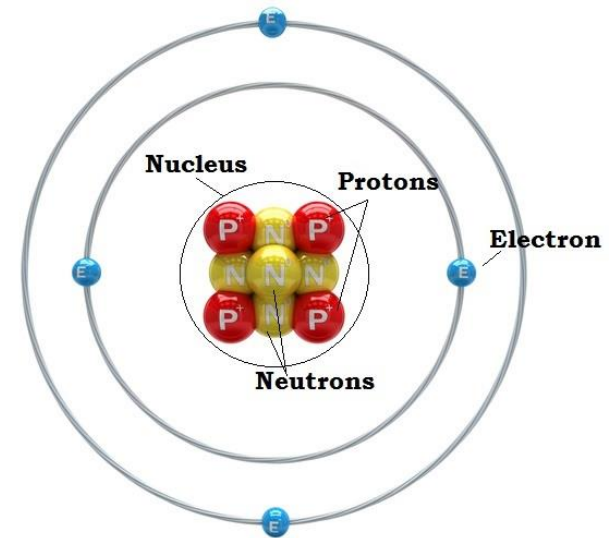




“REVIEW QUESTIONS FOR CHAPTER 2”

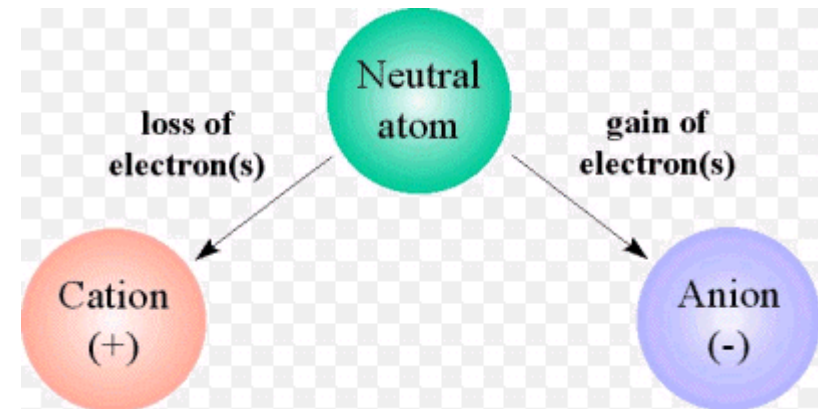
Q 1. In an atom, the nucleus contains

- A. All the neutrons and electrons.
- B. All the protons and neutrons.
- C. All the protons and electrons.
- D. Only protons.



Q 2. An anion always

- A. has a positive charge.
- B. contains a metal and a nonmetal.
- C. forms covalent bonds.
- D. has a negative charge.



Q 3. The number of moles, are there in 2.43×10^{24} atoms of He, is

- A. 2.4×10^{24} mol.
- B. 4.0 mol.
- C. 0.24 mol.
- D. 6.0 mol.



Hint

Avogadro :

1 mole = 6.02×10^{23} atoms

Avogadro's law

1 mole -----> 6.02×10^{23} atoms

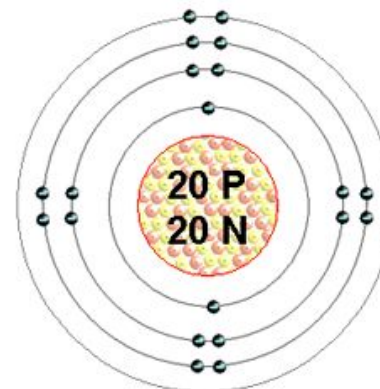
? -----> 2.43×10^{24} atoms

$$\text{moles} = \frac{2.43 \times 10^{24}}{6.02 \times 10^{23}} = 4.0 \text{ mol}$$

لتحويل عدد الذرات (أو الجزيئات) الي مولات نقسم علي عدد افوجادرو

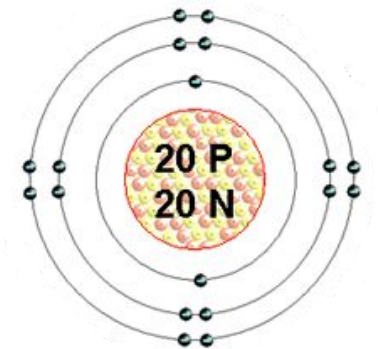
Q 4. How many protons, neutrons and electrons are present in Ca^{2+} .

