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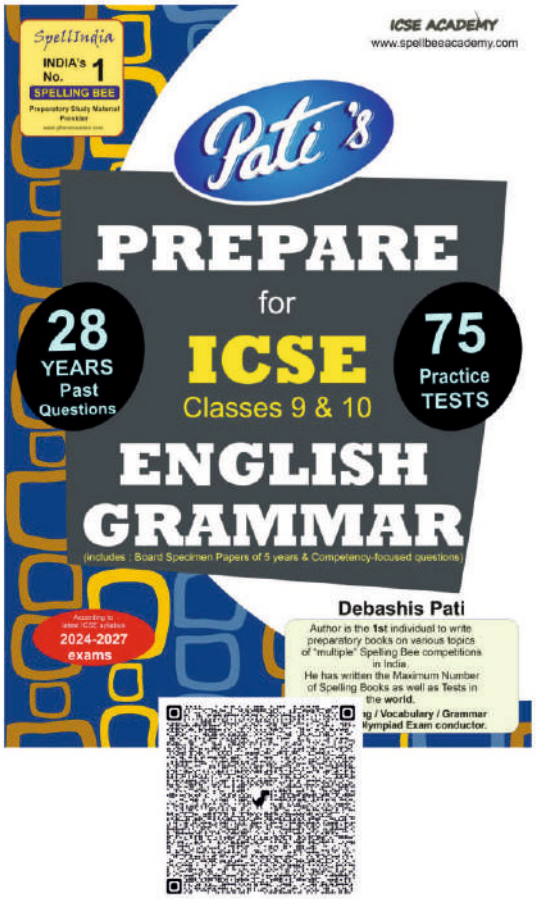

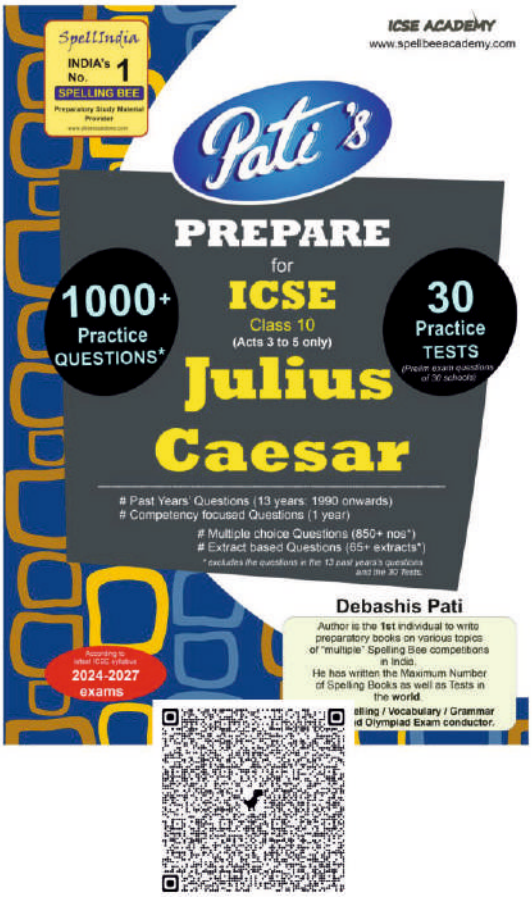

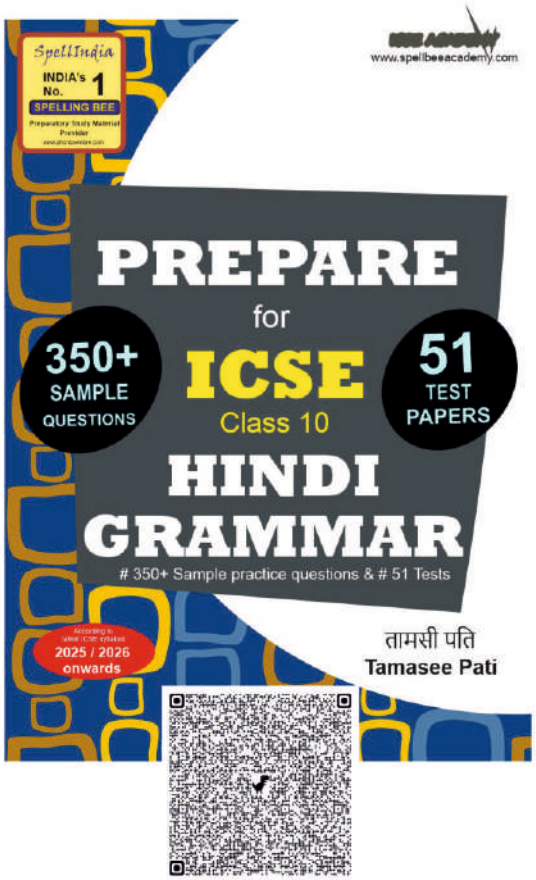

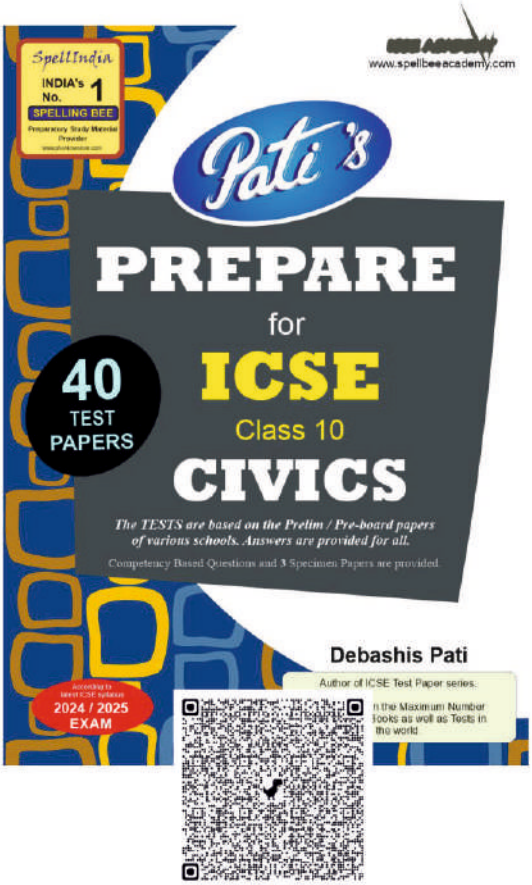

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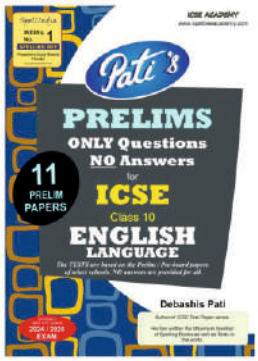

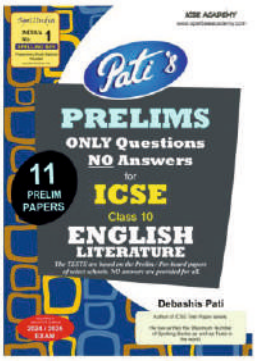

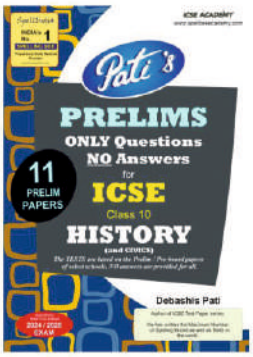

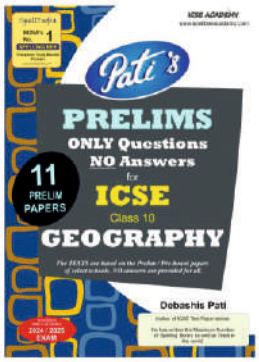

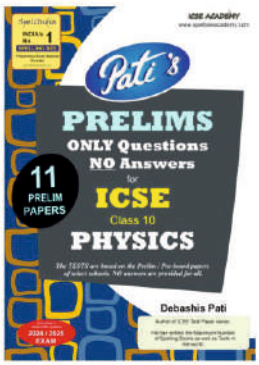

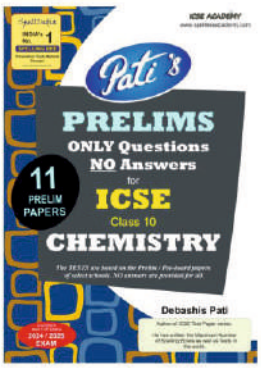

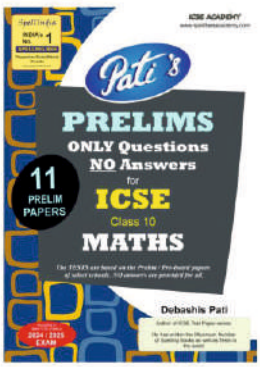

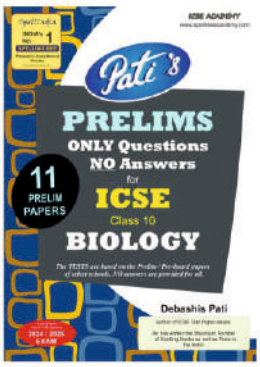

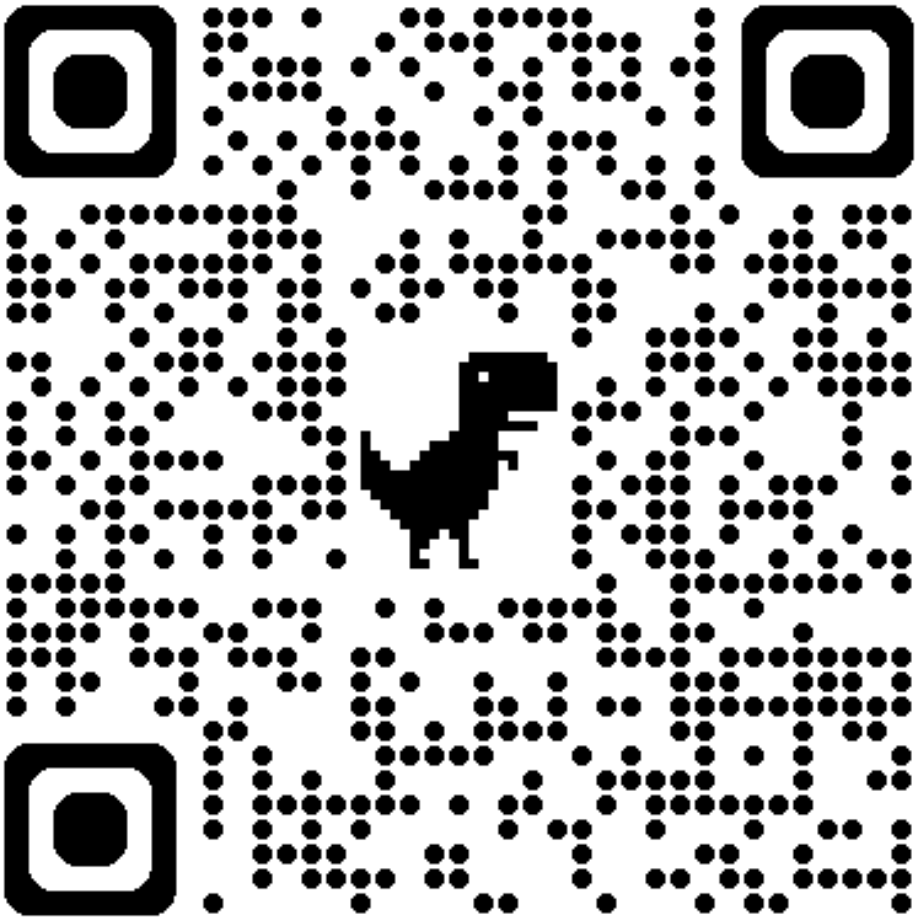

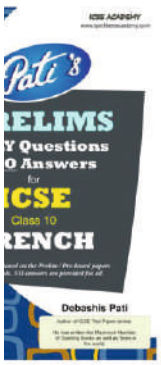

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Q. Choose the correct answers to the questions from the given options.

