

Secondary School Certificate (S.S.C.) Annual Examination – 2023

Time: 3 Hour**Marks: 12**

2. What is meant by the terms 'period' and 'group' with respect to periodic table. Identify period and group of ${}^7\text{N}$ and ${}^{11}\text{Na}$
3. Calculate the number of moles and number of molecules present in 45 grams of glucose ($\text{C}_6\text{H}_{12}\text{O}_6$).
4. Write down the electronic configuration of the following elements:
(i) Carbon (ii) Fluorine (iii) Sodium
5. Define oxidizing and reducing agents. Identify oxidizing and reducing agents of the following chemical reaction. $\text{Zn} + \text{Cl}_2 \rightarrow \text{ZnCl}_2$
6. Balance the following chemical equations by inspection method:
(i) $\text{KNO}_3 \rightarrow \text{KNO}_2 + \text{O}_2$ (ii) $\text{Ca} + \text{H}_2\text{O} \rightarrow \text{Ca(OH)}_2 + \text{H}_2$ (iii) $\text{CO} + \text{O}_2 \rightarrow \text{CO}_2$
7. The pressure of a sample gas is 3 atm and the volume is 5 litre. If the pressure is reduced to 2 atm then what would be its new volume?
8. Write down three differences between amorphous solids and crystalline solids.
9. Define the following:
(i) Saturated solution (ii) Unsaturated solution (iii) Super saturated solution
10. Write down three important characteristics of covalent compounds.
11. How much sodium hydroxide (NaOH) is required to prepare 400cm^3 of 0.3 M solution?
12. Write down three properties of cathode rays.

13. Justify the followings:

(i) Most of Ionic compounds are found in solid states.

(ii)
Alkali
metals
form
cation
easily.

SECTION 'C' (Detailed –Answer Question) (24)

NOTE: Attempt any FOUR questions from this Section. Each question tries (SIX) 6 marks.

14. Explain the corrosion of Iron and describe any four methods to prevent metals from it
15. Explain the importance of glues and epoxy resins in our society.
16. An atom has only one electron in its 'M' shell then what would be its atomic number? Identify that element and write four common characteristics of the group from - which it belongs to.
17. What is coordinate covalent bond? Explain it by the formation of Ammonium Ion (NH_4^+) and hydronium ion (H_3O^{4-})
18. Compare the characteristics of solution, colloid and suspension,
19. Define Charle's law of gases and explain mathematical representation of it.

Notes on this transcription

- **Only the English-medium sheet of this paper was supplied.** Send the Urdu-medium printing and the two can be published as one bilingual file, as with the 2022, 2024 and 2025 Chemistry papers.
- Typeset transcription of a guide reprint of the original Board of Secondary Education Karachi paper; no board paper code is printed and no monogram appears on the source.
- The source sheet had the correct options ticked by the publisher; options are reproduced **unmarked** here and no answer key is included.
- Board wording kept verbatim, including "All questions carries Three (3) marks", "Each question tries (SIX) 6 marks", the option "SI" for the symbol of silver in Q.1(9), the stray hyphen in Section C Q.16, and the hydronium ion printed as H_3O^{4-} in Q.17.

This is a clean typeset reproduction of the original question paper. No answer key is included.