

S2 CHEMISTRY WORK**Instructions and information**

1. Use a small notebook (16 pages) to answer the following questions
2. Draw a table like the one below and in it record your choice letter for all questions (Question 1 to Question 45)

1	2	3	4	5	...

3. Write properly
 4. Unit where questions are extracted are indicated to help you navigate your content with precision
 5. After you have completed filling in your choice in the table, start a new section below the table and explain your choice for each question (Minimum: 2 sentences, Maximum : 4 sentences)
Note: Make sure that your explanations are not 100% AI generated you may use it but thereafter you must refine your answers and provide a proper version of yours.
 6. Failing to explain your choice will lead to loss of all marks
 7. Failing to respect instructions will lead to complete cancellation of your work
 8. Work which will not be submitted on first day of school will not be considered.
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UNIT 1: Chemical Bonding (Q1–Q5)

1. Atoms form chemical bonds mainly in order to _____.
 A. increase their mass B. achieve a stable electronic configuration
 C. gain neutrons D. become radioactive
2. Which particle is transferred when a metal forms a positive ion?
 A. Proton B. Neutron C. Electron D. Nucleus
3. An ionic bond is best described as
 A. sharing of electrons only B. attraction between molecules
 C. electrostatic attraction between oppositely charged ions D. attraction between neutral atoms
4. Which compound is made up only of non-metals but is ionic?
 A. Sodium oxide B. Magnesium chloride C. Calcium oxide D. Ammonium chloride
5. Which property is typical of ionic compounds?
 A. Low melting point B. Insoluble in water
 C. High melting point D. Poor electrical conduction when molten

UNIT 2: Trends in Properties of Elements in the Periodic Table (Q6–Q10)

6. On moving from left to right across a period, metallic character generally
A. increases B. decreases C. remains constant D. disappears completely
7. Which element is classified as a metalloid?
A. Sodium B. Aluminium C. Silicon D. Chlorine
8. The most abundant metal in the earth's crust is
A. Iron B. Calcium C. Aluminium D. Sodium
9. Which metal does NOT react with dilute hydrochloric acid?
A. Magnesium B. Zinc C. Iron D. Copper
10. The gas released when a reactive metal reacts with dilute acid is
A. Oxygen B. Nitrogen C. Hydrogen D. Carbon dioxide

UNIT 3: Water Pollution (Q11–Q15)

11. Water pollution is best defined as the
A. increase in water temperature B. contamination of water with harmful substances
C. decrease in dissolved minerals D. natural ageing of water bodies
12. Which pollutant mainly introduces disease-causing microorganisms into water?
A. Oil B. Plastics C. Fertilisers D. Sewage
13. Rapid growth of algae due to nutrient enrichment of water is called
A. sedimentation B. acidification C. eutrophication D. chlorination
14. Heavy metals in water are dangerous mainly because they
A. evaporate quickly B. remove colour from water
C. accumulate in living organisms D. increase water hardness only
15. Which practice helps reduce water pollution?
A. Discharging untreated sewage B. Excess use of fertilisers
C. Proper waste treatment D. Dumping plastics in rivers

UNIT 4: Effective Ways of Waste Management (Q16–Q20)

16. Waste management focuses mainly on
A. burning waste B. reducing waste generation
C. increasing waste production D. ignoring household waste
17. The most environmentally preferred step in waste hierarchy is
A. Disposal B. Recycling C. Prevention D. Energy recovery
18. Composting mainly converts waste into
A. plastic B. fertilizer C. fuel D. glass

19. Recycling is important because it

- A. increases pollution
- B. wastes energy
- C. reduces use of raw materials
- D. increases landfill size

20. Which type of waste cannot be composted?

- A. Vegetable peels
- B. Leaves
- C. Plastic bottles
- D. Food leftovers

UNIT 5: Categories of Chemical Reactions (Q21–Q25)

21. A reaction in which two substances combined to form one product is called

- A. decomposition
- B. displacement
- C. combustion
- D. combination

22. The breakdown of a compound into simpler substances using heat is

- A. neutralization
- B. displacement
- C. decomposition
- D. precipitation

23. In the reaction $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$, zinc is _____.

- A. less reactive than copper
- B. more reactive than copper
- C. not involved in displacement
- D. neutralised

24. A reaction that produces an insoluble solid is a

- A. combustion reaction
- B. neutralisation reaction
- C. precipitation reaction
- D. decomposition reaction

25. All combustion reactions are

- A. endothermic
- B. exothermic
- C. reversible
- D. slow

UNIT 6: Preparation of Salts and Identification of Ions (Q26–Q30)

26. A saturated solution contains _____.

- A. no solute
- B. excess solvent
- C. the maximum amount of solute at that temperature
- D. equal solute and solvent mass

27. Which salt preparation involves reacting an acid with an insoluble base?

- A. Titration
- B. Excess method
- C. Crystallisation
- D. Neutralisation with soluble base

28. A white precipitate with silver nitrate indicates the presence of

- A. sulphate ions
- B. nitrate ions
- C. chloride ions
- D. carbonate ions

29. Which ion gives a green flame in flame tests?

- A. Sodium
- B. Potassium
- C. Calcium
- D. Barium

30. Solubility generally increases with temperature for

- A. all substances
- B. gases
- C. most solids
- D. metals

UNIT 7: Mole Concept and Gas Laws (Q31–Q35)

31. One mole of any substance contains

- A. 6.02×10^{19} particles
- B. 6.02×10^{23} particles
- C. 1.6×10^{-19} particles
- D. 1 mole of electrons

32. The molar volume of a gas at STP is
A. 11.2 dm^3 B. 22.4 dm^3 C. 24.0 dm^3 D. 1.0 dm^3
33. The formula used to calculate number of moles is
A. $n = m \times M_m$ B. $n = m + M_m$ C. $n = m \div M_m$ D. $n = M_m \div m$
34. Relative atomic mass is compared to
A. hydrogen atom B. carbon-12 atom C. oxygen atom D. neutron
35. Boyle's law relates
A. volume and temperature B. pressure and temperature C. pressure and volume D. mass and volume

UNIT 8: Preparation and Classification of Oxides (Q36–Q40)

36. Metal oxides are generally
A. acidic B. neutral C. basic D. amphoteric
37. Carbon dioxide is classified as
A. basic oxide B. acidic oxide C. neutral oxide D. mixed oxide
38. An oxide that reacts with both acids and bases is
A. basic B. acidic C. neutral D. amphoteric
39. Calcium oxide reacts with water to form
A. calcium carbonate B. calcium chloride C. calcium hydroxide D. calcium nitrate
40. Slaked lime is commonly used in
A. acid rain formation B. soil neutralization C. metal corrosion D. fuel combustion

UNIT 9: Electrolytes and Non-Electrolytes (Q41–Q45)

41. An electrolyte conducts electricity because it
A. contains free electrons B. forms ions in solution C. is always solid D. is neutral
42. Which substance is a strong electrolyte?
A. Sugar solution B. Distilled water C. Dilute hydrochloric acid D. Ethanol
43. A weak electrolyte partially
A. evaporates B. dissolves C. ionises in solution D. reacts violently
44. Electrolysis is the process of
A. dissolving salts B. filtering solutions
C. decomposing substances using electricity D. neutralising acids
45. Which of the following is a non-electrolyte?
A. Sodium chloride solution B. Copper sulphate solution
C. Hydrochloric acid D. Sugar solution

.....End of questionnaire.....