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Contents: (MCQs only)

1. Competency Based Questions 2025

2. Specimen Papers : 2022 - 2026

3. Past Year Papers : 2023 - 2026*

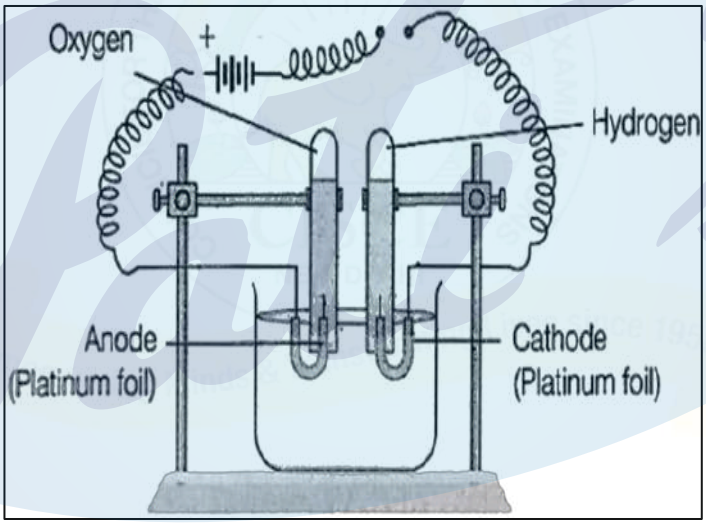
* 2026 will be included here soon.

ICSE - CLASS X

Chemistry

I: Multiple Choice Questions (1 Mark Each)

S.No.	Questions
1.	*[Analytical Chemistry]* Ravi was asked to identify the cation present in the salt solution. He added one of the reagents given below and got a reddish-brown precipitate. The reagent that he used is: (a) Silver nitrate solution (b) Barium chloride solution (c) Ammonium hydroxide (d) Calcium chloride solution **[Understanding]**
2.	*[Study of Compounds]* Which metal does not react with HCl to form a colourless, odourless gas which burns with a pop sound? (a) Ca (b) Mg (c) Cu (d) Zn **[Recall & Understanding]**
3.	*[Study of Compounds]* Prateek added warm water to magnesium nitride, and a colourless gas evolved, which, when tested with phenolphthalein, turned it pink. The gas evolved is: (a) Carbon dioxide (b) Ammonia (c) Nitrogen (d) Hydrogen chloride **[Understanding]**

S.No.	Questions
4.	*[Organic Chemistry]* Which of the following statements about ethane is false? (a) It is a saturated hydrocarbon. (b) It undergoes a substitution reaction. (c) It is a gas at ordinary temperatures. (d) It has a triple bond between the carbon atoms. **[Recall & Understanding]**
5.	*[Metallurgy]* Thermite mixture is used to weld the broken ends of the iron girders. This mixture consists of ferric oxide and aluminium powder, which, when heated, produces molten iron. In this reaction, the aluminium powder acts as a/an _____ agent. (a) oxidising (b) reducing (c) dehydrating (d) corroding **[Application]**
6.	*[Electrolysis]*  The above diagram represents the electrolysis of acidulated water. The reaction occurring at the anode is: (a) $H_2SO_4 \rightarrow 2H^+ + SO_4^{2-}$ (b) $H_2O \rightarrow H^+ + OH^-$ (c) $H^+ + e^- \rightarrow H$, $2[H] + 2[H] \rightarrow H_2$ (d) $OH^- - e^- \rightarrow OH$, $[4OH] \rightarrow 2H_2O + O_2$ **[Recall & Understanding]**

S.No.	Questions

7. *[Period Properties and Variations of Properties]*

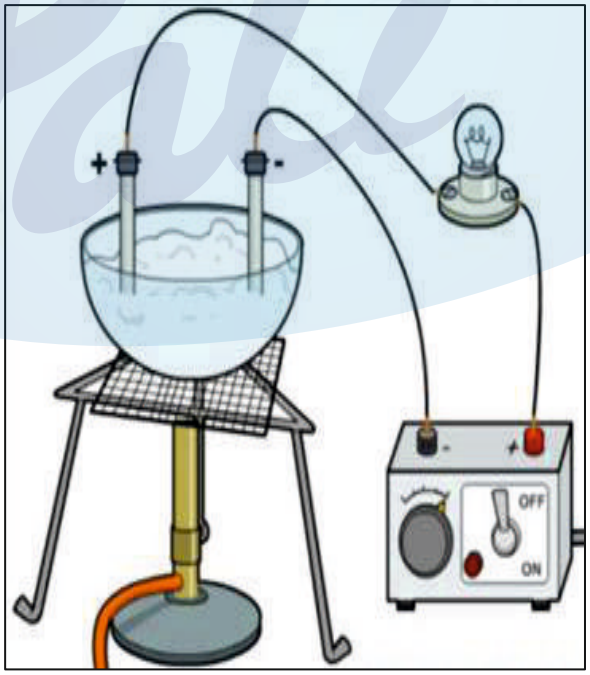
Group Numbers	IA 1	IIA 2	IIIA 13	IVA 14	VA 15	VIA 16	VIIA 17	VIIIA 18
	Li		D			O	J	Ne
	A	Mg	E	Si		H	K	
	B	C		F	G			L

With reference to the portion of the periodic table given above, identify the element having the largest atomic size:

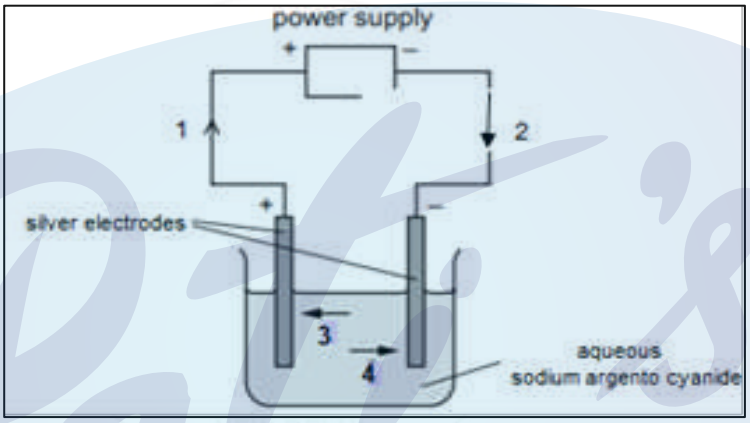
(a) Li
(b) B
(c) K
(d) L **[Understanding]**

8. *[Electrolysis]*

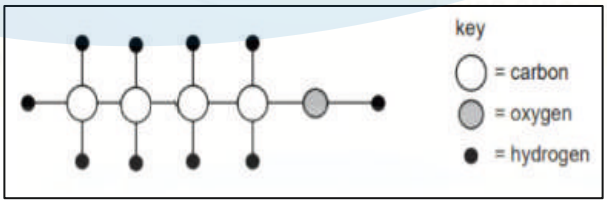
The picture given below shows an apparatus that a teacher used for demonstrating the properties of ionic substances. The teacher heats a sample of lead bromide in a crucible which contains two electrodes which are part of the circuit shown. The bulb does not light up. What is the best explanation for this?

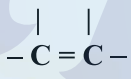
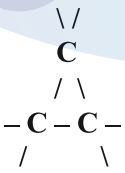


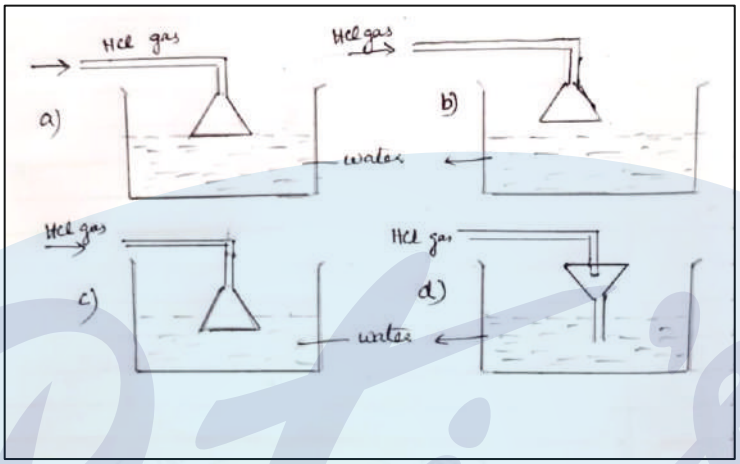
(a) The circuit is complete.
(b) Molten lead bromide does not conduct electricity.
(c) The sample of lead bromide was not heated up to the melting point by the teacher.
(d) The DC power supply was set up correctly. **[Analysis]**

S.No.	Questions
9.	*[Period Properties and Variations of Properties]* Element Y is in Group IIA of the Periodic Table. Y reacts with element Q to form an ionic compound. Which equation shows the process that takes place when Y forms ions? (a) $Y + 2e^- \rightarrow Y^{2+}$ (b) $Y - 2e^- \rightarrow Y^{2-}$ (c) $Y + 2e^- \rightarrow Y^{2-}$ (d) $Y - 2e^- \rightarrow Y^{2+}$ **[Understanding & Application]**
10	*[Electrolysis]* The diagram below shows a circuit used to electrolyse aqueous sodium argento cyanide. Which arrow indicates the movement of the silver ions in the electrolyte and of the electrons in the external circuit?  **Silver ions** **Electrons** (a) 3 1 (b) 3 2 (c) 2 4 (d) 4 1 **[Understanding & Application]**
11.	*[Mole Concept and Stoichiometry]* The relative atomic mass of nitrogen is 14, and that of hydrogen is 1. This means that (i)_____ of nitrogen has the same mass as (ii)_____ of hydrogen. Which words correctly complete the gaps? **[Analysis]**

	(i)	(ii)
(a)	An atom	28 molecules
(b)	An atom	7 molecules
(c)	A molecule	14 atoms
(d)	A molecule	7 atoms

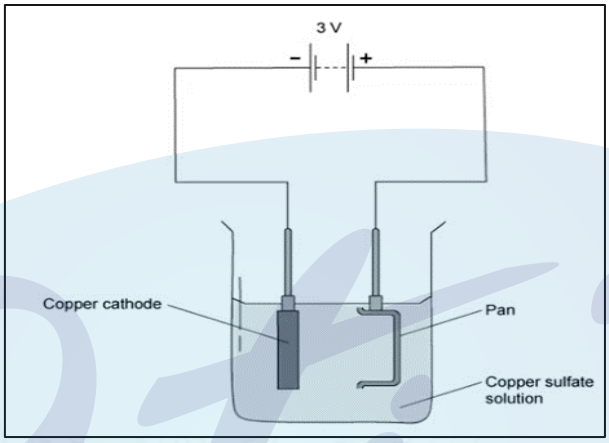
S.No.	Questions
12.	*[Study of Compounds]* A student reacts copper turnings with cold dilute nitric acid in a test tube. He tests the gas given off with moist red and blue litmus paper. What is the name of the gas that evolved and what is the final colour of the litmus paper? **Gas** **Final colour of the litmus paper** (a) NO No change in blue and red litmus paper (b) NO_2 Blue litmus turns red and no change in red litmus (c) N_2 No change in blue and red litmus paper (d) N_2O No change in blue and red litmus paper **[Understanding]**
13.	*[Chemical Bonding]* Which element forms a stable ion with the same electronic configuration as argon? (a) Magnesium (b) Fluorine (c) Chlorine (d) Sodium **[Recall & Understanding]**
14.	*[Organic Chemistry]*  The diagram below represents the molecule of an organic compound. What is the name of this compound? (a) Pentanol (b) Butanol (c) Butanoic acid (d) Pentanoic acid **[Understanding]**

