

25. What are major difference between metal & non metal
Metal Non metal

1. Have strong tendency to lose electrons to form cation. 1. Non metals have a strong tendency to accept electrons to form anions.
2. Metals are strong reducing agents. 2. Non metals are strong oxidizing agents.
3. Metals have low ionization enthalpy. 3. Non metals have high ionization enthalpy.
4. Metals form basic oxides and ionic compounds. 4. Non metals form acidic oxides and covalent compounds.

26. Use the periodic table and find out

- (i) Identify the element with 5 electrons in outer shell.
- (ii) Identify the element that would tend to lose two electrons.
- (iii) Identify the element that belongs to the group to gain two electrons.
- (iv) Elements belonging to Nitrogen family (group 15) Nitrogen.
- (v) Elements belonging to Alkaline earth family (group 2) Magnesium.
- (vi) Element belonging to Oxygen family (group 16) Oxygen.

27. Write the general electronic configuration of s, p, d and f-block elements.

- Ans:
- (i) s-block elements: ns^{1-2} where $n = 2-7$
 - (ii) p-block elements: $ns^2 np^{1-6}$ where $n = 2-6$
 - (iii) d-block elements: $(n-1)d^{1-10} ns^2$ where $n = 4-7$
 - (iv) f-block elements: $(n-2)f^{0-14} (n-1)d^0 ns^2$ where $n = 6-7$

28. The increasing order of reactivity among group I elements is $Li < Na < K < Rb < Cs$ whereas that of group II is $F > Cl > Br > I$. Explain?

Ans: The elements of group I have only one electron in their respective valence shells and thus have a strong tendency to lose this electron. The tendency to lose electron in turn, depends upon the ionization enthalpy. It is linked with electronegativity. Since both of them decrease down the group, the reactivity decreases.

29. Assign the position of elements having outer electronic configuration,

(i) $ns^2 np^4$ for $n = 3$

(ii) $ns^2 np^4$ for $n = 4$

(iii) $(n-2)f^1 (n-1)d^1 ns^2$ for $n = 6$ in periodic table?

- Ans:
- (i) p-block
group-16 } Sulphur
3rd period
 - (ii) 4th period
group-4 } Titanium
 - (iii) 6th period
f-block } Gadolinium
group-3

30. Choose the correct option

- (b) The d-block has 8 columns, because a maximum of 8 electrons can occupy all the orbitals in a d-sub-shell.