

**SECTION-A****Note:**

- 1) Attempting all MCQs is compulsory. This paper along with the OMR sheet must be returned to the superintendent after due time.
- 2) Fill the circle (A) (B) (C) (D), which one is correct with blue or black ball point, in this sheet as well as in separate OMR Sheet like ●
- 3) If more than one circle in the OMR sheet is filled then no credit will be given to such answer.

1. Which one of the following is weak Electrolyte \_\_\_\_\_.  
 (A) NaCl                      (B)  $CH_3COOH$                       (C) HCl                      (D) NaOH
2. Water droplets in air is an example of solution of \_\_\_\_\_.  
 (A) Gas in gas                      (B) Gas in liquid                      ● Liquid in gas                      (D) Liquid in liquid
3. The structure of  $BCl_3$  is \_\_\_\_\_.  
 (A) linear                      (B) Tetrahedral                      (C) Pyramidal                      ● Triangular
4. Modern periodic table is based on the \_\_\_\_\_.  
 ● Atomic number                      (B) Mass number                      (C) Law of octaves                      (D) Law of triads
5. One mole of Sodium is equal to \_\_\_\_\_ of Na.  
 (A) 8 gm                      (B) 16 gm                      ● 23 gm                      (D) 64 gm
6. The maximum number of electron in the third energy level is \_\_\_\_\_.  
 (A) 8                      ● 18                      (C) 32                      (D) 64
7. The oxidation number of  $Cl_2$  is \_\_\_\_\_.  
 (A) 0                      (B) 1                      (C) -1                      (D) 2
8. Potassium is an element of group \_\_\_\_\_.  
 (A) I                      (B) II                      (C) III                      (D) IV
9. The increase in temperature of the gases decreases the \_\_\_\_\_.  
 (A) Pressure                      ● Volume                      (C) Kinetic Energy                      (D) Forces of attraction
10. The alchemists tried to convert base metals into \_\_\_\_\_.  
 ● Gold                      (B) Copper                      ● Iron                      (D) Mercury
11. An Element has 8 electron in its valence shell it is \_\_\_\_\_.  
 (A) An alkali                      (B) Halogen                      ● Inert gas                      (D) Coinage metals
12. Which kind of bond exist in HCl? \_\_\_\_\_.  
 ● Ionic                      (B) Polar covalent                      (C) Covalent                      (D) Coordinate Covalent

Note: Time allowed for section B and C is 2 hours and 40 minutes.

SECTION "B"

Marks: 32

II. Attempt any EIGHT Parts out of the following. Each Part carries equal marks.

- i. How many moles of H<sub>2</sub>O are present in 36 gm of H<sub>2</sub>O?
- ii. Define isotopes; Draw the structure of carbon isotopes.
- iii. What do you mean by the term Electronic configuration?
- iv. Write brief note on the Atomic Size.
- v. Write note on the Coordinate Covalent bond with example.
- vi. A 530 dm<sup>3</sup> sample of hydrogen gas was collected in a container of 800 mm of Hg pressure, at room temperature. What volume will the gas occupy at 400 mm of Hg?
- vii. What is percentage composition?
- viii. Write note on the Electrolytic cell.
- ix. Define oxidation state.
- x. Describe the characteristic of metals.
- xi. Write the chemical reaction of Mg with
  - (i) H<sub>2</sub>
  - (ii) H<sub>2</sub>O

SECTION "C"

Marks: 21

Note: Attempt any THREE questions of the following. Each question carries equal Marks.

- III. (a) Write note on the "Mole" and "Avogadro's Numbers". 4  
 (b) Define Energy level and Energy sub-level. 3
- IV. (a) What is Shielding Effect? How it affect the ionization potential in periodic table. 3  
 (b) Define boiling point. How does it depend on the nature of liquid? 4
- V. (a) Write the properties of covalent compounds. 4  
 (b) Write the factor affecting solubility. 3
- VI. (a) Define the oxidation number of S in K<sub>2</sub>SO<sub>4</sub> and Nitrogen in HNO<sub>3</sub>. 3  
 (b) Write down chemical properties of Halogens. 4