

Exemplar Problems

Q. 1 Which of the following conclusions could not be derived from Rutherford's α -particle scattering experiment?

- (a) Most of the space in the atom is empty
- (b) The radius of the atom is about 10^{-10} m while that of nucleus is 10^{-15} m
- (c) Electrons move in a circular path of fixed energy called orbits
- (d) Electrons and the nucleus are held together by electrostatic forces of attraction

Ans. (c) Concept of electrons move in a circular path of fixed energy called orbits was put forward by Bohr and not derived from Rutherford's scattering experiment.

Out of a large number of circular orbits theoretically possible around the nucleus, the electron revolve only in those orbits which have a fixed value of energy. Hence, these orbits are called energy level or stationary states.