

ICSE Board
Class VII Chemistry
Sample Paper – 2

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 2 A and B carry one mark each.*
 4. *Questions in 3 A carry one mark each and Question 3 B carries 5 marks.*
 5. *Questions in 4 carry 5 marks each.*
 6. *Questions in 5 A and B carry one mark each.*
 7. *Questions in 6 A and B carry one mark each.*
 8. *Question 7 A and 7 B carry five marks.*
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Question 1

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

1. _____ is used during fermentation.
 - (a) Yeast
 - (b) Fungi
 - (c) Bacteria
 - (d) Microorganism

2. _____ is an endothermic change.
 - (a) Burning of coal
 - (b) Glowing of an electric lamp
 - (c) Dissolving calcium oxide in water
 - (d) Evaporation of ammonium chloride in water

3. A non-metal stored in water is?
 - (a) Sulphur
 - (b) Iodine
 - (c) Carbon
 - (d) Phosphorus

4. Which of the following is used in the preparation of mortar?
 - (a) Calcium hydroxide
 - (b) Sodium hydroxide
 - (c) Potassium hydroxide
 - (d) Copper hydroxide

5. A chemical reaction in which heat is evolved is called ____.
- (a) Endothermic reaction
 - (b) Precipitation reaction
 - (c) Exothermic reaction
 - (d) Electrolysis
6. _____ is used in soft drinks.
- (a) Sulphuric acid
 - (b) Carbonic acid
 - (c) Hydrochloric acid
 - (d) Acetic acid
7. Sulphur dioxide is _____ in water.
- (a) Highly soluble
 - (b) Fairly soluble
 - (c) Slightly soluble
 - (d) Insoluble
8. Who first stated that 'atoms contain negatively charged particles called electrons'?
- (a) John Dalton
 - (b) J. J. Thomson
 - (c) Goldstein
 - (d) E. Rutherford
9. Kerosene can be separated from water using a _____
- (a) Separating Funnel
 - (b) Centrifuge
 - (c) Filter paper
 - (d) Sieve
10. Gun powder is a mixture of _____.
- (a) Sulphur, carbon and potassium nitrate
 - (b) Carbon, sulphur and potassium nitrate
 - (c) Sulphur, oxygen and potassium nitrate
 - (d) Oxygen, carbon and potassium nitrate.
11. A molecule of an element composed of more than three atoms is known as
- (a) Monoatomic molecule
 - (b) Diatomic molecule
 - (c) Triatomic molecule
 - (d) Polyatomic molecule

12. Petroleum is refined using ____.
- (a) Filtration
 - (b) Sedimentation
 - (c) Distillation
 - (d) Evaporation
13. Precipitation reactions always take place in
- (a) Solid state
 - (b) Gaseous state
 - (c) Solutions
 - (d) All states
14. During chlorination, _____ chemicals are used.
- (a) Chlorine
 - (b) Ozone
 - (c) Bleaching powder
 - (d) All of the above
15. Heating of copper carbonate forms ____.
- (a) Carbon dioxide
 - (b) Copper oxide
 - (c) Carbon dioxide and copper oxide
 - (d) Carbon oxide and copper dioxide

Question 2

(A) Give a scientific word for the following: [5]

1. The change of a solid into liquid
2. An apparatus used for collecting gases and holding them in captivity.
3. The type of chemical reaction in which a more reactive element displaces a less reactive element from its compound.
4. A substance used to speed up or slow down the chemical reactions without taking part in the reaction.
5. The process by which two miscible liquids are separated

(B) Fill in the blanks: [5]

1. The flow of air from land to sea at night is called _____.
2. _____ is based on the tendency of insoluble solid particles to settle down in an insoluble solid-liquid mixture.
3. _____ state of a substance has definite shape..
4. An ion with positive charge is called_____.
5. _____ is the most abundant inert gas present in air.

Question 3**(A)** Match the item in Column A with the appropriate item in Column B. [5]

Column A	Column B
Common salt	CaCO ₃
Marble	NaHCO ₃
Sand	NaCl
Baking soda	Ca(OH) ₂
Calcium hydroxide	SiO ₂

(B) Give one example each for the following: [5]

1. Gas with pungent odour
2. Heterogeneous mixture
3. Element with valency 4
4. A gas used in air balloon
5. A component of air which helps in controlling the rate of evaporation

Question 4**(A)** Match the following: [5]

Enameling	Iron sheets dipped in molten tin
Painting	Iron articles electroplated with chromium
Galvanisation	Baking a mixture of silicates
Tinning	Iron sheets dipped in molten zinc
Chromeplating	Red lead oxide paint

(B) Match the following:

[5]

The constituent of air which is around 0.02%	Nitrogen
The constituent of air which is inert	Oxygen
The constituent of air which is non-combustible, but supports combustion	Sulphur dioxide
A pollutant in air responsible for acid rain	Carbon dioxide
The main rare gas present in air	Argon

Question 5

(A) State the differences between [5]

1. Physical and Chemical changes
2. Metals and non-metals

(B) Give the applications of the following methods used for separation of substances. [5]

1. Sedimentation
2. Filtration
3. Evaporation
4. Distillation
5. Centrifugation

Question 6

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

1. Ammonia is acidic in nature.
2. When water is added to quick lime, an exothermic reaction takes place and a large amount of heat is produced.
3. The force of attraction between the molecules in solids is maximum.
4. Metals have positive valency.
5. Evaporation cannot take place at room temperature.

