



Class: IX

SECONDARY SCHOOL CERTIFICATE MODEL PAPER 2026

Time Allowed: 30 minutes

SUBJECT: CHEMISTRY

Q1:

SECTION "A" (MULTIPLE CHOICE QUESTIONS)

Marks: 12

Note: Attempt **ALL** questions from this section "A". Each question carries **ONE** mark.

- i. Who was the first to use opium as an anaesthetic?
 A. Jabir Ibn Hayyan B. Bu Ali Sina C. Al-Beruni D. Al-Razi
- ii. A hypothesis is tested through:
 A. Observation B. Experiment
 C. Comparison with scientific laws D. Comparison with other theories
- iii. Which compounds in toothpaste help prevent tooth decay?
 A. Chlorides B. Fluorides C. Halides D. Oxides
- iv. 2 moles of CaCO_3 are equal to:
 A. 100 g B. 200 g C. 88 g D. 160 g
- v. The reaction: $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ upon heating is an example of:
 A. Addition reaction B. Combustion reaction C. Single displacement D. Decomposition reaction
- vi. In water, the ratio of the mass of hydrogen to oxygen is:
 A. 2:16 B. 1:8 C. 2:1 D. 1:2
- vii. An atom that donates a pair of electrons during bond formation is called:
 A. Acceptor B. Donor C. Receiver D. None of these
- viii. The electronegativity value of nitrogen (N) is:
 A. 3.0 B. 2.5 C. 2.1 D. 3.5
- ix. Which of the following are good organic solvents?
 A. CCl_4 and CHCl_3 B. CH_2OH and CCl_3 C. DDT and CH_3OH D. $\text{C}_2\text{H}_5\text{OH}$ and CH_2Cl_2
- x. Which of the following will ignite upon reaction with chlorine gas?
 A. Sulphur B. Phosphorus C. Sodium metal D. Hydrogen gas
- xi. Natural gas primarily consists of:
 A. Methane B. Ethane C. Urea D. Acetic acid
- xii. Formic acid is naturally found in:
 A. Lemons B. Grapes C. Vinegar D. Insect stings

(Practical Based Assessment)

Marks: 15

Q2: Attempt **ALL** questions.

- i. A student is asked to separate a mixture of sand and water. Which laboratory technique is the most appropriate for this task?
 A. Distillation B. Filtration C. Chromatography D. Sublimation
- ii. During a flame test in the lab, a student observes a bright brick-red flame when a specific metal salt is heated. This indicates the presence of:
 A. Copper B. Potassium C. Calcium D. Sodium
- iii. A sealed syringe contains 20 cm^3 of trapped air. If the student presses the plunger down at a constant temperature, reducing the volume to 10 cm^3 , what happens to the gas particles?
 A. Their kinetic energy doubles
 B. The particles shrink in size
 C. The gas condenses into a liquid
 D. They collide more frequently with the walls, increasing pressure
- iv. While determining the melting point of naphthalene in the lab, the thermometer reading stops rising and remains constant for several minutes. This constant temperature indicates that:
 A. The naphthalene is decomposing
 B. The heat energy is being used to break intermolecular forces for the phase change
 C. The burner has stopped working
 D. The liquid is cooling down
- v. A student leaves a few drops of acetone on the back of their hand and immediately feels a strong cooling sensation. This is a practical demonstration of:
 A. Evaporation causing cooling B. Exothermic reactions
 C. Sublimation D. Boiling point elevation



