

Class: IX
Subject: chemistry
Topic: 5 Atomic Structure
No. of Questions: 20
Duration: 60 Min
Maximum Marks: 60

1 Almost the entire mass of an atom is concentrated in the_____.

1. proton
2. electrons
3. nucleus
4. neutrons

Answer: 3

Explanation: In Rutherford's Gold foil experiment it was revealed that alpha particles when collided with centre of atom it deflects back in opposite direction. Hence this proves that entire

Mass and charge is present at the centre.

2. Electron was discovered by_____.

1. Chadwick
2. Thomson
3. Goldstein
4. Bohr

Answer: 2

Explanation: Thomson while doing research on Water Melon model discovered electron

3: An atom has a mass number of 23 and atomic number 11. The number of protons are_____.

1. 11
2. 12
3. 23
4. 44

Answer: 1

Explanation: Atomic Number is the number of protons in an atom

4. The mass of the atom is determined by_____.

1. neutrons
2. neutron and proton
3. electron
4. electron and neutron

Answer: 2

Explanation: Mass number A = sum of protons +sum of neutrons

5 The number of electrons in M shell are

1. 18
2. 20
3. 10
4. 12

Answer: 1

Explanation: $2n^2$ is the number of electrons in a given orbit.
 $M=3$; no of electrons $=2*3^2=18$

6. Which of the air pressures is appropriate for the production of cathode rays in the discharge tube?

1. 1 cm Hg
2. 1 mm Hg
3. 0.001 cm Hg
4. 0.001 mm Hg

Answer: 4

Exp: Experimentally detected

7. Cathode rays are deflected towards_____.

1. positive electrode
2. negative electrode
3. both electrodes
4. none of the electrodes

Answer: 1

Explanation: Cathode rays are negative charged particles hence deflected towards positive electrode

8 The absolute charge of an electron is_____.

1. $- 1.6 \times 10^{-19}\text{C}$
2. $+ 1.6 \times 10^{-19}\text{C}$
3. $1.6 \times 10^{-19}\text{C}$
4. $16 \times 10^{-19}\text{C}$

Answer: 1

Exp: fact

9. The proton is heavier than an electron by_____.

1. 1850 times
2. 1840 times
3. 1000 times
4. 100 times

Answer: 2

Explanation: proton mass = $1.67262178 \times 10^{-27}$ kilograms
electron mass = $9.10938291 \times 10^{-31}$ kilograms

So proton is 1840 times heavier than an electron

10: Carbon-12 atom has_____.

1. 6 electrons, 6 protons, 6 neutrons
2. 6 electrons, 12 protons, 6 neutrons
3. 12 electrons, 6 protons, 6 neutrons
4. 18 electrons, 6 protons and 6 neutrons

Answer: 1

Explanation: Mass number A = sum of protons +sum of neutrons

11. Chadwick got the Nobel Prize for the discovery of _____.

1. protons
2. neutrons
3. electrons
4. mesons

Answer: 2

Explanation: Chadwick discovered neutron

12: Mass number is equal to the_____.

1. number of protons + number of electrons
2. number of protons + number of neutrons
3. number of neutrons + number of electrons
4. number of electrons

Answer: 2

Explanation: Mass number A = sum of protons +sum of neutrons

13: The element X has 2 valence electrons. It is a_____.

1. metal
2. non-metal
3. metalloid
4. gas

Answer: 1

Explanation: They are alkaline earth metals.

14 The volume of the nucleus of an atom when compared to the extra nuclear part
is_____.

1. bigger
2. smaller
3. same size
4. unpredictable

Answer: 2

Exp: fact

15 In Rutherford's alpha-scattering experiment, a foil of element that was used

_____.

1. gold
2. silver
3. aluminum
4. magnesium

Answer: 1

Explanation: Rutherford used gold foil for alpha-scattering experiment

16 An element has an electronic configuration of 2, 8, 7. Its valency is

1. 1
2. 7
3. 17
4. 8

Answer: 1

Explanation: It has capacity to gain one electron to attain noble gas configuration. So valency is 1

17 The other name of ${}^1_1\text{H}$ is _____

1. podium
2. tritium
3. deuterium
4. proton

Answer: 1

Exp: fact

18 During a chemical reaction, atomic number_____.

1. changes
2. remains same
3. changes and then is restored
4. changes alternately

Answer: 2

Explanation: Atomic number Z = number of protons. In Chemical Reaction no effect on protons, only electrons participate

19 The fixed circular paths around the nucleus are called_____.

1. orbits
2. orbitals
3. nucleons
4. mesons

Answer: 1

Explanation: Bohr termed these circular paths as orbits

20. The mass number of Sodium is

1. 13
2. 23
3. 11.
4. 16

Answer: 2

Exp: fact