

PERIODIC TABLE

- The electron gain enthalpy (in kJ/mol) of fluorine, chlorine, bromine and iodine, respectively are :
 (1) - 333, - 349, - 325 and - 296
 (2) -296, - 325, - 333 and - 349
 (3) - 333, - 325, - 349 and - 296
 (4) -349, - 333, - 325 and - 296
- Within each pair of elements of F & Cl, S & Se, and Li & Na, respectively, the elements that release more energy upon an electron gain are-
 (1) F, Se and Na (2) F, S and Li
 (3) Cl, S and Li (4) Cl, Se and Na
- The first ionization energy (in kJ/mol) of Na, Mg, Al and Si respectively, are :
 (1) 496, 737, 577, 786
 (2) 786, 737, 577, 496
 (3) 496, 577, 737, 786
 (4) 496, 577, 786, 737
- The increasing order of the atomic radii of the following elements is :-
 (a) C (b) O (c) F (d) Cl
 (e) Br
 (1) (b) < (c) < (d) < (a) < (e)
 (2) (a) < (b) < (c) < (d) < (e)
 (3) (d) < (c) < (b) < (a) < (e)
 (4) (c) < (b) < (a) < (d) < (e)
- B has a smaller first ionization enthalpy than Be. Consider the following statements :
 (I) It is easier to remove 2p electron than 2s electron
 (II) 2p electron of B is more shielded from the nucleus by the inner core of electrons than the 2s electrons of Be.
 (III) 2s electron has more penetration power than 2p electron.
 (IV) atomic radius of B is more than Be (Atomic number B = 5, Be = 4)
 The correct statements are :
 (1) (I), (II) and (III)
 (2) (II), (III) and (IV)
 (3) (I), (III) and (IV)
 (4) (I), (II) and (IV)

- The correct order of the ionic radii of O^{2-} , N^{3-} , F^{-} , Mg^{2+} , Na^{+} and Al^{3+} is :
 (1) $Al^{3+} < Na^{+} < Mg^{2+} < O^{2-} < F^{-} < N^{3-}$
 (2) $N^{3-} < O^{2-} < F^{-} < Na^{+} < Mg^{2+} < Al^{3+}$
 (3) $Al^{3+} < Mg^{2+} < Na^{+} < F^{-} < O^{2-} < N^{3-}$
 (4) $N^{3-} < F^{-} < O^{2-} < Mg^{2+} < Na^{+} < Al^{3+}$
- Lattice enthalpy and enthalpy of solution of NaCl are 788 kJ mol⁻¹ and 4 kJ mol⁻¹, respectively. The hydration enthalpy of NaCl is :
 (1) -780 kJ mol⁻¹
 (2) -784 kJ mol⁻¹
 (3) 780 kJ mol⁻¹
 (4) 784 kJ mol⁻¹
- The process that is NOT endothermic in nature is :-
 (1) $Ar_{(g)} + e^{-} \rightarrow Ar_{(g)}^{-}$ (2) $H_{(g)} + e^{-} \rightarrow H_{(g)}^{-}$
 (3) $Na_{(g)} \rightarrow Na_{(g)}^{+} + e^{-}$ (4) $O_{(g)}^{-} + e^{-} \rightarrow O_{(g)}^{2-}$
- The ionic radii of O^{2-} , F^{-} , Na^{+} and Mg^{2+} are in the order :
 (1) $F^{-} > O^{2-} > Na^{+} > Mg^{2+}$
 (2) $Mg^{2+} > Na^{+} > F^{-} > O^{2-}$
 (3) $O^{2-} > F^{-} > Mg^{2+} > Na^{+}$
 (4) $O^{2-} > F^{-} > Na^{+} > Mg^{2+}$
- The elements with atomic numbers 101 and 104 belong to, respectively :
 (1) Group 11 and Group 4
 (2) Actinoids and Group 4
 (3) Actinoids and Group 6
 (4) Group 6 and Actinoids
- The five successive ionization enthalpies of an element are 800, 2427, 3658, 25024 and 32824 kJ mol⁻¹. The number of valence electrons in the element is :
 (1) 2 (2) 3 (3) 4 (4) 5