



Brain International School

Vikas Puri, New Delhi

ASSIGNMENT NO. 5

SUBJECT: CHEMISTRY

CLASS-IX

NOVEMBER'2025

CHAPTER 4: STRUCTURE OF THE ATOM

1. Multiple Choice Questions :

Select the correct option out of the four possible options given after the statement of the questions :

- The average atomic mass of chlorine atom is :
a. 35u (b) 35.5u (c) 35.25u (d) 35.75u
- The outermost shell cannot have more than :
a. 2 electrons (b) 4 electrons (c) 18 electrons (d) 8 electrons
- An atom with 3 electrons and 4 neutrons will have a valency of :
a. 3 (b) 7 (c) 1 (d) 4
- The mass of atom is entirely due to the :
a. protons (b) neutrons (c) electrons (d) both (a) & (b)

2. This question consists of two statements-ASSERTION (A) and REASON(R), answer the question selecting the appropriate option given below

- Both A and R are true and R is the correct explanation for A
 - Both A and R are true and R is not the correct explanation for A
 - A is true but R is false
 - A is false but R is true
- (a) **Assertion** : An isotope of Uranium is used as a fuel in nuclear reactors.
Reason : Electron was discovered by E. Goldstein.
- (b) **Assertion** : Isobars possess the same number of protons
Reason : Isotopes of chlorine occur in the ratio of 1:4.

3. Answer the following questions :

1. Helium atom has 2 electrons in its valence shell but its valency is not 2. Explain.
2. An element has 8 electrons in its valence shell. What is its general name ?
3. Define valency .
4. Write the electronic configuration and valency of the following :
(i) Chlorine (ii) Sodium (iii) Silicon
5. What were the limitations of Rutherford's model of an atom ?
6. On the basis of Thomson's model of an atom , explain how the atom is electrically neutral .