



# SHIKSHA CLASSES

Sub. : Science

Question Paper

Marks : 20

Std. : VIII<sup>th</sup> - S.B.

5. Inside the Atom

Time : 45 min.

**Q.1(A) : Choose the correct alternative**

2

- 1) The symbol A is used to denote the \_\_\_\_\_.
  - a) atomic number
  - b) atomic radius
  - c) atomic mass number
  - d) atomic mass
- 2) Rutherford alpha-particle scattering experiment was responsible for the discovery of the \_\_\_\_\_.
  - a) atomic nucleus
  - b) proton
  - c) electron
  - d) atomic mass

**Q.1(B) : Solve any one of the following question**

1

- 1) State the relation between the number of protons, the number of neutrons and the atomic mass number (A) of an element.
- 2) The valency of hydrogen is 'one' as per the molecular formula  $H_2O$ . Therefore valency of 'Fe' turns out to be \_\_\_\_\_ as per the formula  $Fe_2O_3$ .
- 3) Define Atom.

**Q.2(A) : Give reason (Any One)**

2

- 1) All the mass of an atom is concentrated in the nucleus.
- 2) Atoms are stable though negatively charged electrons are revolving within it.

**Q.2(B) : Solve any two of the following question.**

4

- 1) Chlorine contains 17 protons and 18 neutrons. What is its atomic mass number?
- 2) Draw a neat labelled diagram of Thomson's atomic model.
- 3) What were the conclusions drawn from the alpha particle experiment performed by Rutherford?
- 4) What is meant by subatomic particle? How many types of subatomic particles are found in an atom?

**Q.3 : Solve any two of the following question.**

6

- 1) The symbol used for oxygen is 'O'. There are 8 protons and 8 neutrons in its nucleus. From this determine the atomic number (Z) and mass number (A) of oxygen and arrange these in a conventional symbol.

- 2) What is the maximum number of ( electrons that can be accommodated in each of the orbits (shells) K, L, M, N, etc.?
- 3) Draw suitable diagrams to show the electronic configuration of the atoms of the following elements: Hydrogen, helium, carbon, neon, sodium, chlorine.
- 4) State the uses of isotopes.

**Q.4 : Solve any One of the following question.**

5

- 1) Explain Rutherford's scattering experiment.
- 2) Write a note on Nuclear Reactor.

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