1. Atomic number (Z) is equal to ————

(a) Number of protons in the nucleus of an atom.

(b) Number of electrons in a neutral atom

(c) Both (a) and (b)

(d) None of the above

Ans:(a)

Solution: Atomic number (Z) is equal to the number of protons in the nucleus.

2. Two atoms are said to be Isobars if ————

(a) They have same atomic number but different mass number

(b) They have same number of electrons but different number of neutrons

(c) They have the same number of neutrons but different numbers of electrons.

(d) None of the above

Ans: (d)

Solution: Two atoms are said to be Isobars if they have the same mass number but different atomic numbers.

3.Mass of proton is ————

(a) 1.000 amu (b) 0.9073 amu

(c) 1.0073 amu (d) 5.486×10^{-4} amu

Ans: (c)

Solution: Mass of the proton is 1.0073 amu

4.The mass number of the element is ————

(a) the sum of the number of electrons and protons

(b) the sum of the number of protons and neutrons

(c) the number of neutrons

(d) the number of protons

Ans: (b)

Solution: The mass number of the element is the sum of the number of protons and neutrons.

5.The atomic number of an element is equal to ————

(a) number of neutrons

(b) number of electrons

(c) number of protons

(d) number of neutrons + number of protons

Ans: (c)

Solution: The atomic number of an element is equal to number of protons.

6.An alpha particle is also known as ————

(a) subatomic particle

(b) an unionised helium atom

(c) a neutral particle

(d) a doubly-charged helium ion

Ans: (d)

Solution: An alpha particle is a doubly-charged helium ion i.e He^{2+}

7.Which of the following statements about the electron is incorrect?

(a) It is a negatively charged particles

(b) The mass of the electron is equal to the mass of the neutron

(c) It is a basic constituent of all atom

(d) It is a constituent of cathode rays

Ans: (b)

Solution: the mass of an electron is equal to 1/1836 of the mass of a proton or neutron.

8.How many electrons are occupied in the M shell?

(a) 8

(b) 16

(c) 18

(d) 32

Ans: (c)

Solution: The electrons are occupy in the shell by using the $2n^2$ rule. For M shell n=3 , so total 2 x 3^2 = 18 electrons.

9.Who discovered the electron?

(a) Goldstein

(b) J.J Thomson

(c) Chadwick

(d) Eugen Goldstein

Ans: (b)

Solution: J.J Thomson discovered the electron.

10. $_7N^{15}$ and $_8O^{16}$ are pair of ———-

(a) Isotopes

(b) Isobars

(c) Isotones

(d) none of these

Ans: (c)

Solution: ${}_{7}N^{15}$ and ${}_{8}O^{16}$ are pairs of isotones. Isotones are atomic species that share the same number of neutrons and differ in the number of protons. In case of ${}_{7}N^{15}$ (number of proton = 7, number of neutron =8) ${}_{8}O^{16}$ (number of proton = 8, number of neutron =8)