

II. State true or false. If false, correct the statement.

1. In an atom, electrons revolve around the nucleus in fixed orbits.
2. Isotopes of an element have different atomic numbers.
3. Electrons have negligible mass and charge.
4. Smaller the size of the orbit, lower is the energy of the orbit.
5. The maximum number of electron in L Shell is 10.

III. Fill in the blanks.

1. Calcium and Argon are examples of a pair of _____
2. Total number of electrons that can be accommodated in an orbit is given by _____
3. _____ isotope is used in the nuclear reactors.
4. The number of neutrons present in ${}^7\text{Li}$ is _____
5. The valency of Argon is _____

IV. Match the following.

a) Dalton	1. Hydrogen atom model
b) Chadwick	2. Discovery of nucleus
c) Rutherford	3. First atomic theory
d) Neils Bohr	4. Plum pudding model
	5. Discovery of neutrons

V. Complete the following table.

Atomic Number	Mass Number	Number of Neutrons	Number of Protons	Number of Electrons	Name of the Element
9	-	10	-	-	-
16	-	16	-	-	-
-	24	-	-	12	Magnesium
-	2	-	1	-	-
-	1	0	1	1	-

VI. Answer very briefly.

1. Name an element which has the same number of electrons in its first and second shell.
2. Write the electronic configuration of K and Cl
3. Write down the names of the particles represented by the following symbols and explain the meaning of superscript and subscript numbers attached.
 ${}_1\text{H}^1$, ${}_0\text{n}^1$, ${}_{-1}\text{e}^0$
4. For an atom 'X', K, L and M shells are completely filled. How many electrons will be present in it?
5. What is the same about the electron structures of:
 - Lithium, Sodium and Potassium.
 - Beryllium, Magnesium and Calcium.

VII. Answer briefly.

1. How was it shown that atom has empty space?
2. Why do ${}^{35}_{17}\text{Cl}$ and ${}^{37}_{17}\text{Cl}$ have the same chemical properties? In what respect do these atoms differ?
3. Draw the structure of oxygen and sulphur atoms.
4. Calculate the number of neutrons, protons and electrons: (i) atomic number 3 and mass number 7 (ii) atomic number 92 and mass number 238.
5. What are nucleons? How many nucleons are present in Phosphorous? Draw its structure.