

# Foundation Chemistry Classes

For- JEE/ NEET & XI-XII

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**Multiple choice Questions SET- 1 ( Ch-02 Atomic structure)**

**Topics :- Discovery of Sub-atomic particles**

1. Cathode rays are :
  - (a) Electromagnetic waves
  - (b) Stream of  $\alpha$ -particles
  - (c) Stream of electrons
  - (d) Radiations
2. Which is the correct statement about proton?
  - (a) It is a nucleus of deuterium
  - (b) It is an ionised hydrogen molecule
  - (c) It is an ionised hydrogen atom
  - (d) It is an  $\alpha$ -particle
3. The discovery of neutron came very late because
  - (a) It is present in nucleus
  - (b) Is a fundamental particle
  - (c) It does not move
  - (d) It does not carry any charge
4. Atomic number of an element represents
  - (a) Number of neutrons in the nucleus
  - (b) (c) Atomic mass of an element
  - (c) Valency of an element
  - (d) Number of protons in the nucleus
5. Which experiment is responsible for finding out charge on electron
  - (a) Millikan's oil drop experiment
  - (b) Cathode ray discharge experiment
  - (c) Rutherford's  $\alpha$  - rays scattering experiment
  - (d) Photoelectric experiment
6. Which of the following statements is incorrect?
  - (a) The charge on an electron and proton are equal and opposite
  - (b) Neutrons have no charge
  - (c) Electrons and protons have the same mass
  - (d) The mass of a proton and a neutron are nearly the same
- Neutrino has:
  - (a) Charge +1, mass 1
  - (b) Charge 0, mass 0
  - (c) Charge -1, mass 1
  - (d) Charge 0, mass 1
8. The nature of positive rays produced in a vacuum discharge tube depends upon
  - (a) The nature of the gas filled
  - (b) Nature of the material of cathode
  - (c) Nature of the material of anode
  - (d) The potential applied across the electrodes
9. X-rays are produced when a stream of electrons in an X-ray tube
  - (a) Hits the glass wall of the tube
  - (b) Strikes the metal target
  - (c) Passes through a strong magnetic field
  - (d) None of the above
10. Which is not true with respect to cathode rays?
  - (a) A stream of electrons
  - (b) Charged particles
  - (c) Move with speed same as that of light
  - (d) Can be deflected by magnetic fields
11. Millikan performed an experiment method to determine which of the following ?
  - (a) Mass of the electron
  - (b) Charge of the electron
  - (c)  $e/m$  ratio of electron
  - (d) Both (a) and (b)
12. When beryllium is bombarded with alpha particles (Chadwick's experiment) extremely penetrating radiations, which cannot be deflected by electrical or magnetic field are given out. These are :
  - (a) A beam of protons
  - (b) Alpha rays
  - (c) A beam of neutrons
  - (d) A beam of neutrons and protons
13. Which of the following statements about the electron is incorrect?

- (a) It is negatively charged particle  
(b) The mass of electron is equal to the mass of neutron.  
(c) It is a basic constituent of all atoms  
(d) None of these
14. The ratio of charge and mass would be greater for **[BHU 2005]**  
(a) Proton (b) Electron  
(c) Neutron (d) Alpha
15. The electron is **[DPMT 1982; ]**  
(a)  $\alpha$ -ray particle (b)  $\beta$ -ray particle  
(c) Hydrogen ion (d) Positron
16. The ratio of specific charge of a proton and an  $\alpha$ -particles **[MP PET 1999]**  
(a) 2 : 1 (b) 1 : 2  
(c) 1 : 4 (d) 1 : 1
17. Ratio of masses of proton and electron is **[BHU 1998]**  
(a) Infinite (b)  $1.8 \times 10^3$   
(c) 1.8 (d) None of these
18. The proton and neutron are collectively called as **[MP PET 2001]**  
(a) Deuteron (b) Positron  
(c) Meson (d) Nucleon
19. Which of the following has the same mass as that of an electron **[AFMC 2002]**  
(a) Photon (b) Neutron  
(c) Positron (d) Proton
20. What is the ratio of mass of an electron to the mass of a proton **[UPSEAT 2004]**  
(a) 1 : 2 (b) 1 : 1  
(c) 1 : 1837 (d) 1 : 3
21. Heaviest particle is **[MP PET 1999]**  
(a) Meson (b) Neutron  
(c) Proton (d) Electron
22. Penetration power of proton is **[CPMT 1982, 88]**  
(a) More than electron (b) Less than electron  
(c) More than neutron (d) None
23. An elementary particle is **[CPMT 1973]**  
(a) An element present in a compound  
(b) An atom present in an element  
(c) A sub-atomic particle  
(d) A fragment of an atom
24. The nature of anode rays depends upon **[MP PET 2004]**  
(a) Nature of electrode  
(b) Nature of residual gas  
(c) Nature of discharge tube  
(d) All the above