S.No.	Questions
15.	*[Electrolysis]* When a compound was electrolysed using inert electrodes, the gas released at the anode made a glowing splinter rekindle. The electrolyte that will not produce such gas observation at the anode is: (a) diluted solution of NaCl. (b) concentrated solution of NaCl. (c) diluted solution of copper sulphate. (d) acidified water. **[Application]**
16.	*[Organic Chemistry]* Which of the following chains of hydrocarbons undergoes two steps of reactions to become saturated? (a)  (b)  (c)  (d)  **[Understanding & Analysis]**

S.No.	Questions
17.	*[Study of Compounds]* Given below are four different illustrations of preparing hydrochloric acid drawn by students. Which of these is the correct?  **[Evaluate]**
18.	*[Organic Chemistry]* When two organic compounds A and B react together in the presence of conc.H_2SO_4, a fruity smell evolved from one of the products. If A has the functional group [-O-H], which of the following stands for the functional group of B? (a) $-\overset{\overset{H}{|}}{C}=O$ (b) $-\overset{|}{C}=O$ (c) $-\overset{\overset{||}{O}}{C}-OH$ (d) $-O-$ **[Application & Analysis]**

S.No.	Questions
19.	*[Chemical Bonding]* Given below are four covalent compounds. (A) H_2O (B) CCl_4 (C) Cl_2 (D) NH_3 Which of the following represents the correct order when they are arranged in their increasing number of covalent bonds? (a) B < D <A < C (b) A < C < D < B (c) C < D < A < B (d) C < A < D < B **[Recall & Application]**
20.	*[Electrolysis]* The electrolytic cell used for the electrolysis of molten lead bromide is made of Silica. Which of the following properties of silica that is the reason for it not having much significance in the process of electrolysis? (a) Hard and strong (b) Non-conductor of electricity (c) Non- reactive (d) Withstands high temperature **[Understanding]**
21.	*[Organic Chemistry]* A distinctive reaction that takes place when ethanol is treated with acetic acid in the presence of concentrated sulphuric acid to give a fruity smell. P: The reaction is called esterification. Q: The reaction is called hydration. (a) Only P (b) Only Q (c) Both P and Q (d) Both P and Q are wrong **[Understanding]**
22.	*[Study of Acids, Bases and Salts]* The pH of the soil is tested, and for the better growth of crops, slightly alkaline soil is required. Which ion in the fertiliser will increase the alkalinity of the soil? (a) Hydronium ion (b) Hydroxyl ion (c) Hydrogen ion (d) Both hydroxyl and hydrogen **[Application]**

S.No.	Questions
23.	*[Chemical Bonding]* Ramu makes a detailed study on the values of electronegativity and the formation of compounds. Accordingly, he draws the following conclusion: The larger the electronegativity (EN) difference between the combining atoms, the more ionic bonds will form. If the EN difference is negligible, covalent bonds will form. So, which of the following values refers to covalent bonds? P: 3.0 and 3.0 Q: 0.9 and 3.0 (a) Only P (b) Only Q (c) Both P and Q (d) Neither P nor Q **[Application & Analysis]**
24.	*[Mole Concept and Stoichiometry]* 10g of magnesium carbonate reacts completely with excess dilute hydrochloric acid. What volume of carbon dioxide is formed at room temperature and pressure? [Mg=24, C=12, O=16] The equation for the reaction is: $MgCO_3 + 2HCl \rightarrow MgCl_2 + H_2O + CO_2$ (a) 2.8 dm^3 (b) 2.6 dm^3 (c) 2.2 dm^3 (d) 2.4 dm^3 **[Application]**

S.No.	Questions
25.	*[Electrolysis]* The diagram shown is a wrong attempt to electroplate a pan with copper:  Which of the following could have been done to copper plate a pan? (a) To change DC to AC. (b) To change the electrolyte from copper sulphate to cobalt sulphate. (c) Connect the pan to the negative electrode. (d) To induce a higher current. **[Application]**
26.	*[Metallurgy]* During the extraction of aluminium by Hall Heroult's process, the carbon rods are replaced continuously. This is because: (a) It minimises heat loss by radiation. (b) It enhances the mobility of ions. (c) The carbon anode is consumed. (d) It lowers the fusion point. **[Understanding]**

S.No.	Questions
27.	*[Study of Acids, Bases and Salts]* Which of the following observations correctly shows the action of indicator on sodium hydroxide solution? **[Application]**

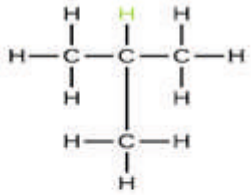
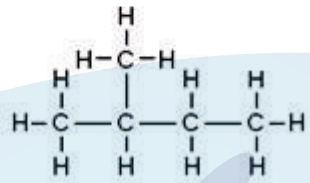
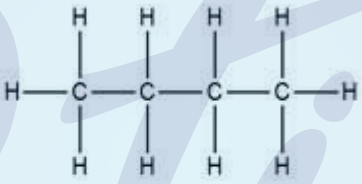
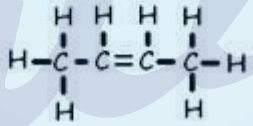
	Indicator	**methyl orange**	**phenolphthalein**
(a)	P	orange to yellow	remains colourless
(b)	Q	orange to pink	remains colourless
(c)	R	orange to yellow	colourless to pink
(d)	S	remains orange	remains pink

28. *[Electrolysis]*

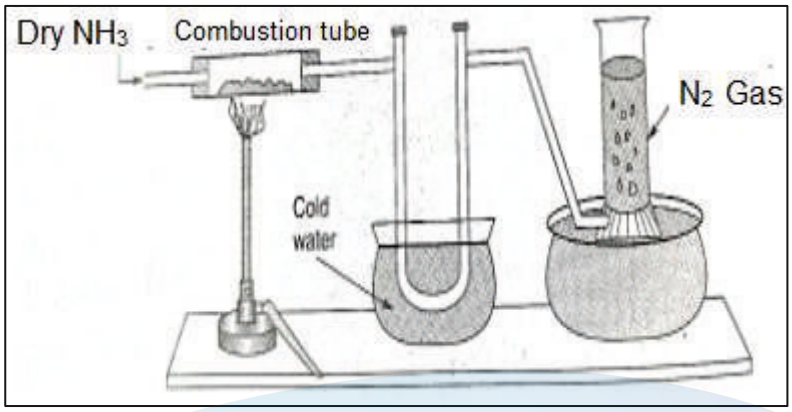
When electrolysis of molten lead bromide is carried out, the products formed at the respective electrodes are:

	At the positive electrode	At the negative electrode
(a)	Bromine	Lead
(b)	Bromine	Hydrogen
(c)	Lead	Bromine
(d)	Lead	Oxygen

[Application]

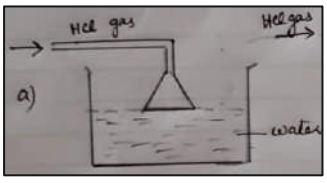
S.No.	Questions
29.	*[Organic Chemistry]* The following are the structural diagrams of certain hydrocarbons: (a)  (b)  (c)  (d)  Which two structures are related to each other? (a) A and B (b) B and C (c) C and D (d) A and C **[Recall & Application]**
30.	*[Chemical Bonding]* The electronic configuration of X is 2,8,6. It gains 'Y' electrons into its valence shell to attain the nearest noble gas electronic configuration and gets converted to an ion Z. X, Y, and Z, respectively, are: (a) Sodium, one, electropositive (b) Beryllium, two, electronegative (c) Oxygen, six, electronegative (d) Sulphur, two, electronegative **[Understanding & Application]**

S.No.	Questions
31.	*[Periodic Properties and Variations of properties]* Which of the following arrangements is INCORRECT as per the property stated against it? (a) Li > Be > N > O (Metallic character) (b) CI > F > Br >I (Electron gain enthalpy) (c) O^{2-} > F^{-} > Mg^{2+} >Na^{+} (Ionic radii) (d) I > Br > CI > F (Number of shells) **[Analysis & Application]**
32.	*[Organic Chemistry]* Baking soda ($NaHCO_3$), when added to vinegar, evolves a gas. Which of these statements is true about the evolution of gas? I. It turns limewater milky. II. It extinguishes the burning splinter. III. It acts as a non-metallic oxide IV. It has a pungent odour. (a) I and IV (b) I and II (c) I, II and III (d) III and IV **[Recall & Understanding]**
33.	*[Electrolysis]* The statements below show the results when three metal strips, P, Q, and R, are placed in blue copper sulphate solution. P- Solution turns green. Q- Solution becomes colourless. R- Solution remains blue. Which of the following metals could be P, Q, and R? (a) P-Al, Q-Zn, R- Fe (b) P-Zn, Q-Fe, R- Ag (c) P-Fe, Q-Zn, R-Ag (d) P- Zn, Q-AI, R– Fe **[Application]**

S.No.	Questions
34.	*[Study of Compounds]*  Study the above diagram and choose the correct option related to the content given below: Compound X reacts with ammonia in the combustion tube, which leaves a residue Y. Identify X and Y, as well as the property Z of ammonia demonstrated in this particular reaction. (a) X= CuO, Y=black, Z = reducing property. (b) X=PbO, Y = yellow, Z=oxidising property. (c) X=CuO, Y =yellow, Z =oxidising property. (d) X=PbO, Y=black, Z=reducing property. **[Analysis]**
35.	*[Study of Compounds]* **Assertion (A):** Few drops of dilute acid is added to a solution of zinc sulphide, a colourless gas is formed with a rotten egg odour. **Reason (R)**: Gas formed does not turn moist lead acetate paper silvery black. (a) Both A and R are true. (b) A and R are true, but R is the correct explanation of A. (c) A is true, but R is not the correct explanation of A. (d) Both A and R are false. **[Recall & Understanding]**
36.	*[Metallurgy]* **Assertion (A):** Hall Heroult's process is used to get pure aluminium from its oxide. **Reason (R):** Aluminium generally is not found in aluminium oxide form. (a) Both A and R are correct. (b) A is correct, but R is not a true explanation of A. (c) A is correct, and R is a true explanation of B. (d) Both A and R are incorrect. **[Understanding]**

S.No.	Questions
37.	*[Organic Chemistry]* **Assertion (A):** Alkenes, alkynes and alkanes are examples of homologous series. **Reason (R):** Organic compounds of the homologous series have similar structures but different chemical properties. (a) Both A and R are true. (b) Both A and R are false. (c) A is true but R is not the correct explanation of A. (d) A is false but R is true. **[Recall & Understanding]**
38.	*[Mole Concept and Stoichiometry]* **Assertion (A)**: The atomic mass of oxygen is 16 a.m.u; therefore, its gram atomic mass is 16g. **Reason (R)**: The atomic mass of an element expressed in grams is called gram atomic mass. (a) A is true, and R is the correct explanation of A. (b) Both A and R are true, but R is not a true explanation of A. (c) Both A and R are false. (d) R is false, but A is a true explanation. **[Analysis & Application]**

Answer Key

S.No.	Expected Answers
1.	(c) Ammonium hydroxide
2.	(c) Cu
3.	(b) Ammonia
4.	(d) It has a triple bond between the carbon atoms.
5.	(b) Reducing
6.	(d) $OH^- - e^- \rightarrow OH$, $[4OH] \rightarrow 2H_2O + O_2$
7.	(b) B
8.	(c) The sample of lead bromide was not heated up to the melting point by the teacher.
9.	(d) $Y - 2e^- \rightarrow Y^{2+}$
10.	(d) 4, 1
11.	(b) An atom / 7 molecules.
12.	(a) NO. No change in blue and red litmus paper.
13.	(c) Chlorine
14.	(b) Butanol
15.	(b) concentrated solution of NaCl.
16.	(c) $\overset{\vert}{C} \equiv \overset{\vert}{C}$
17.	(a) 
18.	(c) $-\overset{\Vert}{C}-OH$

S.No.	Expected Answers
19.	(d) C < A < D < B
20.	(a) Hard and strong
21.	(a) Only P
22.	(b) Hydroxyl ion
23.	(a) Only P
24.	(b) 2.6 dm^3
25.	(c) Connect the pan to negative electrode.
26.	(c) The carbon anode is consumed.
27.	(c) R
28.	(a)
29.	(d) A and C
30.	(d) Sulphur, two, electronegative
31.	(c) $O^{2-} > F^- > Mg^{2+} > Na^+$ (Ionic radii)
32.	(c) I, II and III
33.	(c) P-Fe, Q-Zn, R-Ag
34.	(a) X= CuO, Y=black, Z = reducing property
35.	A is true, but R is not the correct explanation of A.
36.	(a) Both A and R are correct.
37.	(c) A is correct but R is not the correct explanation of A.
38.	(a) A is true, and R is the correct explanation of A.

