

SSLC EXAMINATION, MARCH - 2026

CHEMISTRY

(English)

Time : 1½ Hours

Total Score : 40

Instructions :

- The first 15 minutes are cool-off time. Read the questions carefully and plan the answers during this time.
- Write the answers according to the instructions.
- Consider the score while writing the answers.
- Answer only one question for questions having choice A and B.

Score

Answer all questions from 1 to 4. Each question carries 1 score.

4×1=4

1. Find the relation and fill in the blanks. 1

The relationship between the number of molecules of a gas and its volume at constant temperature and pressure is given.

No. of molecules	Volume (L)
x	20
.....	5

- (a) $2x$ (b) $x/4$ (c) $x/2$ (d) x
2. **Assertion (A)**: When electricity is passed through an aqueous solution of sodium chloride, sodium is obtained at the cathode. 1

Reason (R): The reduction tendency of Na^+ is higher than that of H_2O .

Which among the following is correct ?

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

3. Match the following :

A		B	
(X)	-CHO	(i)	Ether
(Y)	-O-R	(ii)	Aldehyde
(Z)	-OH	(iii)	Keto
		(iv)	Hydroxyl

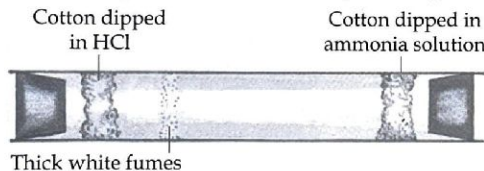
Choose the **correct** answer from the options given below.

- (X) (Y) (Z)
- (a) (ii) (iii) (iv)
- (b) (iv) (i) (ii)
- (c) (ii) (i) (iv)
- (d) (ii) (iv) (i)
4. Some statements related to the manufacture of aluminium are given. 1
- (i) The ore is treated with hot NaOH solution.
- (ii) Electricity is used as the reducing agent to extract the metal.
- (iii) As a result of electrolysis, aluminium is obtained at the anode.
- Which of the following is **correct** ?
- (a) Statements (i) and (iii) are correct, but (ii) is not correct.
- (b) Statements (i) and (ii) are correct, but (iii) is not correct.
- (c) Statements (ii) and (iii) are correct, but (i) is not correct.
- (d) Statements (i), (ii) and (iii) are correct.

Two questions from 5 to 11 have choice. Each question carries 2 scores.

7x2=14

5. Observe the picture and answer the questions given below.

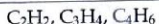


- (a) Which substance is responsible for the thick white fumes ? 1
- (b) Write the chemical equation of formation of this substance. 1
6. Two activities are given.
- (i) Ag rod is dipped in $ZnSO_4$ solution.
- (ii) Fe rod is dipped in $CuSO_4$ solution.
- (a) In which of these solutions does the displacement reaction take place ? 1
- (b) Which metal undergoes oxidation in the above reaction ? 1

Score

8. Zinc blende (ZnS) is an ore of zinc.
- (a) Which is the concentration method suitable for zinc blende ? 1
- (b) Which is the process used to convert the concentrated ore into its oxide ? 1

The molecular formulae of the first three members of a homologous series are given.



- (a) Write the molecular formula of the fifth member of this series. 1
- (b) Write the structural formula of a position isomer of this compound. 1
9. Manganese (Mn) is an element that exhibits different oxidation states.
(Atomic number of Mn-25)
- (a) Find the oxidation state of Mn in MnO_2 . 1
- (b) Write the subshell electron configuration of manganese ion in MnO_2 . 1
10. (A) The combustion equation for methane is given.
 $CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$
(Atomic mass : C-12, H-1, O-16)
- (a) Find the mass of oxygen required to react with 160 g of methane. 1
- (b) Find the volume of CO_2 at STP produced by the complete combustion of 80 g of methane. 1

OR

- (B) The volume of a sample of NH_3 gas at STP is 89.6 L.
(Atomic mass : N-14, H-1)
- (a) Calculate the mass of NH_3 sample. 1
- (b) How many molecules are present in the sample ? 1
11. (A) Some chemical reactions are given. 2
- (i) $CH \equiv CH + HCl \rightarrow P$
- (ii) $nP \rightarrow Q$
- Write the structures and names of P and Q.

