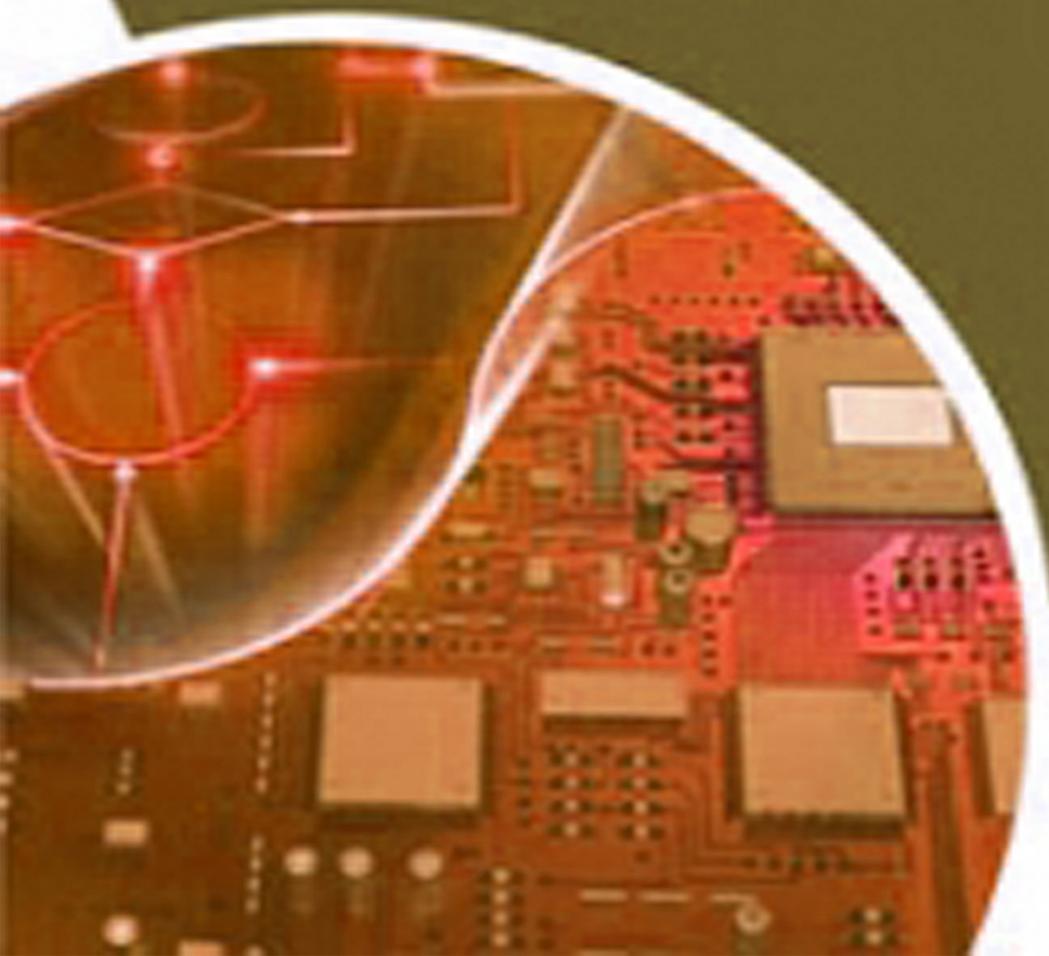


Class 9th

CHEMISTRY

ICSE Question Papers



CHEMISTRY
SCIENCE Paper-2

(Two hours)

Answers to this Paper must be written on the paper provided separately.

*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 the paper is the time allowed for writing the answers.

Section I is compulsory. Attempt any four questions from Section II.

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

SECTION I (40 marks)

*Attempt **all** questions from this Section*

Question1

- (a) From the list given below, select the word(s) required to correctly complete the blanks (i) to (v) in the following passage- [5]

Note: Words chosen from the list are to be used only once. Write only the answers. Do not copy the passage.

[silver nitrate, sodium nitrate, Dalton, sealed, separate, Landolt, sodium chloride, mix]

The Law of Conservation of Mass was studied by (i)..... in case of a double decomposition reaction between (ii)..... and (iii)..... in a special tube. This tube was U-shaped and the limbs were (iv)..... so that the reactants could (v)..... well.

- b) Select from the list given (A to E) one substance in each case which matches the description given in parts (i) to (v)- [5]

Note: Each substance is used only once in the answer.

- | | |
|--------------------------|------------------------|
| (A) Sulphur dioxide | (B) Magnesium sulphate |
| (C) Carbon tetrachloride | (D) Potassium chlorate |
| (E) Aluminium oxide | |

- i) A compound which can dissolve Sulphur.
- ii) A compound used to make adsorbent medium.
- iii) A compound insoluble in water.
- iv) A compound less soluble in water than potassium nitrate.
- v) A compound whose hydrated form is Epsom salt.

