



ASSIGNMENT NO. 2

SUBJECT: CHEMISTRY

CLASS-IX

JULY'2026

Chapter-8: Journey Inside The Atom

Answer the following questions :

1. What is the charge on an electron, proton, and neutron?
2. Describe Rutherford's gold foil experiment and its conclusions.
3. Compare electrons, protons, and neutrons.
4. Why is an atom electrically neutral despite containing charged particles?
5. Define atomic number. How does it differ from mass number?
6. An element has atomic number 17. Name it and state the number of electrons in a neutral atom.
7. Calculate the mass number of an element with 15 protons and 16 neutrons.
8. Find the valence electrons for Na, Cl, and Ca.
9. An element has mass number 23 and atomic number 11. Find the number of neutrons.

10. Two statements are given-one labelled Assertion (A) and the other labelled Reason (R).

Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below

- (a) Both A and R are true and R is correct explanation of the assertion.
(b) Both A and R are true but R is not the correct explanation of the assertion.
(c) A is true but R is false.
(d) A is false but R is true.
- (i) **Assertion (A) :** Isotopes of the same element have identical chemical properties.

Reason(R) : Isotopes have the same atomic number and therefore the same electronic configuration and valency.

(ii) **Assertion (A) :** Rutherford's model could not explain why electrons do not collapse into the nucleus.

Reason(R) : Classical physics says a charged particle in circular motion continuously radiates energy and would spiral inward.

(iii) **Assertion (A):** Neon is chemically inert.

Reason(R): Neon has 8 valence electrons, a completely filled outer shell, and valency zero.