ICSE Board
Class VI Chemistry
Sample Paper – 1

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

General Instructions:

1. ***All*** *questions are* ***compulsory****.*
2. *Questions in 1A and 1B carry one mark each.*
3. *Questions in 2A and 2B carry one mark each.*
4. *Questions in 3A and 3B carry one mark each.*
5. *Questions in 4A and 4B carry one mark each.*
6. *Question 5A carries five marks and Question 5B carries five marks.*
7. *Question 6 carries eight marks and Question 7 carries seven marks.*

Question 1

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

1. Molecules of elements containing two or more atoms of different kinds which are chemically combined are called _____.

(a) Atoms of compounds
(b) Molecules of compounds
(c) Molecules of mixtures
(d) Atoms of mixtures

2. Which method is used for separation of small stone particles from wheat grains?

(a) Winnowing
(b) Sieving
(c) Handpicking
(d) Filtration

3. Water freezes into ice at _____.

(a) -4^0C
(b) 0^0C
(c) 5^0C
(d) 10^0C

4. A _____is a calibrated glass tube with openings at both the ends used for measuring liquids.
(a) Burette
(b) Glass jar
(c) Thistle funnel
(d) Pipette

5. The cover of air around the earth is called as
(a) Atmosphere
(b) Air mixture
(c) Surrounding
(d) All of the above

6. Which of the following is used to prepare face powder?
(a) Talc
(b) Plaster of Paris
(c) Chalk
(d) Lime

7. Frost is the _____ state of water.
(a) Solid
(b) Liquid
(c) Gas
(d) Vapour

8. Sedimentation is used to separate a _____ mixture.
(a) Solid–solid
(b) Liquid–solid
(c) Gas–solid
(d) Liquid–gas

9. The full form of DDT is
(a) Diphenyl dibromo tetra ethane
(b) Dichloro-diphenyl-trichloro-ethane
(c) Dichloro-di-tri-methane
(d) All of the above

10. Urea is used as a
(a) Antiseptic
(b) Fertilizer
(c) Antibiotic
(d) Insecticide

11. The name of John Dalton is associated with.
(a) Nuclear theory
(b) Atomic theory
(c) Molecular theory
(d) Inorganic chemistry

12. Non-metals are non-ductile and cannot be drawn into wires.
(a) Metals
(b) Non-metals
(c) Metalloids
(d) Elements

13. Who discovered nitrogen gas?
(a) Carl Scheele and Joseph Priestley
(b) Antoine Lavoisier and John Mathew
(c) Daniel Rutherford and John Mathew
(d) Daniel Rutherford and Antoine Lavoisier

14. Potable water should be free of _____.
(a) Bacteria
(b) Germs
(c) Impurities
(d) All of the above

15. Gases are least _____ as compared to solids and liquids.
(a) Rigid
(b) Flexible
(c) Compressible
(d) Elastic

Question 2

(A) Define: [5]

1. Organic chemistry
2. Inorganic chemistry
3. Vaporisation
4. Condensation
5. Freezing

(B) Fill in the blanks: [5]

1. _____is the temperature at which a liquid starts boiling.
2. _____is generally added to impure water during the sedimentation process.
3. Dry hydrogen chloride gas is collected by the _____ of air.
4. Molecules in solid are _____ together.
5. Plants take in _____ during respiration.

Question 3

(A) State whether True or False: [5]

1. Xenon is an example of a noble gas.
2. Calcium is a non-metallic element.
3. Oxygen is a combustible gas.
4. Antiseptics are used for combating bacterial growth and initiating early recovery.
5. A flat bottom flask is used in gas preparation experiments where heating is required.

(B) Write the techniques used for separating the following mixtures: [5]

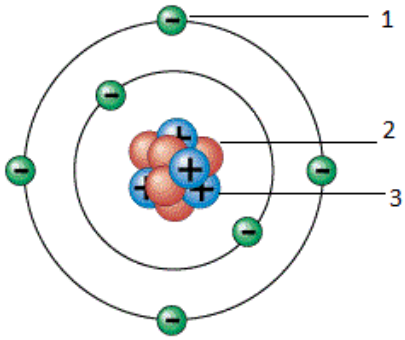
1. Husk and wheat
2. Pebbles from pulses
3. Pure copper sulphate from impurities
4. Sugar from sugar solution
5. Tea leaves from tea

Question 4

(A) Match the elements with their correct valencies. [5]

Oxygen	+1
Hydrogen	−1
Carbon	+3
Aluminium	+4
Chlorine	−2

(B) Label the marked parts with their respective charge. [5]



Question 5

(A) Classify the following as elements, compounds and mixtures: [5]
Air, Water, Oxygen, Hydrogen, Gun powder

(B) Give the three methods of removal of impurities from water. [5]

Question 6

(A) Match the following [5]

A molecule of oxygen	Na
Copper	O_2
Nitrogen	NH_3
Sodium	N
A molecule of compound	Cu

(B) Give the importance of chemistry in agriculture? [3]

Question 7

(A) Give the difference between a pure substance and a mixture? [2]

(B) Enlist the composition of air [2]

(C) Find the odd one out. [3]

1. Filtration, evaporation, loading, crystallisation.
2. Solution, compound, suspension, emulsion.
3. Soil, air, sea water, table-salt, milk

(D) Give the name of the scientist who [5]

1. Discovered oxygen
2. Discovered carbon dioxide
3. Discovered chlorine
4. Created the modern periodic table
5. Arranged elements in the increasing order of their atomic weights in the form of a table

Solution

Question 1

1. **(b)** Molecules of compounds
   Molecules of elements containing two or more atoms of different kinds which are chemically combined are called molecules of compounds.