- c) For parts (c)(i)-(c)(x), select the correct answer from the choices A,B,C and D which are given- [10]

Write only the letter corresponding to the correct answer.

- i) The valency of Platinum in PtZnO_2 :
(A) 1

- (B) 2
(C) 3
(D) 4
- ii) A chemical which decomposes with the absorption of sound energy:
(A) Nitrogen monoxide
(B) Acetylene
(C) Ethyl alcohol
(D) Potassium bromide
- iii) An element which burns with a lilac flame on reaction with cold water:
(A) Potassium
(B) Sodium
(C) Calcium
(D) Magnesium
- iv) The scientist who discovered cathode rays:
(A) Rutherford
(B) Goldstein
(C) Thomson
(D) Crookes
- v) The chemist who classified elements into triads-
(A) Moseley
(B) Mendeleeff
(C) Newland
(D) Dobereiner
- vi) When hydrogen behaves like electronegative halogens, it is placed in Group:
(A) 1
(B) 16
(C) 17
(D) 2
- vii) The branch of chemistry concerned with theoretic aspects:
(A) Inorganic Chemistry
(B) Analytical Chemistry
(C) Physical Chemistry
(D) Biochemistry
- viii) $1\text{m}^3 = ?$ litre
(A) 10^2
(B) 10^3
(C) 10^6
(D) 10^4

- ix) If the pressure of a gas increases, then which of the following properties of the gas would be affected?
 (A) Density
 (B) Condensation point
 (C) Volume
 (D) Odour
- x) Which of the following is a colloidal solution?
 (A) Brine solution
 (B) Copper sulphate solution
 (C) Coagulated Matter
 (D) Emulsion
- d) State your observations in the following cases- [5]
- Hydrogen reacts with ferric sulphate solution.
 - Aluminium reacts with steam.
 - Ozone reacts with potassium bromide solution.
 - Water is added to anhydrous cobalt chloride.
 - Calcium reacts with cold water.
- e) Match the column A with column B. Copy column A and write the correct answer beside it- [5]

Column A	Column B
Auric	2,8,4
Silicon	Incompressible
Chlorine	3
Lead	Halogen
Solids	Amphoteric

- f) Write a balanced chemical equation for the following reactions- [5]
- Conversion of cobalt to a cation.
 - Chlorine gas is bubbled through water.
 - Calcium hydroxide reacts with Ammonium chloride.
 - Tin(II) chloride is heated with concentrated nitric acid.
 - A reaction where water acts as a catalyst.
- g) Solve the following numerical problems related to Gas Laws- [1½+1½+2]
- The volume of a certain gas was found 800 cm³, when the pressure was 760mm of mercury. If the pressure increases by 25%, find the new volume of the gas.
 - Sulphur dioxide occupies a volume of 512 cm³ at s.t.p. Find its volume at 27°C and at a pressure of 720mm of mercury.
 - A gas is enclosed in a vessel at s.t.p. At what temperature would the volume of the enclosed gas be 1/8 of its initial volume, pressure remaining constant?

SECTION II (40 marks)

Attempt any **four** questions from this section.

Question 2

[3+3+4]

- a) With reference to mixtures, mention the following-
- Properties of a mixture
 - Types of mixtures
 - Two examples of each type
- b) Mention the method to separate the following mixtures. Explain **any one** in about 80 words-
- Ammonium chloride+Sodium chloride
 - Benzene+Toluene
 - Chalk+Water.
- c) Explain **any one** of the following in about 150 words-
- Chromatography
 - Centrifugation

Question 3

[3+3+4]

- a) Give two examples of each-
- Chemical change by close contact
 - Inhibitor
 - Acid anhydride
- b) Give 2 differences between each pair-
- Physical Change/Chemical Change
 - Burning/Respiration
 - Reduction/Oxidation
- c) With reference to burning, mention the following-
- Definition of burning
 - Conditions required for burning
 - The procedure to show that a candle gains weight on burning

Question 4

[3+3+4]

- a) Mention the different types of treated water and state how each type is prepared.
- b) Give reasons for the following-
- Water can dissolve a large amount of substance.

- ii) Tap water is healthier than rain water.
- iii) Although Carbon dioxide is fairly soluble in water, it can still dissolve in water of soda bottles.
- c) Define and give an example-
 - i) Deliquescent Crystal
 - ii) Anhydrous Substance
 - iii) Dessicating Agent
 - iv) Efflorescent Crystal

Question 5

[3+3+4]

- a) Define the following-
 - i) Valency
 - ii) Radical
 - iii) Chemical Formula
- b) Give the formula of-
 - i) Oil of Vitriol
 - ii) Liquor Ammonia
 - iii) Chile Salt Petre
 - iv) Chromium sulphide
 - v) Argentous phosphate
 - vi) Ferric silicate
- c) Balance the following equations-
 - i) $\text{Ca(OH)}_2 + \text{NH}_4\text{Cl} \longrightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{NH}_3$
 - ii) $\text{Cu} + \text{HNO}_3 \longrightarrow \text{Cu(NO}_3)_2 + \text{H}_2\text{O} + \text{NO}_2$
 - iii) $\text{KHCO}_3 \longrightarrow \text{K}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
 - iv) $\text{KMnO}_4 + \text{HCl} \longrightarrow \text{KCl} + \text{MnCl}_2 + \text{H}_2\text{O} + \text{Cl}_2$

