

Class 9 CBSE Test Paper Chapter 3: Structure of atoms - 3

Fill In the Blanks

- Q 1. The electronic configuration of silicon is _____. (Atomic number = 14)
- Q 2. _____ electrons are responsible for the chemical properties of an atom.
- Q 3. Rutherford's model of an atom was modified by _____.
- Q 4. _____ is an isotope of carbon used in determining the age of dead plants.
- Q 5. An atom with 3 protons and 4 neutrons will have a valency of _____.

Answer these Questions

- Q 1. In a sample of ethyl ethanoate ($\text{CH}_3\text{COOC}_2\text{H}_5$) the two oxygen atoms have the same number of electrons but different number of neutrons. What can be the reason for it? (2 marks)
- Q 2. In the atom of element X, 6 electrons are present in the outermost shell. If it requires an octet configuration by accepting requisite number of electrons, then what would be the charge on the ion so formed? (2 marks)
- Q 3. Why do helium, neon & argon have a zero valency? (2 mark)
- Q 4. Write the atomic number and the symbol of an element which has mass number 32 and the number of neutrons 16 in the nucleus. (2 marks)
- Q 5. Helium atom has an atomic mass of 4 u and two protons in its nucleus. How many neutrons does it have? (2 marks)
- Q 6. If number of electrons in an atom is 8 and number of protons is also 8, then
(i) what is the atomic number of the atom? (ii) what is the charge on the atom? (2 marks)
- Q 7. What are the limitations of J. J. Thomson's model of the atom?
- Q.8. Why was Thomson's model of atom discarded and replaced by Rutherford's model? Why is Rutherford's model also called the nuclear model of atom
- Q9. The average atomic mass of a sample of an element X is 16.2u. What are the percentage of isotopes ^{16}X and ^{18}X in the sample?
- Q 10. What are the salient features of Bohr's Atomic Model? How is it advantageous over Rutherford's Nuclear Model?