

**ICSE Board**  
**Class VI Chemistry**  
**Sample Paper – 2 Solution**

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**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)**  $0^{\circ}\text{C}$

(a) Water freezes into ice at  $0^{\circ}\text{C}$

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
<ul style="list-style-type: none"> <li>A pure substance has a definite set of properties.</li> <li>The components of a pure substance cannot be separated using a physical method of separation.</li> <li>Example: Pure oil</li> </ul>	<ul style="list-style-type: none"> <li>A mixture has no definite set of properties.</li> <li>The components of a mixture can be separated using a physical method of separation.</li> <li>Example: Mixture of oil and water</li> </ul>

**(B) Composition of Air**

Components of Air	% by volume
<b>Main components:</b> Nitrogen Oxygen	78-79% 21%
<b>Other component:</b> Carbon dioxide Water vapour	0.02-0.03% Variable
<b>Rare Gases:</b> Argon, helium, radon, krypton, xenon, neon	Less than 1%
<b>Impurities:</b> 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