

- A sub-atomic particle proton is
 - it carries one unit positive charge and mass equal to that of hydrogen atom
 - it carries one unit positive charge and mass equal to that of helium atom.
 - it carries one unit negative charge and mass equal to that of hydrogen atom.
 - it carries one unit negative charge and mass equal to that of helium atom
- The atom of an element has two electrons in the M-shell. What will be the name of that element.
 - sodium
 - magnesium
 - aluminium
 - silicon
- An ion X^{2-} contains ten electrons and eight neutrons. What is its atomic number and mass numbers.
 - 10, 17
 - 8, 17
 - 8, 16
 - 10, 16
- The number of neutrons present in isotopes of hydrogen Protium (1_1H), Deuterium (2_1H), Tritium (3_1H) are
 - 1, 2, 3
 - 0, 1, 2
 - 1, 1, 1
 - 1, 0, 2
- Naturally occurring chlorine is a mixture of two isotopes with mass numbers 35 and 37 respectively. These are found in 75% chlorine-35 and 25% chlorine-37 isotopes. What is the average atomic mass of chlorine is
 - 36.5
 - 35.5
 - 34.5
 - 33.5
- The average atomic mass of a sample of an element X is 16.2. What are the percentages of isotopes ${}^{16}_8X$ and ${}^{18}_8X$ in the sample?
 - 80%, 20%
 - 70%, 30%
 - 90%, 10%
 - 60%, 40%
- Bromine atom is available in the form of two isotopes ${}^{79}_{35}Br$ (49.7%) and ${}^{81}_{35}Br$ (50.3%). Calculate average atomic mass of bromine atom is
 - 83.006
 - 80.006
 - 82.006
 - 81.006
- Which of the following correctly represents the electronic distribution in the Mg atom
 - 3, 8, 1
 - 2, 8, 2
 - 1, 8, 3
 - 8, 2, 2
- Which of the following are true for an element.
 - atomic number = number of protons + number of electrons
 - mass number = number of protons + number of neutrons
 - atomic mass = number of protons = number of neutrons
 - atomic number = number of protons = number of electrons
 - i and ii
 - i and iii
 - ii and iii
 - ii and iv
- Which of the following statement is always correct
 - an neutral atom has equal number of electrons and protons
 - an neutral atom has equal number of electrons and neutrons
 - an neutral atom has equal number of protons and neutrons
 - an neutral atom has equal number of electrons, protons and neutrons

11. The pair ${}_{92}^{235}\text{U}$, ${}_{90}^{231}\text{Th}$ are
 a) isotopes b) isobars c) isotones d) isodiaphers
12. The number of electrons present in M-shell
 a) 8 b) 18 c) 32 d) 2
13. Two nuclides X and Y are isotonic to each other with mass numbers 70 and 72 respectively. If atomic number of X is 34, then that of Y would be
 a) 32 b) 34 c) 36 d) 38
14. The ratio between the neutrons in carbon and sulphur with respect to atomic masses 12 and 32 is
 a) 3 : 4 b) 3 : 8 c) 4 : 3 d) 8 : 3
15. Statement I: ${}_{9}^{19}\text{F}$ and ${}_{8}^{18}\text{O}$ are isotones

Statement II: The atoms of different elements containing same mass number are known as isotones.

- a) both statement-I and II are correct and statement-II is correct explanation of statement-I
 b) both statement-I and II are correct and statement-II is not correct explanation of statement-I
 c) statement-I is correct and statement-II is correct
 d) statement-I is incorrect and statement-II is incorrect
16. When does an atom become negatively charge do
 a) when an atom donates electrons b) when an atom accepts electrons
 c) when an atom donates or accepts electrons d) none of the above

17. Number of e and p in N_3^-
 a) 20e 21p b) 21e 22p c) 22e 21 p d) 23e 24p
18. Al^{3+} ion is formed by lose of _____ electrons.
 a) 1 b) 2 c) 3 d) 4
19. Which of the following pair is not isoelectronic
 a) F^- , Ne b) Fe^{3+} , V c) CO , Si d) N_2 , Al
20. Isotopes has different number of _____.
 a) e b) p c) n d) all

21. Match the following: I

List - I

- A) Isotopes
 B) Isobars
 C) Isotones
 D) Isoelectronic
 E) Isodiaphers

List - II

- 1) ${}_{88}^{228}\text{Ra}$ and ${}_{89}^{228}\text{Ac}$
 2) ${}_{18}^{39}\text{Ar}$ and ${}_{19}^{40}\text{K}$
 3) ${}_{1}^2\text{H}$ and ${}_{1}^3\text{H}$
 4) ${}_{92}^{235}\text{U}$ and ${}_{90}^{231}\text{Th}$
 5) CO_2 and N_2O

22. Match the following: II

List - I

- A) $\text{XO}^- = 25p$
 B) $\text{XH}_3 = 18e$
 C) $\text{XO}_2^{2-} = 29p$
 D) $\text{XO}_4^{2-} = 50e$
 E) $\text{XH}_4^+ = 10e$

List - II

- 1) P
 2) Al
 3) Cl
 4) N
 5) S