Chemistry - 11th Class Chemistry Short Questions Chapter 5 Preparation

Q1. **The x-rays produced in a discharge tube experiment are characteristic of the target metal. Justify it.**

Ans 1:

The x-rays which are emitted from the surface of the metal depend upon the atomic number of the metal. Greater the number of protons in the nucleus of metal atom great the forces of attractions for the Inner electrons. Greater the energy differences, smaller the wavelength of x-rays.

Q2. **Why the anode rays depend upon the nature of the gas?**

Ans 1: Anode rays are those particles which are consisted of rest of the atom or molecule after the removal of one electron, the mass of every anode ray particle depends upon the nature of the gas, so the anode rays for all gaseous substances are different.

Q3. **What is the function of principal quantum number?**

Ans 1:

Its values are whole numbers and never zero, negative or fractional. It gives us information about:

(i) Energy of electron.

(ii) Distance of electron from the nucleus.

Q4. **How the slow neutrons prove to be more effective than the fast neutrons?**

Ans 1:

Q5. **State Pauli's exclusion principle and Hund's rule?**

Ans 1: According to Pauli's principle "no two electrons in an atom can have the same set of four quantum numbers". According to Hund's rule,"if degenerate orbitals are available and more than two electrons are to be placed in them, then place them in separate orbitals with the same spins rather than in the same orbital with the opposite spins."

Q6. **How do you prove that the energy associated with the electron which is revolving around the nucleus of H-atom is negative?**

Ans 1:

Q7. **What are defects of Bohr's atomic model?**

Ans 1:

Q8. **How the value of the Redberg's constant can be justified from Bohr's equation?**

Ans 1:

Q9. **Why the photographic plate is white and few dark lines are there in the line absorption spectra of a substance?**

Ans 1: Some of the photons are absorbed by the sample to excite the electrons of and substance from lower energy levels to higher energy levels. These photons of light don't reach the photographic plate. Rest of the light reaches the photographic plate, arid the plate is white. Only those places are dark in the form of sharp lines where the photon don't reach.

Q10. **According to Bohr's model, the angular momentum of moving electron is a quantized. Justify it.**

Ans 1: