

## STRUCTURE OF THE ATOM

**1. The charge/ mass ratio of electron:**

- a. Depends on the nature of the electrodes
- b. Depends upon nature of the gas c. Remains constant
- d. Depends on both nature of the gas and nature of the electrode

**2. A student weighs 30kg. Suppose his body is entirely made of electrons. How many electrons are there in his body? Mass of an electron =  $9.1 \times 10^{-31}$  kg**

- a.  $3.29 \times 10^{31}$
- b.  $3.29 \times 10^{30}$
- c.  $3.29 \times 10^{23}$
- d.  $3.29 \times 10^{32}$

**3. Which of the following is correct?**

Column 1	Column 2
A. Electrons	i. Positive charge
B. Protons	ii. No charge
C. Neutrons	iii. Negative charge

- a. A-iii, B-ii, C-i
- b. A-iii, B-i, C-ii
- c. A-ii, B-iii, C-i
- d. A-ii, B-i, C-iii

**4. If K, L, M, N shells of an atom are full, the total number of electrons in the atom are:**

- a. 60
- b. 26
- c. 42
- d. 36

**5. Which of the following are positively charged ions:**

Atoms	Protons	Electrons	Neutrons
A	17	17	18
B	12	10	12
C	16	17	20
D	1	0	0
E	18	18	22
F	10	10	10

- a. A and B
- b. C and D
- c. B and D
- d. D and F

**6. The electronic configuration of Cl(17) is:**

- a. 2,8,7
- b. 2,2,8,5
- c. 2,8,2,5
- d. 2,2,5,8

**7. Composition of the nuclei of two atomic species are given:**

	X	Y
P	7	8
N	9	8

The mass number of x and Y and their relation is

- a. 16,16; isotopes
- b. 17,15; isotopes
- c. 17,15; isotopes
- d. 16,16; isobars

**8.  $\text{Na}^+$  has 12 neutrons and 10 electrons. Which of the following statements is correct?**

- a.  $\text{Na}^+$  has atomic number 10 and mass number 22.
- b.  $\text{Na}^+$  has atomic number 11 and mass number 23.
- c.  $\text{Na}^+$  has atomic number 10 and mass number 23.
- d.  $\text{Na}^+$  has atomic number 11 and mass number 22.

**9. Which of the following statement is correct about proton?**

- a. It is the nucleus of deuterium
- b. It is an ionized hydrogen molecule
- c. It is an ionized Hydrogen atom
- d. It is an  $\alpha$  particle with unit positive charge

**10. The highest value of e/m ratio for anode rays is observed when the discharge tube is filled with:**

- a.  $\text{N}_2$
- b.  $\text{H}_2$
- c. He
- d.  $\text{Ar}$

**11. When a gold foil is bombarded by a beam of  $\alpha$  particle, only a few of them get deflected whereas most go straight undeflected. This is because**

- a. The force of attraction exerted on  $\alpha$  particles by the electrons is insufficient
- b. The volume of nucleus is much smaller than that of the atom
- c. The force of repulsion acting on the fast moving  $\alpha$  particles is very small
- d. The neutrons have no effect on  $\alpha$  particles

**12. Which of the following statements does not belong to Bohr's model?**

- a. Energy of the electrons in the orbit is quantized
- b. The electrons in the orbit nearest to the nucleus is the lowest energy
- c. Electrons revolve around the nucleus in different orbits having fixed energies
- d. The electrons radiate energy during revolution due to force of attraction between nucleus and electrons

**13. How many electrons, protons and neutrons are present in  $\text{X}^+$ , if atomic number of X is 19 and its mass number is 39.**

- a. E=19, P=19, N= 20
- b. E=18, P=19, N= 20
- c. E=18, P=19, N= 19
- d. E=19, P=20, N= 20

**14. Which of the following does not have 8 valence electrons:**

- a. He
- b. Ne
- c. Ar
- d.  $\text{Cl}^-$

**15. Which of the following does not have one electron in its valance shell**

- a. Na
- b. Li
- c. H
- d. Ca