- A. 20, 18, 20.
- B. 20, 20, 18.
- C. 18, 18, 20.
- D. 20, 20, 20.



Calcium
 $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2$

Ca

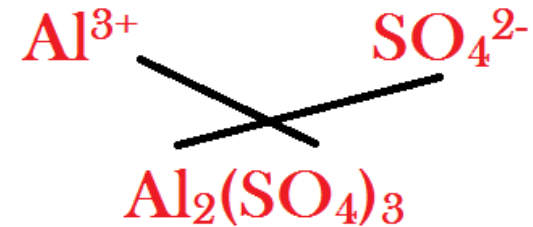


Calcium
 $1s^2 2s^2 2p^6 3s^2 3p^6$

Ca²⁺

Q 5. Aluminum ion is Al^{3+} while the sulfate ion is SO_4^{2-} . What would be the correct formula for aluminum sulfate?

- A. AlSO_4 .
- B. $\text{Al}_3(\text{SO}_4)_2$.
- C. $\text{Al}_2(\text{SO}_4)_3$.
- D. Al_2SO_4 .

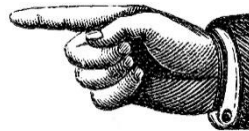


شحنة كل ايون تصبح رقم للايون الآخر

Q 6. One of the characteristics of Sulfur element is that it is

.....

- A. A good conductor.
- B. A good insulator of electricity.
- C. shiny.
- D. ductile.



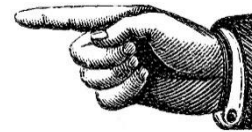
Hint

Nonmetals :

Not shiny, *bad conductor of electricity*, not ductile, and not malleable

Q 7. Which of the following is **NOT** true for the ^{12}C , ^{13}C , and ^{14}C atoms?

- A. They all have the same mass number.
- B. They are isotopes.
- C. They all have the same atomic number.
- D. They all have 6 protons.



Hint

Isotopes :

Atoms with same atomic no.
but different mass no.

Q 8. Which of the following is a molecular compound .

A. He.

B. F₂.

C. Na.

D. CO₂.



Hint

Molecular compound:
It contains more than
one type of elements.

Q 9. How many grams of NaOH are there in 0.150 mol. (Na = 23, O = 16, H = 1).

- A. 40.0 g.
- B. 0.004 g.
- C. 266 g.
- D. 6.00 g.



Hint

$$\text{Moles} = \frac{\text{Mass}}{\text{Molar mass}}$$

$$\text{Molar mass (NaOH)} = 23 + 16 + 1 = 40 \text{ g/mol}$$

$$\begin{aligned} \text{Mass (NaOH)} &= \text{moles} \times \text{molar mass} \\ &= 0.150 \times 40 = 6.00 \text{ g} \end{aligned}$$

Q 10. P orbital can hold electrons.

- A. 6.
- B. 10.
- C. 14.
- D. 2.



Hint

s – orbital \rightarrow 2 e-
p – orbital \rightarrow 6 e-
d – orbital \rightarrow 10 e-
f – orbital \rightarrow 14 e-

Q 11. The shell having $n = 2$ contains subshells,
..... orbitals, and up to electrons.

- A. 1, 2, 4.
- B. 3, 6, 12.
- C. 2, 4, 8.
- D. 4, 8, 16.



Hint

Quantum Numbers:

n (E-level) = 1 \rightarrow 7

L (subshells) = 0 \rightarrow $n-1$

l	0	1	2	3
<i>orbital</i>	s	p	d	f
<i>Max e-</i>	2	6	10	14

Q 12. What element has the electron configuration:



A. K.

B. Cl.

C. Cl⁻.

D. S.



Q 13. Mendeleev arranged the element of similar properties in vertical columns in order of increasing

- A. No. of electrons.
- B. atomic number.
- C. atomic mass.
- D. size.



With my best wishes

Khaled Khalil