(B) Write the symbols for the following elements: [5]

Element	Symbol
Helium	
Silver	
Gold	
Tin	
Aluminium	

Question 7**(A)** Give the chemical formula for the following compounds:

[5]

Compound	Chemical formula
Nitrogen dioxide	Ca(OH)_2
Dinitrogen oxide	H_2CO_3
Calcium hydroxide	CuSO_4
Copper sulphate	NO_2
Carbonic acid	N_2O

(B) Balance the following reactions:

[5]

- $\text{Mg} + \text{O}_2 \rightarrow \text{MgO}$
- $2\text{H}_2\text{O} \rightarrow \text{H}_2 + \text{O}_2$
- $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$
- $\text{NaHCO}_3 + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O} + 2\text{CO}_2$
- $\text{Zn} + \text{HCl} \rightarrow \text{ZnCl}_2 + \text{H}_2$

Solution

Question 1

1. **(a)** Yeast

Yeast is used during fermentation.

2. **(d)** Evaporation of ammonium chloride in water

Evaporation of ammonium chloride in water is an endothermic change.

3. **(b)** Nitric acid

A non-metal stored in water is

4. **(a)** Calcium hydroxide

Calcium hydroxide is used in the preparation of mortar.

5. **(b)** Exothermic reaction

A chemical reaction in which heat is evolved is called Exothermic reaction.

6. **(b)** Carbonic acid

Carbonic acid is used in soft drinks.

7. **(a)** Highly soluble

Sulphur dioxide is highly soluble in water.

8. **(b)** J. J. Thomson

J.J.Thomson first stated that 'atoms contain negatively charged particles called electrons'.

9. **(b)** Nickel

Hydrogen converts vegetable oils to fats at 200°C in the presence of the catalyst Nickel.

10. **(a)** sulphur, carbon and potassium nitrate

Gun powder is a mixture of sulphur, carbon and potassium nitrate..

11. **(d)** Polyatomic molecule

A molecule of an element composed of more than three atoms is known as Polyatomic molecule

12. **(c)** Distillation

Petroleum is refined using distillation.

13. (c) Solution state

Precipitation reactions take place in the solution state only.

14. (d) All of the above

Chemicals such as chlorine, ozone and bleaching powder are used during chlorination.

15. (b) Carbon dioxide and copper oxide

Heating of copper carbonate forms Carbon dioxide and copper oxide.

Question 2

(A)

1. Melting
2. Glass jar
3. Displacement reaction
4. Catalyst
5. Fractional distillation

(B)

1. Land breeze
2. Sedimentation
3. Solid
4. Cation
5. Argon

Question 3

(A)

Column A	Column B
Common salt	NaCl
Marble	CaCO ₃
Sand	SiO ₂
Baking soda	NaHCO ₃
Calcium hydroxide	Ca(OH) ₂

(B)

1. Sulphur dioxide
2. Oil in water
3. Carbon
4. Helium
5. Water vapour

Question 4**(A)**

Enameling	Baking a mixture of silicates
Painting	Red lead oxide paint
Galvanisation	Iron sheets dipped in molten zinc
Tinning	Iron sheets dipped in molten tin
Chromeplating	Iron articles electroplated with chromium

(B)

[5]

The constituent of air which is around 0.02%	Carbon dioxide
The constituent of air which is non-combustible,non-supporter of combustion	Nitrogen
The constituent of air which is non-combustible,but supports combustion	Oxygen
A pollutant in air responsible for acid rain	Sulphur dioxide
The main rare gas present in air	Argon

Question 5

(A)

PHYSICAL CHANGES	CHEMICAL CHANGES
Physical changes are temporary and reversible.	Chemical changes are permanent and irreversible.
During a physical change, no new substance is formed.	During a chemical change, a new substance is formed.
During a physical change, the composition and properties of original substance is not altered.	During a chemical change, the composition and properties of original substance is altered.
Example- Boiling of milk.	Example- Curdling of milk.

Metals	Non-metals
Metals have lustre.	Non-metals do not have lustre.
Metals are malleable and can be beaten into sheets.	Non-metals are non-malleable and cannot be beaten into sheets.
Metals are ductile and can be drawn into wires.	Non-metals are non-ductile and cannot be drawn into wires.
Metals are good conductors of heat and electricity.	Non-metals are poor good conductors of heat and electricity.

(B)

1. Sedimentation is used for obtaining clear water from muddy water. It is also used for the purification of drinking water.
2. Filtration is used in the kitchen for preparing tea and fruit juices. It is used in coffee machines for filtering out coffee beans from pure liquid coffee. It is also used in water filtration plants for filtering drinking water.
3. Evaporation is used for obtaining salt from salt water, for drying clothes and to prepare salts in the laboratory.
4. Distillation is used to prepare pure water. It is also used during experiments which involve separation of salts. It is also used for separating various constituents of petroleum during petroleum refining.
5. Centrifugation is used for separation of cream from milk. It is also used to separate RBCs from blood.

Question 6

(A)

1. False. Ammonia is basic in nature.
2. True
3. True
4. True
5. False Evaporation can takes place at room temperature.

Element	Symbol
Helium	He
Silver	Ag
Gold	Au
Tin	Sn
Aluminium	Al

Question 7

(A)

Compound	Chemical formula
Nitrogen dioxide	NO ₂
Dinitrogen oxide	N ₂ O
Calcium hydroxide	Ca(OH) ₂
Copper sulphate	CuSO ₄
Carbonic acid	H ₂ CO ₃

(B)

1. $2\text{Mg} + \text{O}_2 \longrightarrow 2 \text{MgO}$
2. $2\text{H}_2\text{O} \longrightarrow 2\text{H}_2 + \text{O}_2$
3. $\text{Fe} + \text{CuSO}_4 \longrightarrow \text{FeSO}_4 + \text{Cu}$
4. $2\text{NaHCO}_3 + \text{H}_2\text{SO}_4 \longrightarrow \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O} + 2\text{CO}_2$
5. $\text{Zn} + 2\text{HCl} \longrightarrow \text{ZnCl}_2 + \text{H}_2$