By: M/selam

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Correction

I. Choose the best answer from the given alternatives and write the letter on the space provided. (14 marks)

1. Which of the following is NOT a sub atomic particle?

A. Neutron B. Proton C. Cations D. Electron

ANSWER: C

2. The nucleus of an atom contains

A. Protons B. Electrons C. Protons & neutrons D. Neutrons

ANSWER: C

3. By whom was neutron discovered?

A. Bohr B. Rutherford C. Dalton D. Chadwick

ANSWER: B

4. A group of atoms chemically combined together is a (an)

A. Molecule B. Ion C. Salt D. Element

ANSWER: A

5. Adding electrons to an atom will result in a (an)

A. Molecule B. Cation C. Anion D. Salt

ANSWER: C

6. Which one among the following most correctly determines the atomic number of an element?

A. Number of protons
B. Number of protons and electrons
C. Number of ions
D. Number of nucleons

ANSWER: A

7. The number of protons in a negatively charged atom (anion) is

A. More than the atomic number of the element
B. Less than the atomic number of the element
C. More than the number of electrons in the atom
D. Less than the number of electrons in the atom

ANSWER: D

8. The atomic number of sulfur is 16.

How many electrons are contained in its **3rd** energy level?

A. 8 B. 10 C. 6 D. 16

ANSWER: C

9. All noble gas elements have **8** electrons in their outermost shell **except**: -

A. Ne B. He C. Kr D. Ar

ANSWER: B

10. When an atom is loses electrons, it is called a (an) _____ and has a _____ charge.

A. Anion, positive
B. Cations, positive
C. Anion, negative
D. Cation, negative

ANSWER: B

11. What would be the atomic number of an atom with **six** valence electrons?

A. 6 B. 8 C. 12 D. 10

ANSWER: B

12. The isotopes of an element have

A. Same number of neutrons
B. Same atomic number
C. Same mass number
D. None of these

ANSWER: B

13. Which of the following pairs are isotopes?

A. Oxygen & Ozone
B. Nitric oxide & Nitrogen dioxide
C. Ice and steam
D. Hydrogen & deuterium

ANSWER: D

14. Which of the following have equal number of neutrons and protons?

A. Hydrogen B. Fluorine C. Deuterium D. Chlorine

ANSWER: C

15. The number of electrons in an element with atomic number X and atomic mass Y will be

A. (X-Y) B. (Y-X) C. (X+Y) D. X

ANSWER: D

16. Which of the following describes an isotope with a mass number of 99 that contains 56 Neutrons in its nucleus?

A. $^{99}_{56}Ba$ B. $^{43}_{56}Ba$ C. $^{99}_{43}Tc$ D. $^{56}_{43}TC$

ANSWER: C

17. The atomic number of an element is 11 and its mass number is 23. The correct order Representing the number of electrons, protons and neutrons respectively in this atom is

A. 11, 11, 12 B. 11, 12, 11 C. 12, 11, 11 D. 23, 11, 23

ANSWER: A

18. Which formula gives the maximum number of electrons in a shell?

A. n^2 B. $2n^2$ C. $3n^2$ D. $4n^2$

ANSWER: B

19. The electron configuration of a nitrogen ion, ($^{14}_{7}\mathbf{N}^{-3}$)

A. $1s^2\ 2s^2 2p^5$
B. $1s^2 2s^2 2p^3$
C. $1s^2 2s^2 2p^6$
D. $1s^2 2s^2 2p^7$

ANSWER: C

20. In atom valence electron are present in

A. Outermost shell
B. First orbit
C. Next to outer most orbit
D. Any one of its orbit

ANSWER: A

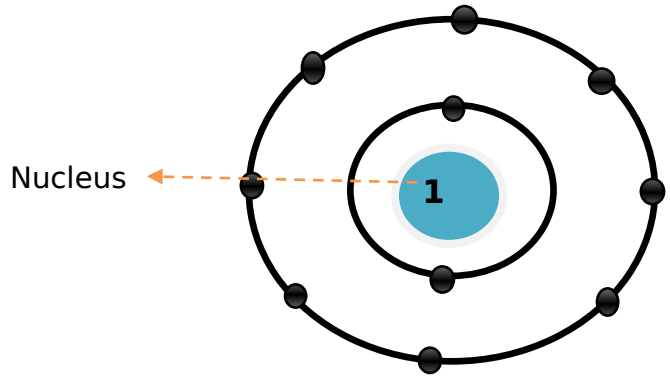
21. The valence electrons & inner electrons of an element with atomic number **32** are:

A. 4 & 28 B. 2 & 32 C. 28 & 6 D. 5 & 27

ANSWER: A

II. GIVE SHORT ANSWER. (6 MARKS)

1. Given the electronic structure shown below.



a) What is the name given to the positively charged particles in the nucleus?

ANSWER: Proton

b) Which metal ion has this structure?

ANSWER: Na metal (Na+)

c) Determine the number of protons & electrons?

ANSWER: No. of P+ = 11,

No. of e- = 11-(+1) = 10

d) Write the electronic configuration by using both main shall & sub-shell?

ANSWER: no. of e- =10, thus

- ✓ **main shell= 2, 8**
- ✓ **sub-shell= $1s^2 2s^2 2p^6$**

e) How many electrons are contained in its 2^{nd} energy level?

ANSWER: 8