Specimen : 2026

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the question, write the correct answers only.)

(i) Which of the following will dissociate in aqueous solution, to give a positive ion other than hydronium ion and a negative ion other than hydroxyl ion?

(a) KOH

(b) dil. HCl

(c) NaCl

(d) CH_3COOH

[Understanding & Application]

(ii) A compound **P** is heated in a test tube with sodium hydroxide solution. A red litmus paper held at the mouth of the test tube turns blue.

Which of the following could compound **P** be?

(a) Zinc sulphate

(b) Copper sulphate

(c) Ferrous sulphate

(d) Ammonium sulphate

[Understanding]

(iii) **Assertion (A):** Aqueous solution of potassium chloride can conduct electricity.

Reason (B): Conduction of electric current is due to the presence of free ions.

(a) (A) is true and (R) is false.

(b) (A) is false and (R) is true.

(c) Both (A) and (R) are true and (R) is the correct explanation of (A).

(d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

[Understanding]

(iv) Identify the ion that contain one lone pair of electrons.

(a) OH^{-1}

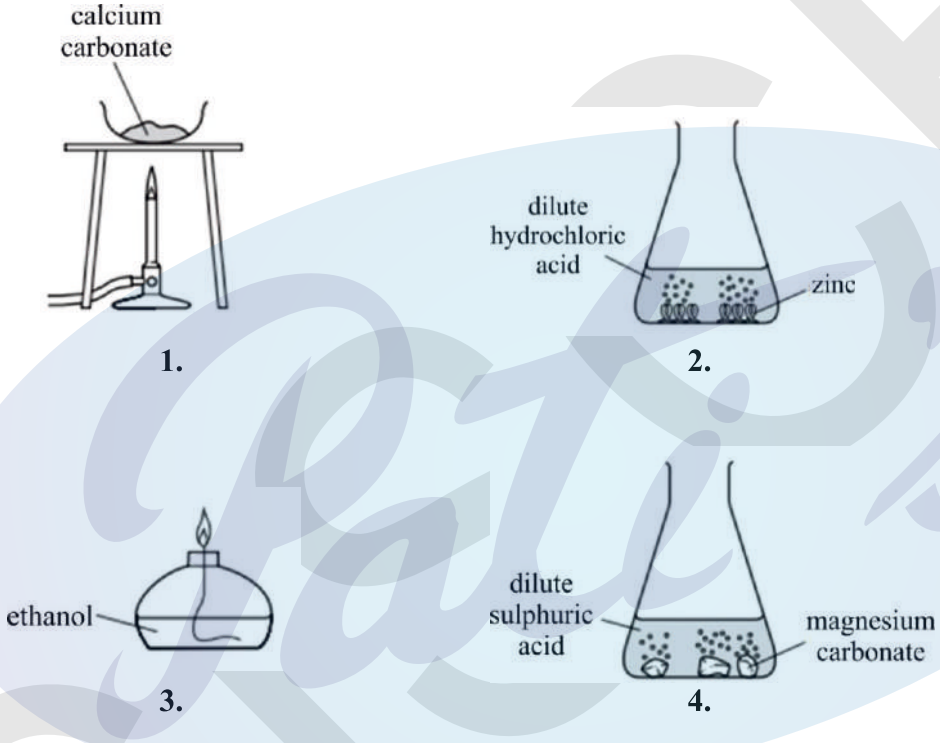
(b) H_3O^+

(c) NH_4^+

(d) H^+

[Understanding & Application]

(v) Four reactions are shown below in the diagram:



Which reactions produce water?

(a) 1 and 2

(b) 1 and 3

(c) 3 and 4

(d) 2 and 3

[Understanding & Application]

(vi) When compound **X** reacts with dilute sulphuric acid, it releases a gas that turns acidified potassium dichromate solution from orange to green. Which of the following could be compound **X**?

(a) Lead nitrate

(b) Copper carbonate

(c) Sodium chloride

(d) Potassium sulphite

[Recall & Understanding]

(vii) The volume occupied by 2 moles of a gas at STP is:

(a) 22.4L

(b) 2.24L

(c) 44.8L

(d) 4.48L

[Understanding]

(viii) Identify from the following metal oxide which can react with an acid as well as an alkali.

(a) Silver oxide

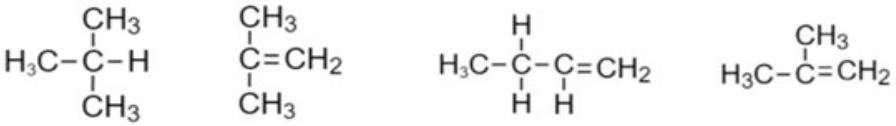
(b) Calcium oxide

(c) Copper(II) oxide

(d) Aluminium oxide

[Understanding]

(ix) The structures of four hydrocarbons are shown below:



How many isomers of butene are shown in the above structures?

(a) 1

(b) 2

(c) 3

(d) 4

[Analysis]

(x) Which element amongst the following has the largest atomic radius?

(a) Al

(b) S

(c) Mg

(d) Na

[Understanding & Application]

(xi) For which pH change is there the **maximum increase** in acidity?

	Initial pH	Final pH
(a)	1	3
(b)	2	6
(c)	3	1
(d)	6	2

[Understanding & Application]

(xii) The equation below shows the reaction between element 'X' and dilute sulphuric acid.

$$X(s) + H_2SO_4\,(aq.) \rightarrow XSO_4\,(aq.) + H_2\,(g)$$

Which particles are responsible for conducting electricity in dilute sulphuric acid and compound XSO_4?

(a) Electrons

(b) Only positive ions

(c) Only negative ions

(d) Both positive and negative ions

[Understanding]

(xiii) Methanol and ethanol belong to the same homologous series.

What does this statement mean?

(a) Their molecules contain atoms only of carbon and hydrogen.

(b) Their molecules have the same number of carbon atoms.

(c) They have the same functional group.

(d) They have the same relative molecular mass.

[Understanding]

(xiv) The ratio between the volumes occupied by 22 grams of carbon dioxide and 10 grams of hydrogen gas is:

(a) 2.2 :1

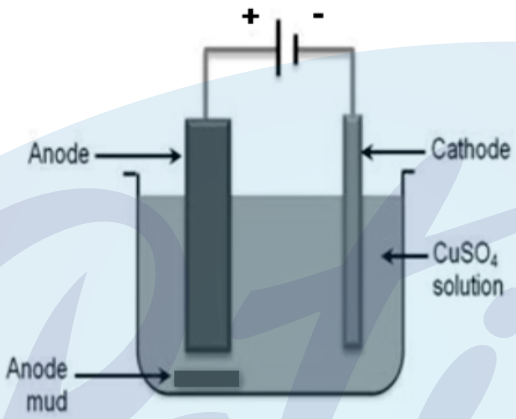
(b) 1: 2.2

(c) 1:10

(d) 10:1

[Application]

(xv) In the process of Electrorefining of Copper shown in the diagram below, which of the following statements is correct?



Electrorefining of Copper

(a) The anode is made of pure Copper.

(b) The cathode is made of impure Copper.

(c) Copper is deposited at the anode.

(d) Copper ions from the anode move to the cathode and get deposited as pure Copper.

[Understanding]

ICSE ACADEMY

ICSE 2026 SPECIMEN

Answers

Question 1			[15x1]
(i)	(c)	NaCl	
(ii)	(d)	ammonium sulphate	
(iii)	(c)	Both (A) and (R) are the true and (R) is the correct explanation of (A).	
(iv)	(b)	H_3O^+	
(v)	(c)	3 and 4	
(vi)	(d)	Potassium sulphite	
(vii)	(c)	44.8L	
(viii)	(d)	Aluminium oxide	
(ix)	(b)	2	
(x)	(d)	Na	
(xi)	(d)	6 | 2	
(xii)	(d)	Both positive and negative ions	
(xiii)	(c)	They have the same functional group.	
(xiv)	(c)	1:10	
(xv)	(d)	Copper ions from the anode move to the cathode and get deposited as pure Copper.	

Specimen : 2025

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the question, write the correct answers only.)

(i) An aqueous solution of copper sulphate turns colourless on electrolysis.

Which of the following could be the electrodes?

P. anode: copper; cathode: copper

Q. anode: platinum; cathode: copper

R. anode: copper; cathode: platinum

(a) only P

(b) only Q

(c) only R

(d) both Q and R **[Understanding]**

(ii) A compound P is heated in a test tube with sodium hydroxide solution. A red litmus paper held at the mouth of the test tube turns blue.

Which of the following could compound P be?

(a) zinc sulphate

(b) copper sulphate

(c) ferrous sulphate

(d) ammonium sulphate **[Understanding]**

(iii) Which of the following would weigh the least?

(Atomic masses C=12, O=16, Na=23)

(a) 2 gram atoms of oxygen

(b) one mole of sodium

(c) 22.4 litres of carbon dioxide at STP

(d) 6.023×10^{22} atoms of carbon **[Applications]**

(iv) The equation below shows the reaction between element 'X' and dilute sulphuric acid.

$$X(s) + H_2SO_4\,(aq.) \rightarrow XSO_4\ (aq.) + H_2\,(g)$$

Which particles are responsible for conducting electricity in dilute sulphuric acid and compound XSO_4?

(a) Electrons

(b) Only positive ions

(c) Only negative ions

(d) Both positive and negative ions **[Understanding]**

(v) **Assertion (A):** Dry hydrogen chloride gas is collected by the upward displacement of air.

Reason (R): Hydrogen chloride gas is lighter than air.

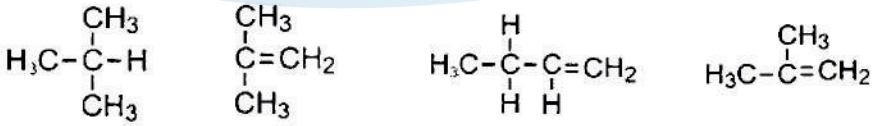
(a) Both A and R are true and R is the correct explanation of A

(b) Both A and R are true but R is not the correct explanation of A

(c) A is true but R is false

(d) A is false but R is true **[Understanding]**

(vi) The structures of four hydrocarbons are shown below:



How many isomers of butene are there?

(a) 1

(b) 2

(c) 3

(d) 4 **[Analysis]**

(vii) Element 'P' has electronic configuration 2,8,8,1. The number of chlorine atoms present in the chloride of 'P' is:

(a) 2

(b) 1

(c) 3

(d) 4

[Understanding & Application]

(viii) $_1H^2$ is an isotope of hydrogen. In the modern Periodic Table it will:

(a) be placed before hydrogen

(b) be placed after hydrogen

(c) be placed at the same position as hydrogen

(d) not have any position in the Periodic Table **[Understanding]**

(ix) A nitrate which forms a precipitate with ammonium hydroxide and is also soluble in excess of it:

(a) ferrous nitrate

(b) ferric nitrate

(c) lead nitrate

(d) copper nitrate **[Understanding]**

(x) Which of the following electronic configuration represents the most electropositive element?

