



Pareeksha Kirana – 2021

From Team Vijnana Kirana

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CHEMISTRY

Ch : 5 PERIODIC CLASSIFICATION OF ELEMENTS

1. A metal 'M' is in the 13th group of the Periodic Table. Its oxide formula and valency are : (a) MO , 2 (b) M₂O , 2 (C) M₂O₃ , 3 (d) M₃O₂ , 3
2. Consider the elements - ²⁰Ca, ⁸O, ¹⁸Ar, ¹⁶S, ⁴Be, ²He which of the above elements would you expect to be in group 16 of the Periodic Table? (a) ²⁰Ca and ¹⁶S (b) ²⁰Ca and ⁸O (c) ¹⁸Ar and ¹⁶S (d) ⁸O and ¹⁶S
3. What you mean by metallic character? How it varies along the period and down the group in the modern periodic table?
Ans : Metallic character is the tendency of an atom to lose electrons.
In Period: Along the period, metallic characters decreases because a tendency to lose electron decreases due to the increase in nuclear charge. Ex: Metallic character in the 2nd period : Li > Be > B > C >> N > O > F
In Group: Metallic character increases down the group due to increase in the atomic and hence tendency to lose electrons increases.
Ex: Metallic nature of first group elements: Li < Na < K < Rb < Cs
4. What you mean by non-metallic character? How non-metallic nature varies along the period and down the group of modern periodic table?
Ans : Non-metallic character: It is tendency of an atom to gain electrons.
In Period: Along the period from left to right, non-metallic nature increases because tendency to gain electrons increases due to increase in nuclear charge.
Ex : Non-metallic nature in the 2nd period elements. Li < Be < B < C < N < O < F
In Group: On moving from top to bottom in a group, non-metallic character decreases because atomic size increases and tendency to gain electrons decreases.
Ex: Non-metallic character of 17th period element: F > Cl > Br > I
5. What you mean by Electronegativity? How it varies along the period and down the group in the modern periodic table?
Ans : Electronegativity: It is tendency of an element to attract the shared pair of electrons towards it.
Along the period electronegativity increases. Ex : Li < Be < B < C < N < O < F.
Down the group electronegativity decreases. Ex: Li > Na > K > Rb > Cs (group 1)
F > Cl > Br > I (Group 17)

6. In the modern periodic table , which element has :
(a) two shells, both of which are completely filled with electrons?
(b) the electronic configuration - 2, 8, 1?
(c) a total of three shells, with four electrons in its valence shell?
(d) a total of two shells, loses three electrons from its valence shell?
(e) twice as many electrons in its second shell as in its first shell
(f) which one is - most metallic, most non- metallic element and a noble gas?

Ans : (a) Element is neon [2(K), 8(L)]

(b) Element is sodium [2(K), (L), 1(M)]

(c) Element is silicon [2(K), 8(L), 4(M)]

(d) Element is boron [2(K), 3(L)]

(e) Element is carbon [2(K), 4(L)]

(f) metal : Sodium , non metal : carbon , noble gas : Neon

1	2	15	16	17
A			B	C
	D			E
F		H		I

a) Most metallic element in the given table is – Ans : F

b) Most nonmetallic element is ---Ans : C

c) Arrange- A, C, D, H according to atomic size increasing of atomic size . A < B < C < D < E < F < G < H < I

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