- vi. A student is preparing a standard 1 Molar (1 M) solution of NaCl. They must dissolve exactly 58.5g of NaCl in a beaker and then:
- A. Add exactly 1 Liter of water to the beaker B. Heat the mixture until it evaporates
 C. Stir it with exactly 1 kg of solvent D. Add water until the total volume of the solution reaches 1 Liter
- vii. In a laboratory, a laser pointer is shined through a true salt solution and a colloidal milk mixture. The beam is visible only in the milk mixture. This phenomenon is known as:
- A. The Doppler Effect B. The Tyndall Effect C. Brownian Motion D. Crystallization
- viii. A student slowly cools a hot, saturated solution of copper sulfate. After a few hours, geometric blue solid particles appear at the bottom of the flask. This process is called:
- A. Filtration B. Distillation C. Crystallization D. Centrifugation
- ix. If a lab technician accidentally spills oil into a beaker of water, the two liquids form separate distinct layers rather than mixing. This proves that:
- A. Oil is polar and water is non-polar B. Both liquids are polar
 C. Water is a universal solvent for everything D. Oil is non-polar and water is polar ("like dissolves like")
- x. A student sets up an electrolytic cell using a copper sulfate solution and two electrodes connected to a battery. They notice reddish-brown metal depositing on the negative electrode (cathode). This deposit is:
- A. Pure copper metal B. Oxygen gas C. Sulfur solid D. Hydrogen gas
- xi. When placing a strip of zinc metal into a blue copper(II) sulfate solution, the blue color gradually fades, and a reddish-brown solid coats the zinc strip. This is practically demonstrating:
- A. An acid-base neutralization B. A single displacement redox reaction
 C. A decomposition reaction D. Electrolysis
- xii. A chemistry teacher drops a very small piece of sodium metal into a trough of cold water. It darts around the surface, hisses, and catches fire. The gas causing the hissing and fire is:
- A. Oxygen B. Carbon dioxide C. Hydrogen D. Nitrogen
- xiii. Silver and gold are highly valued in jewelry making primarily because, in everyday environmental scenarios, they:
- A. Are highly reactive with air and water B. Have very low chemical reactivity and resist corrosion
 C. Are the most abundant metals on Earth D. Easily form gases
- xiv. To accurately measure exactly 25.0 cm³ of an acid for a titration experiment, the most precise piece of glassware a student should select is a:
- A. Beaker B. Pipette C. Conical flask D. Test tube
- xv. A student uses paper chromatography to analyze black ink. The water travels up the paper, separating the black ink into distinct red, blue, and yellow spots. This proves that the black ink is:
- A. A pure element B. A single compound C. A mixture of different dyes D. An isotope

END OF SECTION A

Class: IX SECONDARY SCHOOL CERTIFICATE MODEL PAPER 2026
Time: 2 hours 30 minutes SUBJECT: CHEMISTRY (SECTION "B" & SECTION "C")
SECTION "B" (SHORT ANSWER QUESTIONS)

Total Marks 48
24 Marks

Q3: Answer any **EIGHT** questions from this section. Each question carries **THREE** marks.

- i. What are isotopes? For the following atoms, identify the number of protons and neutrons:
- $^{14}_6\text{C}$ $^{37}_{17}\text{C}$ $^{16}_8\text{O}$
- ii. State Faraday's First and Second Law of Electrolysis.
- iii. Write the electronic configurations of the following:
- a. Nitrogen
 b. Magnesium
 c. Chlorine
- iv. Balance the following chemical equations using the proper method:
- a. $\text{KL} + \text{Cl}_2 \rightarrow \text{KCL} + \text{I}_2$
 b. $\text{CaCO}_3 + \text{HCL} \rightarrow \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2$
 c. $\text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{H}_2\text{O} + \text{CO}_2$
- v. Give one use for each of the following compounds along with their chemical formulae.
- a. Slaked lime
 b. Lime stone
 c. Soda ash



- vi. Calculate the number of moles and molecules present in 20 grams of NaOH.
- vii. Justify the following statements with scientific reasoning:
 - a. Milk is classified as a colloidal solution
 - b. Gases diffuse more quickly than liquids or solids.
- viii. Differentiate between electrolytes and non-electrolytes
- ix. A flask contains a 0.25 M solution of NaOH. Calculate the mass of NaOH present in one dm³ of the solution.
- x. Describe the steps needed to prepare 250 mL of a 0.5 M NaCl solution from a 2.0 M NaCl stock solution.
- xi. A gas occupies a volume of 8 liters at a pressure of 4 atm. What will its volume be when the pressure is reduced to 2 atm, assuming temperature remains constant?
- xii. Define the following:
 - a. Minerals
 - b. Ores
 - c. Metallurgy

SECTION "C" (DETAILED ANSWER QUESTIONS)**24 Marks**

Q4: Answer any **FOUR** questions from this section. Each question carries **SIX** marks.

- i. State Boyle's Law. Derive its mathematical form and explain the relationship: $P_1V_1 = P_2V_2$
- ii. Define a covalent bond. Based on the number of shared electron pairs, classify covalent bonds into single, double, and triple bonds, giving one example of each.
- iii. Explain the long form of the Periodic Table in detail. Describe its structure, grouping, and periodic trends.
- iv. What is corrosion? List and explain four effective methods used to prevent or reduce corrosion.
- v. Describe the discharge tube experiment with the help of a labelled diagram. What observations did J.J. Thomson make, and what conclusions did he draw from the experiment?
- vi. What is an Ionic Bond? Explain how an ionic bond forms between sodium and chlorine atoms.

END OF PAPER