(a) 2, 1

(b) 2, 8, 1

(c) 2, 2

(d) 2, 8, 2 **[Understanding]**

(xi) **Assertion (A):** Alkali metals do not form dipositive ions.

Reason (R): After loss of one electron alkali metals achieve stable electronic configuration of noble gases.

(a) Both A and R are true and R is the correct explanation of A

(b) Both A and are true but R is not the correct explanation of A

(c) A is true but R is false

(d) A is false but R is true **[Understanding]**

(xii) The ratio between the volumes occupied by 4.4 grams of carbon dioxide and 2 grams of hydrogen gas is:

(a) 2.2 :1

(b) 1: 2.2

(c) 1:10

(d) 10:1 **[Application]**

(xiii) Aqueous lead (II) nitrate can be distinguished from aqueous zinc nitrate by adding any of the following solution in excess, except:

(a) aqueous potassium chloride

(b) aqueous sodium sulphate

(c) dilute sulphuric acid

(d) sodium hydroxide solution **[Understanding]**

(xiv) Which of the following about oxides is correct?

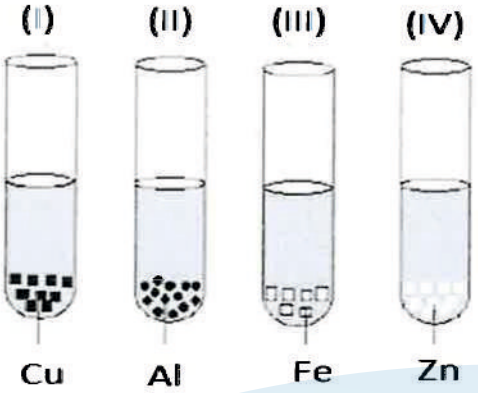
(a) A basic oxide is an oxide of a non-metal

(b) Acidic oxides contain ionic bonds

(c) Amphoteric oxides contain a metal

(d) Basic oxides are always gases **[Understanding]**

(xv) A student takes Cu, Al, Fe and Zn strips, separately in four test tubes labeled as I, II, III and IV respectively. He adds 10 ml of freshly prepared ferrous sulphate solution to each test tube and observes the colour of the metal residue in each case.



He would observe a black residue in the test tubes:

(a) (I) and (II)

(b) (I) and (III)

(c) (II) and (III)

(d) (II) and (IV)

[Understanding & Application]

Answers : Specimen 2025

i b ii d iii d iv d v c vi b vii b viii c ix d x b

xi a xii c xiii d xiv c xv d

Specimen : 2024

ICSE 2024 EXAMINATION

SPECIMEN QUESTION PAPER

CHEMISTRY

(SCIENCE PAPER – 2)

Maximum Marks: 80

Time allowed: Two hours

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

You will not be allowed to write during first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

***Section A** is compulsory. Attempt **any four** questions from **Section B**.*

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

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the question, write the correct answers only.)

(i) An aqueous solution of copper sulphate turns colourless on electrolysis.

Which of the following could be the electrodes?

P. anode: copper; cathode: copper

Q. anode: platinum; cathode: copper

R. anode: copper; cathode: platinum

(a) only P

(b) only Q

(c) only R

(d) both Q and R

(iii)

(ii) A compound P is heated in a test tube with sodium hydroxide solution. A red litmus paper held at the mouth of the test tube turns blue.

Which of the following could compound P be?

(a) zinc sulphate

(b) copper sulphate

(c) ferrous sulphate

(d) ammonium sulphate

(iii) The atomic masses of sulphur (S), oxygen (O), and helium (He) are approximately 32, 16, and 4 respectively.

Which of the following statements regarding the number of atoms in 32 g of sulphur, 16 g of oxygen, and 4 g of helium is correct?

P. 16 g of oxygen contains four times the number of atoms as 4 g of helium.

Q. 16 g of oxygen contains half the number of atoms as 32 g of sulphur.

(a) only P

(b) only Q

(c) both P and Q

(d) neither P nor Q

(iv) Ammonia gas is passed through quicklime and then collected in a jar. Red and blue litmus papers are placed in the jar. W, X, Y and Z are the four observations.

Which of the above observations correctly shows the reaction of the litmus papers to ammonia?

	Red litmus paper	**Blue litmus paper**
W	turns blue	remains blue
X	remains red	remains blue
Y	remains red	turns red
Z	turns blue	turns red

(a) W

(b) X

(c) Y

(d) Z

(iii)

(v) Glucose reacts with concentrated sulphuric acid to give a very pure form of carbon called sugar charcoal.

The reaction taking place is:

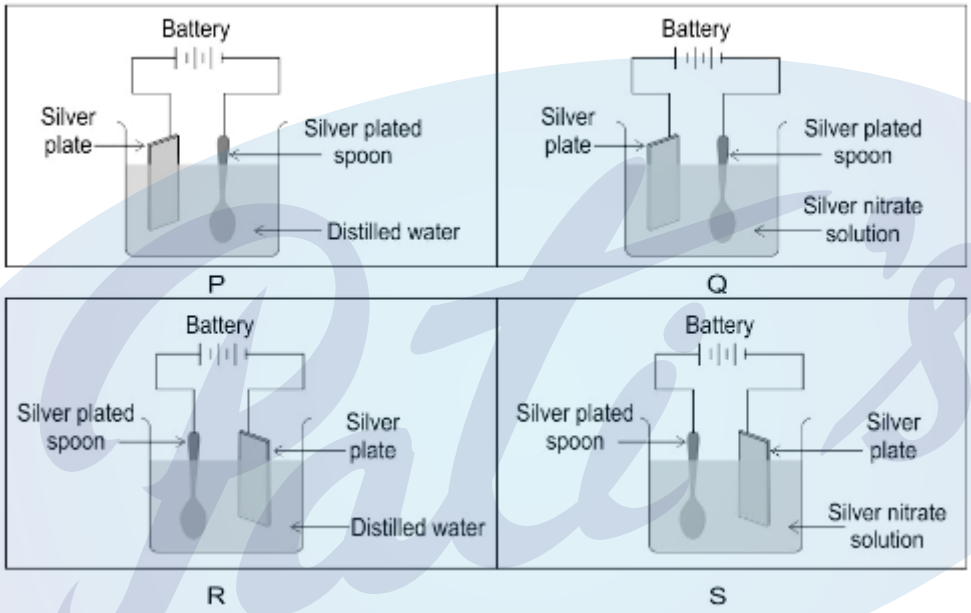
(a) oxidation

(b) combustion

(c) dehydration

(d) combination

(vi) In which of the following electrolytic cells [P, Q, R or S] will silver plating be done on the spoon?



(a) P

(b) Q

(c) R

(d) S

(vii) The basicity of acetic acid is:

(a) 1

(b) 2

(c) 3

(d) 4

(iii)

(viii) $A \rightarrow A^{+3}$; $B \rightarrow B^{-1}$

Number of electrons present in the outermost shell of atoms A and B respectively are:

(a) 5, 1

(b) 3, 1

(c) 3, 7

(d) 5, 7

(ix) A _____ solution is observed after placing Magnesium metal in a solution of Copper sulphate for half an hour.

(a) Blue

(b) Colourless

(c) Reddish brown

(d) Dirty green

(x) An element with atomic no. _____ will form an acidic oxide.

(a) 3

(b) 17

(c) 11

(d) 13

(xi) Which of the following is NOT true with respect to nitric acid?

(a) It is a strong reducing agent

(b) It is a strong oxidizing agent

(c) It is unstable to heat

(d) It liberates sulphur dioxide gas when treated with potassium sulphite

(xii) _____ is the functional group in methanol.

(a) >C=O

(b) –OH

(c) –CHO

(d) –COOH

(iii)

(xiii) The process of electrolysis is an example of:

(a) Oxidation reaction

(b) Reduction reaction

(c) Redox reaction

(d) Displacement reaction

(xiv) The catalyst used in Ostwald's process is _____.

(a) Finely divided iron

(b) Graphite

(c) Vanadium pentoxide

(d) Platinum

(xv) An element belongs to third period and sixteenth group. It will have _____ electrons in its valence shell.

(a) 2

(b) 5

(c) 6

(d) 3

ICSE ACADEMY

Answers : Specimen 2024

i b ii d iii d iv b v c vi d vii a viii b ix b x b

xi a xii b xiii c xiv d xv c

(iii)

(xiii) The process of

ICSE 2023 EXAMINATION

SPECIMEN QUESTION PAPER

CHEMISTRY

(SCIENCE PAPER – 2)

Maximum Marks: 80

Time allowed: Two hours

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

You will not be allowed to write during first 15 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

***Section A** is compulsory. Attempt **any four** questions from **Section B**.*

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

SECTION A

*(Attempt **all** questions from this Section.)*

Question 1

Choose one correct answer to the questions from the given options: [15]

(i) A weak electrolyte is:

(a) Alcohol

(b) Potassium hydroxide

(c) Ammonium hydroxide

(d) Glucose

(ii) Electron affinity is maximum in:

(a) Alkaline earth metals

(b) Halogens

(c) Inert gases

(d) Alkali metals

(iii) The main components of bronze are:

(a) Copper and tin

(b) Copper and iron

(c) Copper and lead

(d) Copper and zinc

(iv) A polar covalent compound is:

(a) Methane

(b) Ammonia

(c) Nitrogen

(d) Chlorine

(v) An acid which has two replaceable hydrogen ions:

(a) Acetic acid

(b) Hydrochloric acid

(c) Phosphoric acid

(d) Carbonic acid

(vi) The hydroxide which is soluble in excess of NaOH is:

(a) Ferric hydroxide

(b) Lead hydroxide

(c) Copper hydroxide

(d) Calcium hydroxide

(vii) If the RMM of carbon dioxide is 44, then its vapour density is:

(a) 22

(b) 32

(c) 44

(d) 88

(viii) Drying agent used to dry Hydrogen chloride gas:

(a) Concentrated Sulphuric acid

(b) Calcium oxide

(c) Sulphurous acid

(d) Calcium hydroxide

(ix) The catalyst used in the Haber's Process is:

(a) Molybdenum

(b) Platinum

(c) Nickel

(d) Finely divided Iron

(x) An aqueous compound which turns colourless phenolphthalein to pink:

(a) Ammonium hydroxide

(b) Nitric acid

(c) Anhydrous calcium chloride

(d) Sulphuric acid

(xi) The gas formed when carbon reacts with concentrated sulphuric acid:

(a) Hydrogen

(b) Sulphur trioxide

(c) Sulphur dioxide

(d) Oxygen

(xii) The organic compound prepared when Ethanol undergoes dehydration:

(a) Methane

(b) Ethane

(c) Acetylene

(d) Ethene

(xiii) The IUPAC name of methyl acetylene is:

(a) Propyne

(b) Ethene

(c) Propane

(d) Ethyne

(xiv) The product formed at the cathode in electroplating of an article with Nickel is:

(a) Hydrogen gas

(b) Nickel ions

(c) Nickel atoms

(d) Oxygen gas

(xv) An alkali metal found in period 3 and group 1 is:

(a) Magnesium

(b) Lithium

(c) Sodium

(d) Potassium

Answers : Specimen 2023

i c ii b iii a iv b v d vi b vii a viii a ix d x a

xi c xii d xiii a xiv c xv c

Specimen : 2022

ICSE SEMESTER 2 EXAMINATION

SPECIMEN QUESTION PAPER

CHEMISTRY

(SCIENCE PAPER 2)

Maximum Marks: 40

Time allowed: One and a half hours

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

You will not be allowed to write during the first 10 minutes.

