

**CHEMISTRY**

Time 2hrs

1. Identify the term used for each of the following statements:

a. The outermost shell of an atom.

b. Atoms with same mass number but different atomic number.

c. Placing elements in group of three.

d. The vertical columns in the periodic table. (4)

2. Arrange the following as per the instruction given in the bracket:

a. K, Li, Cs, Rb. (increasing atomic size.)

b. Kr, Ne, Ar, He. (increasing number of shells.) (2)

3. Complete the table:

Atomic number	Element	Electronic configuration
11	Sodium	_____
15	_____	_____
7	_____	2,5. (4)

4. An element belongs to group VIA & period III. Write about its

a. Valency                      b. Metal or Non-metal (2)

5. Define the following terms:

a. Electrovalency                      b. Newlands law of octaves. (2)

6. Draw the orbit structural diagram of Ammonia. [N=7, H=1] (2)

7. Draw the atomic structure of  ${}_{13}\text{Al}^{27}$ . Write the number of each Subatomic particle present in it? (2)

8. What is periodicity and what is its cause? (2)



2. Define Charles law? 200cc of a gas is collected at 30<sup>0</sup>c and 760mm Of Hg pressure. If the volume of the gas is to be reduced to half at the same pressure, to what temperature should it be cooled? (3)

3. What is absolute zero? What is Kelvin scale of temperature? What is aqueous tension? (3)

4. 50cm<sup>3</sup> of Hydrogen is collected over water at 17<sup>0</sup>c and 750mm of Hg Pressure. Calculate the volume of dry gas at S.T.P? The vapour pressure Of water at 17<sup>0</sup>c is 14 mm of Hg? (3)

### QUESTION 3

1.  ${}_{12}\text{Mg}^{24}$  and  ${}_{12}\text{Mg}^{26}$  are two isotopes of Magnesium. Compare the Atoms of these isotopes with respect to

a) the composition of their nuclei.

b) their electronic configuration.

c) Why they have different mass numbers. (3)

2. Give reasons for the following :

a) Some elements have fractional atomic mass.

b) Atoms other than inert gases combine with other atoms.

c) Metals are reducing agents. (3)

3. Write some evidences that enabled Rutherford to propose his Atomic model from his alpha particle scattering experiment? (3)

### QUESTION 4

Answer the following questions

1. What are electrovalent compounds? (2)

