Structure of atom

1. Distinguish between a proton and a photon.

2. Distinguish between a photon and a quantum.

3. What are alpha (a)-particles?

4. Who discovered neutron?

5. What are isotopes and isobars? Give examples.

6. Calculate the mass and charge of one mole of electrons.

7. Write the complete symbol for the atom with the given atomic number (Z) and atomic mass (A)

(i) Z = 17,A =35

(ii) Z = 92,A = 233

(iii) Z = 4, A = 9.

8. Describe briefly Thomson Model of Atom. Also write drawbacks.

9. How is position of electron and proton in an atom established? Describe an experiment in this regard.

Or

Describe Rutherford's scattering experiment. How did it lead to Rutherford's nuclear model of atom?

Or

Describe an experiment which provides evidence that most of the charge and mass of an atom is concentrated in its nucleus.

10. Discuss the drawbacks or limitations of Rutherford model of atom.

11. What are the characteristics of waves?

12. What are the main points of Planck's quantum theory ?

13. What do you mean by electromagnetic spectrum?

14. Give use of different regions of spectrum.

15. What is an emission spectra? What are its types?

16. Explain in brief hydrogen spectra.

17. Though hydrogen contains a single electron yet its spectrum has number of lines. Explain.

18. Give the values of all the four quantum numbers for 2p electrons in nitrogen (z =7).

19. What atoms are indicated by the following configurations?

20. State Heisenberg uncertainty principle. Write its mathematical formula.