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

---

*Attempt **all** questions from **Section A** and **any three** questions from **Section B**.*

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

SECTION A

*(Attempt **all** questions.)*

Question 1

Choose the correct answers to the questions from the given options. (Do not copy the question, Write the correct answer only.) [10]

(i) The IUPAC name of Ethylene is:

(a) Propane

(b) Propyne

(c) Ethene

(d) Ethyne

(ii) Carbon to carbon double bond is found in:

(a) 2-butylene

(b) Acetaldehyde

(c) Acetic acid

(d) Ethyl alcohol

(iii) Fused alumina is reduced to aluminium by electrolytic reduction, since:

(a) Alumina is highly stable

(b) Alumina is least stable

(c) Alumina is not reduced by drying agents.

(d) Alumina is not reduced by reducing agents.

(iv) The catalyst preferred in the conversion of Sulphur dioxide to Sulphur trioxide is:

(a) Finely divided iron

(b) Graphite

(c) Vanadium pentoxide

(d) platinum

(v) Substitution reaction is a characteristic property of:

(a) Alcohols

(b) Alkanes

(c) Alkenes

(d) Alkynes

(vi) The gas evolved when dilute sulphuric acid reacts with iron sulphide:

(a) Sulphur dioxide

(b) Carbon dioxide

(c) Hydrogen sulphide

(d) Nitrogen dioxide

(vii) An acid obtained from concentrated nitric acid on reaction with Sulphur:

(a) Carbonic acid

(b) Sulphuric acid

(c) Nitric acid

(d) Hydrochloric acid

(viii) The hydroxide soluble in excess of ammonium hydroxide is:

(a) Zinc hydroxide

(b) Lead hydroxide

(c) Magnesium hydroxide

(d) Ferrous hydroxide

(ix) The chemical name of the principal ore of aluminium:

(a) Sodium aluminium fluoride

(b) Aluminium oxide

(c) Hydrated Aluminium fluoride

(d) Hydrated aluminium oxide

(x) A hydrocarbon which is a greenhouse gas.

(a) Acetylene

(b) Ethylene

(c) Ethane

(d) Methane

Answers : Specimen 2022 Semester 2

i c ii a iii a iv c v b vi c vii b viii a ix d x d

Specimen : 2022

ICSE SEMESTER 1 EXAMINATION

SPECIMEN QUESTION PAPER

CHEMISTRY

SCIENCE PAPER - 2

Maximum Marks: 40

Time allowed: One hour (inclusive of reading time)

ALL QUESTIONS ARE COMPULSORY.

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

Select the correct option for each of the following questions.

Question 1

The trend in metallic nature of metals as we go from top to bottom in a group: [1]

1. increases
2. decreases
3. neither increases nor decreases
4. none of the above

Question 2

The colour change observed when the solution of magnesium hydroxide is tested with the following indicators: [1]

1. phenolphthalein turns colourless to pink
2. methyl orange remains orange
3. phenolphthalein remains colourless
4. blue litmus solution turns red

Question 3

The compound which is a non-electrolyte: [1]

1. KCl (aq)
2. H_2SO_4 (dil)
3. CCl_4 (l)
4. CH_3COOH (aq)

Question 4

Twice the vapour density gives: [1]

1. Actual vapour density
2. Relative vapour density
3. Molecular mass
4. Molar volume

Question 5

The number of lone pair of electrons in the nitrogen atom in ammonia molecule: [1]

1. One
2. Two
3. Three
4. Four

Question 6

Elements with similar valence shell configuration in a Periodic Table are placed in: [1]

1. different groups
2. same period
3. different period
4. same group

Question 7

The gas liberated when sodium sulphite reacts with dilute sulphuric acid: [1]

1. Carbon dioxide
2. Hydrogen
3. Hydrogen sulphide
4. Sulphur dioxide

Question 8

Thickness of metal coating during electroplating depends on: [1]

1. Duration of current passage
2. A low current
3. Nature of cathode
4. Purity of anode

Question 9

Ionic bonding is seen in: [1]

1. Methane
2. Hydrogen
3. Ammonia
4. Sodium oxide

Question 10

The molecular formula of an organic compound is $C_6H_{12}O_6$ and the empirical formula is CH_2O, the value of n is: [1]

1. 2
2. 6
3. 1
4. 12

Question 11

When an electron is added in the valence shell: [1]

1. energy is released
2. energy is absorbed
3. energy remains same
4. none of the above

Question 12

The most electronegative element is: [1]

1. Sodium
2. Aluminium
3. Bromine
4. Fluorine

Question 13

The bond in Carbon Tetrachloride is: [1]

1. Single Covalent Bond
2. Double Covalent Bond
3. Ionic bond
4. Triple Covalent Bond

Question 14

The type of bonding present in the nitrogen molecule: [1]

1. Single Covalent Bond
2. Double Covalent Bond
3. Polar Covalent bond
4. Triple Covalent Bond

Question 15

A compound with Empirical formula XY_2, has the vapour density equal to its Empirical formula weight, its molecular formula is [1]

1. X_2Y_4
2. X_2Y_2
3. XY
4. X_4Y_2

Question 16

Identify one statement that does not hold true for electrorefining of copper: [1]

1. Electrolyte is acidified $CuSO_4$ solution
2. Cathode is a thin strip of impure copper
3. Anode dissolves in the electrolyte
4. Anode gets thicker.

Question 17

The observation when ammonium chloride reacts with potassium hydroxide: [1]

1. A reddish brown gas
2. A colourless gas which turns moist red litmus blue.
3. A green coloured gas which turns moist blue litmus paper red.
4. A colourless gas which turns lime water milky.

Question 18

The colour of the precipitate formed when ferrous ions react with ammonium hydroxide solution: [1]

1. Blue
2. Reddish brown
3. Dirty green
4. white

Question 19

During ionisation, metals lose electrons this change can be called: [1]

1. Oxidation
2. Reduction
3. Redox
4. Displacement

Question 20

The oxide of a metal that reacts both with acid and alkali to form salt and water: [1]

1. Sodium oxide
2. Magnesium oxide
3. Aluminium oxide
4. Ferrous oxide

Question 21

The property which decreases from left to right across the periodic table: [1]

1. Electron affinity
2. Electro negativity
3. Ionisation energy
4. Metallic character

Question 22

On the basis of electronic configuration the period and group of B_5^9 is: [1]

1. 2 and IIIA
2. 3 and IIA
3. 4 and VIA
4. 5 and VIIA

Question 23

Select the ion that would get selectively discharged from the aqueous mixture of the ions listed below: [1]

1. SO_4^{-2}
2. NO_3^{-1}
3. OH^{-1}
4. Cl^{-1}

Question 24

Hydronium ion is formed when a molecule of water combines with: [1]

1. Hydrogen atom
2. Proton
3. Hydrogen molecule
4. Oxygen atom

Question 25

The condition that is most appropriate for electroplating with nickel: [1]

1. Electrolyte is molten copper sulphate
2. Anode should be made of impure nickel plate
3. Alternating current is used
4. Periodic replacement of cathode is needed.

Question 26

The hydroxide which is soluble in excess ammonium hydroxide: [1]

1. Lead hydroxide
2. Ferrous hydroxide
3. Zinc hydroxide
4. Ferric hydroxide

Question 27

Which statement is not true for electrolysis? [1]

1. Cations migrate towards cathode
2. Anions discharge at anode
3. Anions get reduced during electrolysis
4. Cations get reduced during electrolysis

Question 28

H_2Y is the formula of a compound. What is the valency exhibited by Y? [1]

1. 1
2. 2
3. 3
4. none of the above

Question 29

The particles which attract one another to form electrovalent compounds are: [1]

1. Electrons
2. Protons
3. Ions
4. Molecules

Question 30

Which one of the following statements is NOT correct? [1]

1. Pure water does not allow a current to flow through it.
2. The electrolyte only conducts when in the molten state.
3. Electrodes that react with the electrolytes are said to be “active”.
4. Ions must be present in the electrolyte in order that it conducts electricity.

Question 31

The salt formed by partial replacement of hydrogen ion of an acid by a basic radical. [1]

1. Sodium sulphite
2. Magnesium hydroxide
3. Potassium sulphate
4. Zinc hydrogen sulphite

Question 32

Alkali which dissociates only partially in aqueous solution: [1]

1. Lithium hydroxide
2. Calcium hydroxide
3. Potassium hydroxide
4. Sodium hydroxide

Question 33

The property that matches with elements of the halogen family are: [1]

1. They are chemically highly reactive
2. They are metallic in nature.
3. They are monoatomic in their molecular form.
4. They have one electron in the valence shell.

Question 34

Cathode is a reducing electrode because: [1]

1. It has less number of electrons.
2. It has deficiency of electrons
3. Cations gain electrons from cathode
4. Anions lose electrons to cathode

Question 35

The simplest ratio of the atoms of carbon and hydrogen is 1:1. Identify the possible molecular formula. [1]

1. C_6H_6
2. C_2H_4
3. C_6H_2
4. C_3H_4

Question 36

The empirical formula of the compound is CH_2O, the possible molecular formula can be: [1]

1. $C_3H_6O_3$
2. C_2H_4O
3. $C_4H_3O_2$
4. $C_4H_6O_2$

Question 37

Observe the Periodic Table to answer the questions: [4]

Group No.	1-1A	2-IIA	13-IIIA	14-IVA	15-VA	16-VIA	17-VIIA	18-0
2nd period	Li		D			O	J	Ne
3rd period	A	Mg	E	Si		X	M	
4th period	R	T	G		Q	Y		Z

In the above table some elements are mentioned with their own symbol and position of the Periodic Table while others are shown with a letter. Answer the following questions pertaining to the same.

(a) Identify the most electronegative element.

1. Li.
2. Ne
3. Z
4. J

(b) How many Valence electrons are present in Q?

1. 3
2. 5
3. 15
4. 4

(c) The formula of the compound formed between E and O is

1. EO
2. E_3O_2
3. E_2O_3
4. EO_3

(d) The type of bond formed between A and X:

1. Ionic bond
2. Metallic bond
3. Covalent bond
4. Coordinate bond

Answers : Specimen 2022 Semester 1

1. 1 2. 1 3. 3 4. 3 5. 1 6. 4 7. 4 8. 1 9. 4 10. 2

11. 1 12. 4 13. 1 14. 4 15. 1 16. 2 17. 2 18. 3

19. 1 20. 3 21. 4 22. 2 23. 3 24. 2 25. 2 26. 3

27. 3 28. 2 29. 3 30. 2 31. 4 32. 2 33. 1 34. 3

35. 1 & 3 36. 4 37a. 4 37b. 2 37c. 3 37d. 1

Past Year Paper : 2026

ICSE Board Class 10 2026 Chemistry (Science Paper 2) Question Paper

Time Allowed :2 Hour	Maximum Marks :80	Total Questions :08

General Instructions

Read the following instructions very carefully and strictly follow them:

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 this Paper is the time allowed for writing the answers.

Section A is compulsory. Attempt any four questions from Section B.

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

SECTION A

(Attempt all questions from this Section.)

Question 1
Choose the correct answers to the questions from the given options.

(i) A non-metal which reacts with concentrated sulphuric acid to form two gases which turn lime water milky is _____.

(a) Sulphur
(b) Carbon
(c) Oxygen
(d) Nitrogen

(ii) Which of the following element pairs will form an ionic bond?

Pair	
P	Elements of Group 1 & Group 2
Q	Elements of Group 14 & Group 16
R	Elements of Group 2 & Group 17
S	Elements of Group 15 & Group 18

(a) P
(b) Q
(c) R
(d) S

(iii) The electronic configuration of an element is 2,8,2. The hydroxide of this element can produce _____ hydroxyl ions per molecule.

(a) 3
(b) 2
(c) 1
(d) 4

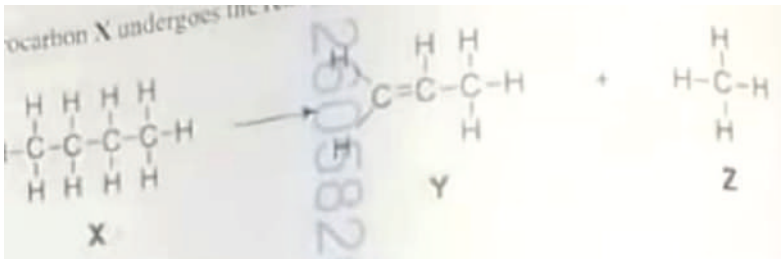
(iv) With respect to the electrolysis of copper (II) sulphate solution using copper electrodes, which statement is correct?

(a) Copper metal is deposited at the negative electrode.
(b) Oxygen gas is produced at the positive electrode.
(c) The positive electrode increases in mass.
(d) The negative electrode decreases in mass.

(v) Identify the equation that shows the reaction of ethane with chlorine in the presence of ultraviolet light.

(a) $C_2H_6 + Cl_2 \;\; C \;\; {}_2H_6Cl_2$
(b) $C_2H_6 + Cl_2 \;\; C \;\; {}_2H_4Cl_2 + H_2$
(c) $C_2H_6 + Cl_2 \;\; C \;\; {}_2H_5Cl + HCl$
(d) $C_2H_6 + Cl_2 \;\; 2CH \;\; {}_3Cl$

(vi) A hydrocarbon X undergoes the reaction under suitable conditions as shown below.



(a) X only
(b) Y only
(c) X and Z
(d) Y and Z

(vii) Rita added dilute hydrochloric acid to four metals. She recorded her observations in the table given below. While noting her observations she made some errors.

	Metals	Observations
1	copper	a gas was given off
2	iron	a gas was given off
3	magnesium	no gas was given off
4	zinc	a gas was given off

(a) 1 only
(b) 3 only
(c) Both 1 and 4
(d) Both 2 and 4

(viii) An atom of X forms an ion according to the equation $X + 2e \quad X^{2}$. The atomic number of the atom X is:

(a) 16
(b) 10
(c) 12
(d) 14

(ix) The method which cannot be used for the preparation of copper salts is:

(a) 1 (Action of acid on bases)
(b) 2 (Action of acid on carbonates)
(c) 3 (Action of acid on metals)
(d) 4 (Action of acid on sulphites)

(x) The compound that has the highest melting point amongst the following is:

(a) Methane
(b) Sodium chloride
(c) Ammonia
(d) Ethanol

(xi) Assertion (A): Dilute Sulphuric acid is a stronger electrolyte than concentrated Sulphuric acid.
Reason (R): Dilute Sulphuric acid has a higher concentration of mobile ions than concentrated Sulphuric acid.

(a) (A) is true but (R) is false.
(b) (A) is false but (R) is true.
(c) Both (A) and (R) are true and (R) is the correct explanation of (A).
(d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(xii) What volume of carbon dioxide is produced at STP when 5 litres of propane is burnt completely according to the equation given below?

$$C_3H_8 + 5O_2 \;\; 3CO \;\; _2 + 4H_2O$$

(a) 10 litres
(b) 15 litres
(c) 20 litres
(d) 25 litres

(xiii) An unsaturated hydrocarbon with three atoms of carbon and six atoms of hydrogen is:

(a) propyne
(b) propane
(c) propene
(d) propanol

(xiv) Assertion (A): In the electrolysis of acidified water, the volume of hydrogen liberated is twice the volume of oxygen formed.

Reason (R): Water has hydrogen and oxygen in the ratio of 1:2 by volume.

(a) (A) is true but (R) is false.
(b) (A) is false but (R) is true.
(c) Both (A) and (R) are true and (R) is the correct explanation of (A).
(d) Both (A) and (R) are true, but (R) is not the correct explanation of (A).

(xv) The reaction that takes place at the negative electrode (cathode) in the electrolysis of molten aluminium oxide is:
$(Al^{3+} + 3e \quad Al)$
$(2O^2 \quad O \quad _2 + 4e \quad)$
$(C + O_2 \quad CO \quad _2)$
$(Al_2O_3 \quad 2Al \quad ^{3+} + 3O^2 \quad)$

(a) 1
(b) 2
(c) 3
(d) 4

Answers : 2026 board exam

I b ii c iii b iv a v c vi d vii Both 1 & 3 viii a ix c x b

xi c xii b xiii c xiv a xv a

SECTION A (40 Marks)

*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the questions, write the correct answers only.)

(i) Read the statements given below:

I – Copper is a component in the alloy that is used to make medals.

II – Aluminium is used in making the alloy stainless steel.

III – Copper is a common component of both duralumin and brass.

Which of the statements are correct?

(a) I & II

(b) I & III

(c) II & III

(d) I, II & III

(ii) Sodium hydroxide can react with _____ acid to form an acid salt.

(a) Nitric acid

(b) Hydrochloric acid

(c) Acetic acid

(d) Sulphuric acid

(iii) How many moles are present in 10g of $CaCO_3$?

[*Atomic weight: Ca = 40, C = 12, O = 16*]

(a) 10 moles

(b) 1 mole

(c) 0.1 mole

(d) 0.11 mole

(iv) A white precipitate is formed when dilute hydrochloric acid reacts with **'X'**. The white precipitate is soluble in excess of NH_4OH and insoluble in dilute HNO_3. Identify **'X'**.

(a) $AgNO_3$

(b) NH_4Cl

(c) $AgCl$

(d) $CaCl_2$

(v) **Assertion (A):** In a solution containing equal concentration of Cu^{+2} ions and Ca^{+2} ions, Cu^{+2} ions will be discharged in preference to Ca^{+2} ions.

Reason (R): Ca^{+2} ions are placed above Cu^{+2} ions in the electrochemical series.

(a) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(vi) **Assertion (A):** Hydraulic washing is a method to separate impurities from the ore.

Reason (R): In Hydraulic washing denser particles float and lighter particles settle down.

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(vii) The oxide which reacts with both dilute hydrochloric acid and sodium hydroxide solution to form salt and water is:

(a) Basic oxide

(b) Amphoteric oxide

(c) Acidic oxide

(d) Neutral oxide

(viii) Which of the following will occupy the volume 2.8 litres at S.T.P.?

(*Atomic weight: C = 12, O = 16, Cl = 35.5, S = 32*)

(a) 2 moles of carbon dioxide

(b) 7.1 g of chlorine

(c) 8 g of sulphur dioxide

(d) 56 g of carbon monoxide

(ix) A salt solution which gives a reddish-brown precipitate with NaOH and a white precipitate with $BaCl_2$ solution is:

(a) $CuSO_4$

(b) $Ca(NO_3)_2$

(c) $Fe_2(SO_4)_3$

(d) $FeCl_3$

(x) An alkane with molecular mass 44 is:

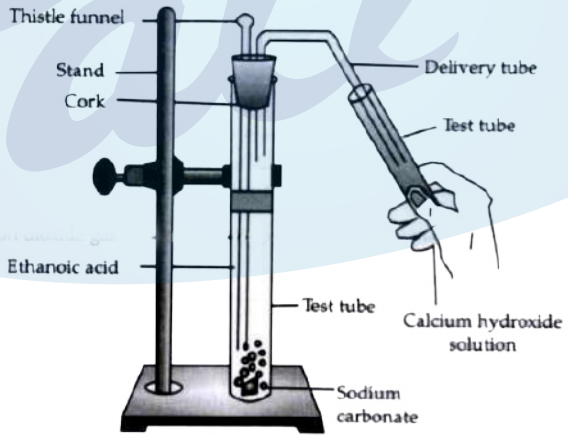
(a) CH_4

(b) C_3H_8

(c) C_4H_{10}

(d) C_2H_6

(xi) The gas evolved in the diagrammatic set up given below turns calcium hydroxide solution milky. The gas evolved is:



(a) CH_4

(b) C_2H_6

(c) CO_2

(d) SO_2

(xii) Which gas is evolved when ammonia gas is passed over buff yellow PbO?

(a) N_2O

(b) NO

(c) N_2

(d) NO_2

(xiii) Three different solutions **X** (sodium chloride solution), **Y** (acetic acid) and **Z** (sugar solution) were used for electrolysis by astudent . When the circuit was completed, he noticed that the bulb glowed in the electrolytic cell containing:

(a) X & Y

(b) Y & Z

(c) Z & X

(d) X, Y & Z

(xiv) An element **X** has an electronic configuration 2, 2. The compound formed when **X** combines with oxygen is most likely to be:

(a) a compound with a low melting point.

(b) a gas that dissolves in water to form an electrolyte.

(c) a good conductor in both solid and molten state.

(d) an ionic solid.

(xv) If an element has a low ionisation potential, it is most likely to be a:

(a) metal

(b) non-metal

(c) metalloid

(d) inert gas

Answers : Past Year 2025 Improvement

i b ii d iii c iv a v a vi c vii b viii c ix c x b

xi c xii c xiii a xiv d xv a

SECTION A (40 Marks)

*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the questions, write the correct answers only.)

(i) Which gas decolourises potassium permanganate ($KMnO_4$) solution?

(a) Sulphur dioxide

(b) Ammonia

(c) Hydrogen chloride

(d) Carbon dioxide

(ii) Which formula represents a *saturated* hydrocarbon?

(a) C_4H_8

(b) C_5H_{12}

(c) C_4H_6

(d) C_5H_{10}

(iii) The metal whose oxide can be reduced by common reducing agents:

(a) Copper

(b) Sodium

(c) Aluminium

(d) Potassium

(iv) An organic compound has a vapour density of 22. The molecular formula of the organic compound is:

[*Atomic weight: C = 12, H = 1*]

(a) CH_4

(b) C_2H_4

(c) C_2H_6

(d) C_3H_8

(v) In the reaction given below *sulphuric acid* acts as a/an:

$$S + 2H_2SO_4 \rightarrow 3SO_2 + 2H_2O$$

(a) Non-volatile acid

(b) Dibasic acid

(c) Oxidising agent

(d) Reducing agent

(vi) **Assertion (A):** The tendency of losing electrons increases down the Group.

Reason (R): The most reactive metal is placed at the top of Group 1.

(a) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(vii) The ore that can be concentrated by using magnetic separation:

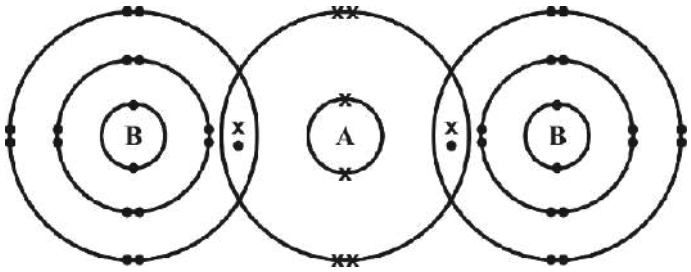
(a) Corundum

(b) Haematite

(c) Calamine

(d) Bauxite

(viii) The diagram given below shows the bonding in the covalent molecule AB_2.



Which option represents the correct electronic configuration of atoms **A** and **B** **before** combining together to form the above molecule?

	A	**B**
(a)	2, 4	2, 8, 6
(b)	2, 4	2, 8, 7
(c)	2, 8	2, 8, 8
(d)	2, 6	2, 8, 7

(ix) Which of the following options has all the compounds which are members of the *same* homologous series?

(a) CH_4, C_2H_6, C_3H_8

(b) CH_4, C_2H_6, C_3H_6

(c) C_3H_4, C_3H_6, C_3H_8

(d) C_2H_4, C_3H_6, C_4H_{10}

(x) **Assertion (A):** In the *Contact Process* SO_3 gas is not directly dissolved in water to obtain sulphuric acid.

