

**ICSE Board**  
**Class X Chemistry**  
**Gold Series**  
**Sample Paper- 1**

**Time: 1½ hrs**
**Total Marks: 80**
**General Instruction:**


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1. Answers to this paper must be written on the paper provided separately.
2. You will NOT be allowed to write during the first 15 minutes. This time is to be spent in reading the question paper.

The time given at the head of paper is the time allowed for writing the answers. This question paper is divided into two sections.

3. **Section I** contains one question with parts (a) to (h); all the eight parts are to be answered.
4. **Section II** contains six questions numbered 2 to 7. You are to answer any four of these questions.

The intended marks of questions or for parts of questions are given in brackets [ ].

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**Section I [40 Marks]**

(Compulsory: Attempt **all** questions from this section.)

**Question 1**

**(a)** How will you separate the following mixtures? [5]

- (i) Carbon dioxide and hydrogen
- (ii) Colours in dye
- (iii) Common salt and sand
- (iv) Nitrogen from liquid air
- (v) Drugs from blood

**(b)** [5]

- (i) Differentiate between physical change and chemical change.
- (ii) State three physical change and three chemical changes taking place around us.

**(c)** State the valency and the formula of the following radicals: [5]

- (i) Phosphide
- (ii) Plumbous
- (iii) Mercuric
- (iv) Manganate
- (v) Silicate

**(d)** Deduce the molecular formula of the following: [5]

- (i) Ammonium acetate
- (ii) Lead chromate
- (iii) Calcium carbide
- (iv) Aluminium carbide
- (v) Sodium bicarbonate

**(e)** [5]

- (i) Define valency.
- (ii) How many valence electrons are present in-  
(a) Fluorine (b) Carbon (c) Oxygen (d) Calcium

**(f)** Give the meaning of [5]

- (i) Reducing agent
- (ii) Oxidizing agent
- (iii) Synthesis reaction
- (iv) Direct combination reaction
- (v) Decomposition reaction

**(g)** Name the following: [5]

- (i) The process of change of a solid substance into its liquid state
- (ii) State of matter which does not flow.
- (iii) State of matter which can flow in all directions.
- (iv) A state which consists of super energetic particles in the form of ionized gases.
- (v) The process of change of solid state directly into gaseous state without passing through liquid state.

**(h)** [5]

- (i) State Boyle's law.
- (ii) State Charles' law.

**Section II [40 Marks]**

Attempt any **four** questions from this section

**Question 2**

[10]

**(a)**

- (i) How will you show that thermal decomposition of calcium carbonate is in accordance with the law of conservation of mass?
- (ii) Explain the "Melting" process on the basis of kinetic theory of matter.

**(b)** Differentiate between true solution, colloidal solution and suspension on the basis of:

- (i) Filterability
- (ii) Scattering of light
- (iii) Particle size
- (iv) Visibility
- (v) Settling of particles

**Question 3**

[10]

**(a)** Give one example each of- (equations only)

- (i) Neutralization reaction
- (ii) Precipitation reaction
- (iii) Simple displacement reaction
- (iv) Thermal dissociation reaction
- (v) Thermal decomposition reaction

**(b)** State which of the following are oxidized or reduced?

- (i)  $S^{2-} \rightarrow S$
- (ii)  $Cl^- \rightarrow Cl$
- (iii)  $Cr^{7+} \rightarrow Cr^{5+}$
- (iv)  $Mn^{5+} \rightarrow Mn^{7+}$
- (v)  $Fe^{2+} \rightarrow Fe^{3+}$

**Question 4**

[10]

**(a)** Define the following:

- (i) Solution
- (ii) Melting point
- (iii) Boiling point

**(b)** What are drying agents? Name the drying agents for the following gases.

- (i) Chlorine
- (ii) Hydrogen chloride
- (iii) Ammonia
- (iv) Sulphur dioxide

**(c)**

- (i) How would you obtain a sample of sulphur from a mixture of sulphur and carbon?
- (ii) How will you separate a mixture of sulphur, potassium chloride and carbon?

**Question 5**

[10]

**(a)** Identify the element present in the following groups and periods.

- (i) 5th period, group 1
- (ii) 2nd period, group 11
- (iii) 2nd period, group 16
- (iv) 3rd period, group 17
- (v) 4th period, group 18

**(b)** The electronic configuration of an element T is 2,8,7.

- (i) What is the group number of T?
- (ii) What is the period number of T?
- (iii) How many valence electrons are there in an atom of T?
- (iv) What is the valency of T?
- (v) Is it a metal or a non-metal?

**Question 6**

[10]

**(a)** Give reason.

- (i) Atom is electrically neutral.
- (ii) Mass of an atom is concentrated inside of nucleus of an atom.
- (iii) Atom as a whole is an empty space.
- (iv) Rutherford model of atom could not provide stability to the nucleus.
- (v) Why the two isotopes of magnesium have different mass numbers.

**(b)** Comment on the dual position of hydrogen in the periodic table.**Question 7**

[10]

**(a)** A gas occupies 3 liters at  $0^{\circ}\text{C}$ . What volume will it occupy at  $-20^{\circ}\text{C}$ , the pressure remaining constant?**(b)** Give the composition and cause of acid rain.