Question 6

[3+3+4]

- a) With reference to the Modern Periodic Table, name the following-
 - i) An alkaline earth metal found in the fourth period.
 - ii) A halogen of the third period.
 - iii) The series constituting the elements between atomic numbers 89 and 104.
 - iv) An element of Group 15 which does not possess allotropy.
 - v) The number of elements in the fifth period.
 - vi) The valence shell of the elements of the third period.
- b) Mention three defects of Mendeleeff's Periodic Table.

- c) Consider the section of the Modern Periodic Table given below and answer the questions that follow-

1 IA	2 IIA	13 IIIA	14 IVA	15 VA	16 VIA	17 VIIA	18 0
Li	C	E	F	N	O	J	L
A	Mg	Al	Si	G	H	Cl	Ar
B	D	Ga	Ge	As	I	K	Kr

Note: **C** does not represent Carbon

F does not represent Fluorine

H does not represent Hydrogen

I does not represent Iodine

K does not represent Potassium

- Mention any 2 properties each of elements **C** and **L**.
- Give the valency of elements **E** and **G**.
- Arrange elements **B,D,I** and **K** in increasing order of their electropositive nature.
- Arrange elements **A,B,J** and **K** in decreasing order of their non-metallic character.

Question 7

[3+3+4]

- Give two examples to show how hydrogen can be prepared by-
(Give only the equations.)
 - Using an alkali
 - From reaction between a metal and an acid
 - Bosch process (first 2 steps)
- Explain any 3 uses of hydrogen and give the reasons for its use.
- Explain the purification of granulated Zinc during the laboratory preparation of hydrogen.

ICSE Board
Class IX Chemistry
Gold Series
Sample Paper - 1

Time: 2 hrs

Total Marks: 80

General Instructions:

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.
 3. The time given at the head of the paper is the time allotted for writing the answers.
 4. Attempt **all** questions from **Section I** and **any four** questions from **Section II**.
 5. The intended marks of questions or parts of questions are given in brackets [].
-

SECTION I (40 Marks)

*Attempt **all** questions from this section.*

Question 1

(a) How will you separate the following mixtures?

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

[5]

(b)

- i. Differentiate between physical change and chemical change.
- ii. State three physical changes and three chemical changes taking place around us. [5]

(c) State the valency and the formula of the following radicals:

- i. Phosphide
- ii. Plumbous
- iii. Mercuric
- iv. Manganate
- v. Silicate

[5]

(d) Deduce the molecular formula of the following:

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

[5]

(e)

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

[5]

(f) Give the meaning of

- i. Reducing agent
- ii. Oxidising agent
- iii. Synthesis reaction
- iv. Direct combination reaction
- v. Decomposition reaction

[5]

(g) Name the following:

- 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 ionised gases.
- v. The process of change of solid state directly into gaseous state without passing through a liquid state.

[5]

(h)

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

[5]

SECTION II (40 Marks)

Attempt any **four** questions from this section.

Question 2

(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. [5]

(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 [5]

Question 3

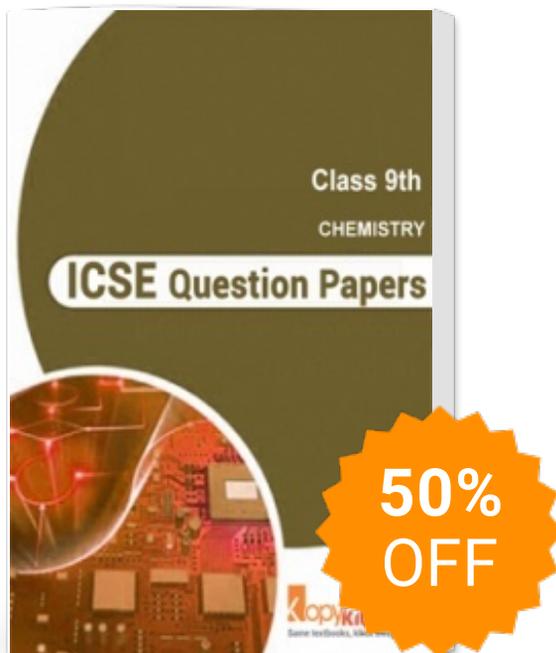
(a) Give one example each of (equations only)

- i. Neutralisation reaction
- ii. Precipitation reaction
- iii. Simple displacement reaction
- iv. Thermal dissociation reaction
- v. Thermal decomposition reaction [5]

(b) State which of the following are oxidised or reduced:

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

ICSE Question Papers For Class 9 Chemistry



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