Reason (R): Dense fog or misty droplets of sulphuric acid are formed which is difficult to condense.

(a) Both (A) and (R) are true, and (R) is the correct explanation of (A).

(b) Both (A) and (R) are true, and (R) is not the correct explanation of (A).

(c) (A) is true but (R) is false.

(d) (A) is false but (R) is true.

(xi) Given below are four ions:

Cl^-, Li^+, Al^{3+}, K^+

Identify the pair of ions which have the same electronic configuration.

[*Atomic number: Cl = 17, Li = 3, Al = 13, K = 19*]

(a) Cl^- & Li^+

(b) Al^{3+} & K^+

(c) Cl^- & K^+

(d) Li^+ & K^+

(xii) Which pair of reactants can be **best** used to produce lead (II) sulphate?

(a) Sulphuric acid + Lead

(b) Sulphuric acid + Lead hydroxide

(c) Sodium sulphate + Lead nitrate

(d) Potassium sulphate + Lead oxide

(xiii) Aqueous copper (II) sulphate is electrolysed using copper electrodes.
Which statement about the electrolysis is **not** correct?

(a) An oxidation reaction occurs at the positive electrode.

(b) The current is carried through the electrolyte by ions.

(c) The positive electrode loses mass.

(d) The number of copper (II) ions in the electrolyte decreases.

(xiv) X, Y & Z are three metallic atoms in successive order belonging to the same group such that atomic radii of' X' is the smallest. Which of the three atoms is the **best** reducing agent?

(a) X

(b) Y

(c) Z

(d) All three have the same reducing power.

(xv) 40 cm^3 of methane (CH_4) is reacted with 60 cm^3 of oxygen.
The equation for the reaction is given below:

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$

All volumes are measured at room temperature.
What is the **total** volume of the gases remaining at the end of the reaction?

(a) 60 cm^3

(b) 40 cm^3

(c) 45 cm^3

(d) 50 cm^3

Answers : Past Year 2025

i a ii b iii a iv d v c vi c vii b viii b ix a x a

xi c xii c xiii d xiv c xv d

2024

CHEMISTRY

(SCIENCE PAPER – 2)

Maximum Marks: 80

Time allowed: Two hours

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

*You will **not** be allowed to write during first **15** minutes.*

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

***Section A** is compulsory. Attempt **any four** questions from **Section B**.*

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

SECTION A (40 Marks)

*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the questions, write the correct answers only.)

(i) Unsaturated hydrocarbons undergo:

(a) Addition reaction

(b) Substitution reaction

(c) Oxidation reaction

(d) Redox reaction

(ii) In the 2nd period Neon has maximum Ionization Potential because:

(a) It has unstable electronic configuration.

(b) It easily accepts electrons.

(c) It easily loses electrons.

(d) The outer most shell is completely filled.

(iii) Copper, Zinc and Tin are the metals alloyed to form:

(a) Duralumin

(b) Brass

(c) Bronze

(d) Solder

(iv) The metal hydroxide which reacts with both acids and alkalis to form salt and water is:

(a) Calcium hydroxide

(b) Magnesium hydroxide

(c) Aluminium hydroxide

(d) Ferric hydroxide

(v) Reaction of an alcohol with a carboxylic acid in the presence of concentrated H_2SO_4 is termed as:

(a) Halogenation

(b) Esterification

(c) Hydrogenation

(d) Dehydrohalogenation

(vi) Conversion of Ethanol to Ethene by the action of concentrated sulphuric acid involves:

(a) Dehydration

(b) Dehydrogenation

(c) Dehydrohalogenation

(d) Hydrolysis

(vii) The oxidizing agent in the equation $S + 2H_2SO_4 \rightarrow 3SO_2 + 2H_2O$ is:

(a) Sulphur

(b) Sulphuric acid

(c) Sulphur dioxide

(d) Water

(viii) Electron Affinity is maximum in:

(a) Mg

(b) Ar

(c) Li

(d) Br

(ix) The compound that is **not** a constituent of the electrolytic mixture used in the Hall-Heroult's process is:

(a) Al_2O_3

(b) $NaAlO_2$

(c) Na_3AlF_6

(d) CaF_2

(x) On passing ammonia gas over heated copper oxide for some time, a reddish-brown residue is left behind. What property of ammonia is demonstrated here?

(a) Basic property

(b) Oxidising property

(c) Reducing property

(d) Acidic property

(xi) Rotten egg smell is due to the liberation of:

(a) HCl gas

(b) H_2S gas

(c) Cl_2 gas

(d) SO_2 gas

(xii) Ammonia gas is collected by downward displacement of air since ammonia is:

(a) very slightly soluble in water.

(b) heavier than air.

(c) lighter than air.

(d) insoluble in water.

(xiii) Which of the following would occupy 22.4 litres at S.T.P.?

1. 32g of oxygen gas
2. 2 moles of hydrogen gas
3. 6.022×10^{23} molecules of ammonia

(a) 1 & 2

(b) 1 & 3

(c) 2 & 3

(d) 1, 2 & 3

[Atomic weights: O = 16, H = 1, N = 14]

(xiv) In the molecule of water, oxygen atom has:

(a) One shared pair of electrons.

(b) Three shared pairs of electrons.

(c) Two lone pairs of electrons.

(d) One lone pair of electrons.

(xv) A mineral from which the metal can be extracted economically and conveniently is known as:

(a) Matrix

(b) Ore

(c) Flux

(d) Alloy

Answers : Past Year 2024

i a ii d iii c iv c v b vi a vii b viii d ix b x c

xi b xii c xiii b xiv c xv b

2023

CHEMISTRY

(SCIENCE PAPER – 2)

Maximum Marks: 80

Time allowed: Two hours

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

*You will **not** be allowed to write during first **15** minutes.*

This time is to be spent in reading the question paper.

The time given at the head of this Paper is the time allowed for writing the answers.

***Section A** is compulsory. Attempt **any four** questions from **Section B**.*

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

SECTION A (40 Marks)

*(Attempt **all** questions from this **Section**.)*

Question 1

Choose the correct answers to the questions from the given options. [15]

(Do not copy the questions, write the correct answers only.)

(i) An element in period **3**, whose electron *affinity* is *zero*:

(a) Neon

(b) Sulphur

(c) Sodium

(d) Argon

(ii) An element with the *largest* atomic radius among the following is:

(a) Carbon

(b) Nitrogen

(c) Lithium

(d) Beryllium

(iii) The compound that is **not** an ore of aluminium:

(a) Cryolite

(b) Corundum

(c) Fluorspar

(d) Bauxite

(iv) The vapour density of CH_3OH is _____. (At. Wt. C=12, H=1, O=16)

(a) 32

(b) 18

(c) 16

(d) 34

(v) Which of the following reactions takes place at the anode during the electroplating of an article with silver?

(a) $Ag - 1e^- \rightarrow Ag^{1+}$

(b) $Ag + 1e^- \rightarrow Ag^{1-}$

(c) $Ag - 1e^- \rightarrow Ag$

(d) None of the above

(vi) The metallic hydroxide which forms a deep inky blue solution with excess ammonium hydroxide solution is:

(a) $Fe(OH)_2$

(b) $Cu(OH)_2$

(c) $Ca(OH)_2$

(d) $Fe(OH)_3$

(vii) An example of a cyclic organic compound is:

(a) Propene

(b) Pentene

(c) Butene

(d) Benzene

(viii) In the laboratory preparation, HCl gas is dried by passing through:

(a) dilute nitric acid

(b) concentrated sulphuric acid

(c) dilute sulphuric acid

(d) acidified water

(ix) The nitrate which on thermal decomposition leaves behind a residue which is yellow when hot and white when cold:

(a) Lead nitrate

(b) Ammonium nitrate

(c) Copper nitrate

(d) Zinc nitrate

(x) The salt formed when concentrated sulphuric acid reacts with KNO_3 above 200°C:

(a) K_2SO_4

(b) K_2SO_3

(c) $KHSO_4$

(d) $KHSO_3$

(xi) The property exhibited by concentrated sulphuric acid when it is used to prepare hydrogen chloride gas from potassium chloride:

(a) Dehydrating property

(b) Drying property

(c) Oxidizing property

(d) Non-volatile acid property

(xii) The hydrocarbon formed when sodium propanoate and soda lime are heated together:

(a) Methane

(b) Ethane

(c) Ethene

(d) Propane

(xiii) The acid which does **not** form acid salt by a basic radical:

(a) H_2CO_3

(b) H_3PO_4

(c) H_2SO_4

(d) CH_3COOH

(xiv) The general formula of hydrocarbons with single covalent bonds is:

(a) C_nH_{2n+2}

(b) C_nH_{2n}

(c) C_nH_{2n-2}

(d) C_nH_{2n-6}

(xv) The indicator which changes to pink colour in an alkaline solution is:

(a) Blue Litmus

(b) Methyl Orange

(c) Red Litmus

(d) Phenolphthalein

Answers : Past Year 2023

i d ii c iii c iv c v a vi b vii d viii b ix d x a

xi d xii b xiii d xiv a xv d

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 this 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*

Question 1

(a) Choose the correct answer from the options given below: [5]

(i) The element with *highest* ionization potential, is:

A. Hydrogen
B. Caesium
C. Radon
D. Helium

(ii) The *inert* electrode used in the electrolysis of acidified water, is:

A. Nickel
B. Platinum
C. Copper
D. Silver

(iii) A compound with *low* boiling point, is:

A. Sodium chloride

B. Calcium chloride

C. Potassium chloride

D. Carbon tetrachloride

(iv) The *acid* which can produce carbon from cane sugar, is:

A. Concentrated Hydrochloric acid

B. Concentrated Nitric acid

C. Concentrated Sulphuric acid

D. Concentrated Acetic acid

(v) The organic compound having a *triple* carbon-carbon covalent bond, is:

A. C_3H_4

B. C_3H_6

C. C_3H_8

D. C_4H_{10}

Answers : Past Year 2020

I D ii B iii D iv C v A

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.*

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The time given at the head of this 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*

Question 1

(a) Choose the correct answer from the options given below: [5]

(i) An *electrolyte* which completely dissociates into ions is:

A. Alcohol

B. Carbonic acid

C. Sucrose

D. Sodium hydroxide

(ii) The most *electronegative element* from the following elements is:

A. Magnesium

B. Chlorine

C. Aluminium

D. Sulphur

(iii) The reason for using *Aluminium* in the alloy duralumin is:

A. Aluminium is brittle.

B. Aluminium gives strength.

C. Aluminium brings lightness.

D. Aluminium lowers melting point.

(iv) The *drying agent* used to *dry HCl* gas is:

A. Conc. H_2SO_4

B. ZnO

C. Al_2O_3

D. CaO

(v) A hydrocarbon which is a *greenhouse gas* is:

A. Acetylene

B. Ethylene

C. Ethane

D. Methane

Answers : Past Year 2019

a i D a ii B a iii C a iv A a v D

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 this 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*

Question 1

(a) Choose the correct answer from the options given below: [5]

(i) The salt solution which does not react with *ammonium hydroxide* is:

A. Calcium Nitrate

B. Zinc Nitrate

C. Lead Nitrate

D. Copper Nitrate

(ii) The organic compound which undergoes *substitution reaction* is:

A. C_2H_2

B. C_2H_4

C. $C_{10}H_{18}$

D. C_2H_6

(iii) The *electrolysis of acidified water* is an example of:

A. Reduction

B. Oxidation

C. Redox reaction

D. Synthesis

(iv) The *IUPAC* name of dimethyl ether is:

A. Ethoxy methane

B. Methoxy methane

C. Methoxy ethane

D. Ethoxy ethane

(v) The catalyst used in the *Contact Process* is:

A. Copper

B. Iron

C. Vanadium pentoxide

D. Manganese dioxide

Answers : Past Year 2018

a i A a ii D a iii C a iv B a v C

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