

Chemistry (New Book) - 9th Class Chemistry English Medium Chapter 2 Preparation

Q1. Write use of Co-60.

Ans 1: Cobalt-60 emits strongly penetrating gamma rays and hence used for cancer affecting within the body.

Q2. From which word atom derived?

Ans 1: Atom is derived from the Latin word 'Atomos' meaning indivisible

Q3. What is the nature of charge on cathode rays?

Ans 1: Their deflection in electric and magnetic field proves that they have negative charge.

Q4. Define nuclear fission reaction?

Ans 1: A reaction in which heavy nuclear splits up into two nuclei by absorbing slow moving neutrons.

Q5. Why do isotopes of an element have similar chemical properties?

Ans 1: Isotopes have similar chemical properties because these depend upon electronic configuration and isotopes have same electronic configuration, and number of protons

Q6. A patient has goiter. How will it be detected?

Ans 1: The radioactive isotopes are used as tracers in medicine to diagnose the presence of a tumor in human body. Isotope of ^{131}I is used for diagnosis of goiter in thyroid gland.

Q7. Differentiate between shell and sub shell.

Ans 1: Shell

- 1- The shells are subdivided into sub shell.
- 2- The fixed circular orbits which are associated with a definite amount of energy are called shells.
- 3- K, L, M, N etc. are considered as shells.

Ans 2: Sub-Shell

- 1- The sub-shells are also themselves composed of atomic orbitals
- 2- Each shell is composed of one or more sub shells
- 3- s, p, d, f are considered as the sub-shells.

Q8. Which carbon isotope use in carbon dating?

Ans 1: C-14 used in carbon dating.

Q9. How does electron differ from a neutron?

Ans 1: Electrons

- 1- Electron is the negative charged particle.
- 2- Electron revolves around the nucleus.
- 3- Mass of electron is 5.486×10^{-4} amu

Ans 2: Neutrons:

- 1- Neutron is the neutral particle.
 - 2- Neutron is present in the nucleus.
 - 3- Mass of neutron is 1.00^{87} amu
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Q10. What is the classical theory of radiation? How does it differ from quantum theory?

Ans 1: Classical Theory:

According to it , electrons being the charged particles should release or emit energy continuously and they should ultimately fall into the nucleus.

Ans 2: Quntum Theory:

Quantum is the smallest amount of energy that can be emitted or absorbed as electromagnetic radiation. According to this theory electrons do not lose energy while moving in any particular orbit They gain or lose energy when they change the orbit.