OR

- (B) A chemical reaction is given.
 $CO + 2H_2 \rightarrow A$
- (a) Write the structural formula of A. 1
- (b) Write the chemical equation for the reaction that produces ethanoic acid from A. 1

Two questions from 12 to 17 have choice. Each question carries 3 scores.

12. (A) The last 2 electrons of the element P belonging to the third period are filled in the s subshell. (The symbol is not real)
- (a) What is the atomic number of this element ? 1
- (b) Write the chemical formula of the oxide of this element. 1
- (c) Write the subshell electron configuration of the element in the fourth period belonging to the same group. 1

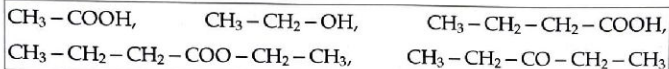
OR

- (B) The position of the two elements in the periodic table is given. (The symbols are not real)

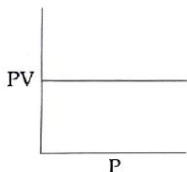
Element P : Period - 2, Group - 16

Element Q : Period - 3, Group - 1

- (a) Write the n and l values of the outermost subshell of Q containing electrons. 1
- (b) How many orbitals will be present in the subshell containing the outermost electron of P ? 1
- (c) Write the chemical formula of the compound formed by combining P and Q. 1
13. Some compounds are given.



- (a) Choose an ester from this. 1
- (b) Write the IUPAC name of the acid and alcohol that must be reacted to prepare this ester. 1
- (c) Write the equation for the chemical reaction of formation of this ester. 1
14. Analyse the given graph drawn at constant temperature and answer the questions.



- (a) State the gas law associated with this graph. 1
- (b) The volume of a given mass of gas at a pressure 2 atm is 450 L. What will be the new volume if the pressure of this gas is increased 3 times ? (Temperature is constant) 2

Score

15. (A) Various types of steels are used for industrial purposes.
- (a) Write the steel that can be used for the given purposes.
- (i) For the manufacture of springs, knives and drills. 1
- (ii) Construction of railway tracks and rafters. 1
- (b) Write one use of electric steel. 1
- OR**
- (B) A very dilute sodium chloride solution is taken in two test tubes. Put an iron nail wrapped in copper wire in one test tube and iron nail wrapped in magnesium wire in the other test tube. Keep the test tubes for few days.
- (a) In which test tube does the nail undergo rusting? Write the reason. 2
- (b) Although aluminium is a very reactive metal, it resists corrosion to a certain extent. Why? 1
16. Some hints about an organic compound is given.
- (i) There are five carbon atoms in one molecule.
- (ii) The position of $-\text{CO}-$ group is two.
- (a) Write the structural formula of this organic compound. 1
- (b) Write the structural formula and IUPAC name of a functional isomer of this compound. 2

17. Some metals and their salt solutions are given.

Zn, Fe, Ag, Cu, Mg, ZnSO_4 solution, FeSO_4 solution,

CuSO_4 solution, MgSO_4 solution, AgNO_3 solution
--

[Hint : Reactivity : $\text{Mg} > \text{Zn} > \text{Fe} > \text{Cu} > \text{Ag}$]

- (a) Which of the given metals are used to make a galvanic cell with highest cell voltage? 1
- (b) Write the chemical equation of the reaction taking place at the cathode in this cell. 1
- (c) Which of the given metals acts only as the anode when galvanic cells are made? 1

Question 18 has choice. It carries 4 scores.

1x4=4

18. (A) Some hints are given about the compound X.
- (i) Known as the king of chemicals.
- (ii) It is prepared industrially through the contact process.
- Write the answers to the questions given below.
- (a) Write the ionisation equation of X. 1
- (b) Write the name of the acid formed when X reacts with NaCl. 1
- (c) What is the nature of the salt formed when X reacts with ammonium hydroxide? Write the reason. 2
- OR**
- (B) The chemical formula of calcium chloride is CaCl_2 .
- (a) Which alkali should be used to form this salt? 1
- (b) Write the ionisation equation of this alkali. 1
- (c) Will calcium chloride undergo salt hydrolysis? Why? 2