

PERIODICITY PERIODIC PROPERTIES, ATOMIC RADIUS

- Among the elements Ca, Mg, P and Cl, the order of increasing atomic radii is: (AIPMT2010)
 (1) $Mg < Ca < Cl < P$ (2) $Cl < P < Mg < Ca$ (3) $P < Cl < Ca < Mg$ (4) $Ca < Mg < P < Cl$
- Lanthanide contraction is caused due to (AIIEE-2006)
 1) The imperfect shielding on outer electrons by 4-electrons from the nuclear charge
 2) The appreciable shielding on outer electrons by 4-electrons from the nuclear charge
 3) The appreciable shielding on outer electrons by 5d-electrons from nuclear charge
 4) The same effective nuclear charge from Ce to Lu
- A reduction in atomic size with increase in atomic number is a characteristic of elements of: (AIIEE-2003)
 1) f-block 2) Radio active series 3) High atomic mass 4) d-block
- The Lanthanide contraction is responsible for the fact that (AFMS)
 1) Zr and Hf have same radius 2) Zr and Zn have the same oxidation state
 3) Zr and Y have same radius 4) Zr and Nb have similar oxidation state
- Which set represents isoelectronic species? (AIIEE-2004)
 1) $Na^+, Mg^{2+}, Al^{3+}, Cl^-$ 2) $Na^+, Ca^{2+}, Sc^{3+}, F^-$
 3) $K^+, Cl^-, Mg^{2+}, Sc^{3+}$ 4) $K^+, Cl^-, Ca^{2+}, Sc^{3+}$
- Identify the correct order in which the ionic radius of the following ions increases (M2005)
 (I) F^- (II) Na^+ (III) N^{3-}
 1) III, I, II 2) II, I, III 3) I, II, III 4) II, III, I
- The ions $O^{2-}, F^-, Na^+, Mg^{2+}$ and Al^{3+} are isoelectronic. Their ionic radii show: (AIPMT2003)
 1) An increase from O^{2-} to F^- and then decrease from Na^+ to Al^{3+}
 2) a decrease from O^{2-} to F^- and then increase from Na^+ to Al^{3+}
 3) a significant decrease from O^{2-} to Al^{3+}
 4) a significant increase from O^{2-} to Al^{3+}
- The correct order of atomic radii is: (AIIEE-2002)
 1) $Ce > Sm > Yb > Lu$ 2) $Sm > Ce > Lu > Yb$
 3) $Lu > Yb > Sm > Ce$ 4) $Sm > Yb > Ce > Lu$
- Which of the following does not have valence electron in 3d-subshell? (AIIMS2002)
 1) Fe(III) 2) Cr(I) 3) Mn(II) 4) P(O)

10. Ionic radii are:

(AIPMT2004)

- 1) inversely proportional to square of effective nuclear charge
- 2) directly proportional to effective nuclear charge
- 3) directly proportional to square of effective nuclear charge
- 4) inversely proportional to effective nuclear charge

KEY

1)2 2) 1 3) 3 4)1 5)4 6) 2 7)3 8)4 9)4 10) 4