

BRAIN INTERNATIONAL SCHOOL

Chemistry Assignment

Class: IX

DEC'24

L-4 :Structure of the Atom .

Q1. Multiple Choice Questions :

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

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

Q2. Assertion –Reason questions:

Note – Read the assertion and reason statements carefully and mark/write the correct option out of the following options :

- (a) If both assertion and reason are true and the reason is the correct explanation of the assertion.
 - (b) If both the assertion and reason are true but the reason is the correct explanation of the assertion.
 - (c) If assertion is true but reason is false .
 - (d) If both assertion and reason are false .
1. **Assertion** : Isobars possess the same number of protons
Reason : Isotopes of chlorine occur in the ratio of 1:4.
 2. **Assertion** : An isotope of Uranium is used as a fuel in nuclear reactors.
Reason : Electron was discovered by E. Goldstein.

Q3. 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 .