

STRUCTURE OF ATOM

1. Who discovered the electron?

- A) J.J. Thomson
- B) Ernest Rutherford
- C) Niels Bohr
- D) James Chadwick

2. What is the charge of a neutron?

- A) +1
- B) -1
- C) 0
- D) +2

3. Which of the following particles is present in the nucleus of an atom?

- A) Electrons only
- B) Protons and neutrons
- C) Neutrons only
- D) Protons and electrons

4. What is the mass of an electron approximately?

- A) 1 amu
- B) 0 amu
- C) $1/1836$ amu
- D) $1/2$ amu

5. The atomic number of an element is equal to the number of:

- A) Electrons only
- B) Protons only
- C) Protons and neutrons
- D) Neutrons only

6. Who discovered the nucleus of the atom?

- A) Niels Bohr
- B) J.J. Thomson
- C) Rutherford
- D) Chadwick

7. Which model of the atom is also called the "plum pudding model"?

- A) Rutherford's Model
- B) Bohr's Model
- C) Thomson's Model
- D) Quantum Model

8. The number of neutrons in an atom is equal to:

- A) Atomic number – mass number
- B) Mass number – atomic number
- C) Mass number + atomic number
- D) Atomic number only

9. What is the maximum number of electrons in the first shell (K-shell)?

- A) 8
- B) 18
- C) 2
- D) 4

10. Which scientist proposed energy levels or shells for electrons?

- A) J.J. Thomson
- B) Bohr
- C) Rutherford
- D) Mendeleev

11. In a neutral atom, the number of electrons is equal to the number of:

- A) Neutrons
- B) Protons
- C) Nucleons
- D) Orbitals

12. What is the maximum number of electrons that can be accommodated in the M shell ($n = 3$)?

- A) 8
- B) 18
- C) 2
- D) 32

13. Which of the following is an isotope of hydrogen?

- A) Deuterium
- B) Helium
- C) Oxygen
- D) Carbon

14. The mass number of an atom is the sum of:

- A) Protons + Electrons
- B) Protons + Neutrons
- C) Neutrons + Electrons
- D) Neutrons only

15. Which of the following orbitals has the lowest energy?

- A) 2p
- B) 3s
- C) 1s
- D) 2s

16. Who discovered the neutron?

- A) Bohr
- B) Rutherford
- C) Chadwick
- D) Thomson

17. Which rule determines the order of filling of electrons in orbitals?

- A) Pauli's Exclusion Principle
- B) Hund's Rule

C) Aufbau Principle

D) Avogadro's Law

18. What is the electronic configuration of oxygen (atomic number 8)?

A) 2,6

B) 2,8

C) 6,2

D) 1,7

19. Which of the following orbitals cannot exist?

A) 1s

B) 2p

C) 3d

D) 2d

20. An element has atomic number 15. How many electrons are there in its outermost shell?

A) 3

B) 5

C) 6

D) 2

ANSWERS-

1. A

2. C

3. B

4. C

5. B

6. C

7. C

8. B

9. C

10. B

11. B

12. B

13. A

14. B

15. C

16. C

17. C

18. A

19. D

20. B