2. **(c)** Handpicking
   Handpicking method is used for separation of small stone particles from wheat grains.

3. **(b)** 0^0C
   (a) Water freezes into ice at 0^0C
   .

4. **(d)** Pipette
   A pipette is a calibrated glass tube with openings at both the ends used for measuring liquids.

5. **(a)** Atmosphere
   The cover of air around the earth is called as Atmosphere.

6. **(a)** Talc
   Talc is used to prepare face powder.

7. **(a)** Solid
   Frost is the solid state of water.

8. **(b)** Liquid–solid
   Sedimentation is used to separate a liquid-solid mixture.

9. **(b)** Dichloro-diphenyl-trichloro-ethane
   The full form of DDT is Dichloro-diphenyl-trichloro-ethane.

10. **(b)** Fertilizer
    Urea is used as a Fertilizer

11. **(b)** Atomic theory
    The name of John Dalton is associated with Atomic theory

12. **(b)** Non- metals
Non-metals are non-ductile and cannot be drawn into wires.

13. **(d)** Daniel Rutherford and Antoine Lavoisier
Daniel Rutherford and Antoine Lavoisier discovered nitrogen gas.

14. **(d)** All of the above
Potable water should be free of bacteria, germs and impurities.

15. **(a)** Rigid
Gases are least rigid as compared to solids and liquids.

Question 2

(A)

1. **Organic chemistry**: Organic chemistry is a branch of chemistry which deals with the study of specific carbon compounds that consist of mainly carbon and hydrogen.
2. **Inorganic chemistry**: Inorganic chemistry is a branch of chemistry which deals with the study of innumerable elements and compounds including all metals and non-metals.
3. **Vaporisation:** Vaporisation is a process of conversion of a liquid into a vapour (or gas).
4. **Condensation:** Condensation is a process of conversion of vapour (or gas) into a liquid.
5. **Freezing:** Freezing is a process of conversion of a liquid into a solid.

(B)

1. 100°C
2. Alum
3. Upward displacement
4. Closely packed
5. Oxygen

Question 3

(A)

1. True
2. False. Calcium is a metallic element.
3. False. Oxygen is a non-combustible gas.
4. True
5. False. A flat bottom flask is used in gas preparation experiments where heating is not required.

(B)

1. Winnowing
2. Handpicking
3. Crystallisation and fractional crystallisation
4. Evaporation
5. Filter

Question 4

(A)

Element	**Valency**
Oxygen	−2
Hydrogen	+1
Carbon	+4
Aluminium	+3
Chlorine	−1

(B) 1 = Electrons with negative charge
2 = Neutrons with no or neutral charge
3 =Protons with positive charge

Question 5
(A)

Air	Mixture
Water	Compound
Oxygen	Element
Hydrogen	Element
Gun powder	Mixture

(B) The three methods of removal of impurities from water are

- Sedimentation: During sedimentation, chemicals such as alum and lime are added to water which helps to coagulate the suspended impure particles which further settle in the sedimentation tank.
- Filtration: During filtration, the water is passed through beds of sand and gravel which helps in removing suspended impurities and microorganisms.
- Chlorination: During chlorination, chemicals such as chlorine, ozone, bleaching powder or potassium permanganate are added to kill the germs in the filtered water. This chlorinated water is then supplied to homes.

Question 6
(A)

A molecule of oxygen	O_2
Copper	Cu
Nitrogen	N
Sodium	Na
A molecule of compound	NH_3

(B) Several chemical compounds are used in agriculture. Some of these are

- Fertilisers help in improving the fertility of soil.
- Insecticides help in killing insects which infect and destroy crops.
- Fungicides help in destroying fungi which destroy crops.
- Herbicides help in killing weeds which grow along with crops.

Question 7
(A)

Pure substance	Mixture
• A pure substance has a definite set of properties. • The components of a pure substance cannot be separated using a physical method of separation. • Example: Pure oil	• A mixture has no definite set of properties. • The components of a mixture can be separated using a physical method of separation. • Example: Mixture of oil and water

(B) Composition of Air

Components of Air	% by volume
Main components: Nitrogen Oxygen	 78-79% 21%
Other component: Carbon dioxide Water vapour	 0.02-0.03% Variable
Rare Gases: Argon, helium, radon, krypton, xenon, neon	Less than 1%
Impurities: Carbon monoxide, sulphur dioxide, oxides of nitrogen, hydrogen sulphides, dust particles.	Variable

(C)

1. loading
2. emulsion
3. table-salt

(D)

1. Joseph Priestley
2. De Lassone
3. Carl Scheele
4. Moseley
5. Mendeleev