $2/n^2$

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) AlCl
(d) Cl_3Al

5. Given the symbol ${}^{A}C_{Z}$, 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. The phenomenon of existence of a substance in various physical forms but the same chemical form is known as_____.
(a) isomerism
(b) enantiomerism
(c) allotropy
(d) anisotropy

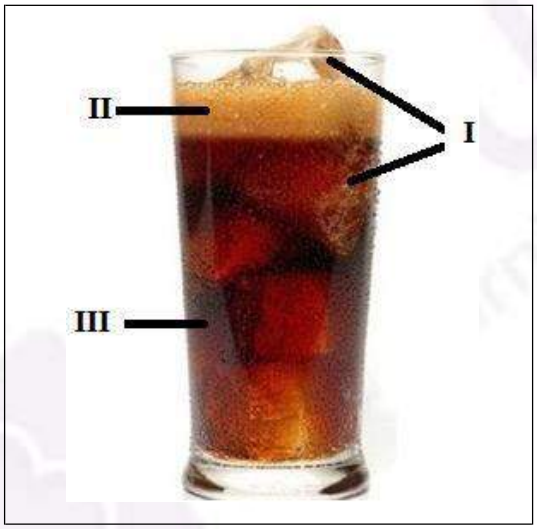
7. The metal reacts with cold water to produce hydrogen is

(a) Magnesium
(b) Aluminium
(c) Calcium
(d) Iron

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. Hydrogen burns in oxygen to form_____.

(a) hydrochloric acid

(b) water

(c) hydrogen sulphide

(d) ammonia

12. The credit for the discovery of hydrogen goes to_____..

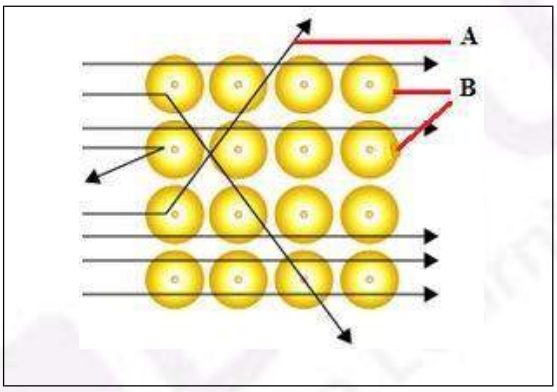
(a) Rutherford

(b) James ChadwickAcids, bases

(c) Henry Cavendish

(d) Satyendra Nath Bose

13. The following picture represents Rutherford's gold foil experiment. The parts labelled A and B in the diagram represent and , respectively.



(a) light rays, electrons

(b) X-rays, nuclei of goldatoms

(c) alpha rays, electrons

(d) alpha rays, goldatoms

14. Anthracite is

(a) An inferior type ofcoal

(b) A superior type of coal

(c) A cheapest form ofcoal

(d) None of above

15. Hydrogen is

(a) Combustible

(b) Non-combustible

(c) Supporter of combustion

(d) 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. The density of water is maximum at____.
2. Galvanising is a process in which iron and steel are coated with a thin layer of
   a. to protect them from corrosion.
3. The process of removing oxygen from its compounds is called___.
4. The process in which a solid directly changes into a gas is called__.
5. A change which alters the composition of a substance is known as a __ change.

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) Explain the Greenhouse Effect. How can the effect be controlled? [5]

(B) Define the following terms: [5]

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

Question 5

(A) Describe Rutherford's scattering experiment. [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+Carbondioxide

b.Calciumoxide+ Water $\rightarrow$ Calciumhydroxide

c.Hydrogen+Chlorine $\rightarrow$ Hydrochloricacid

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]