

Periodicity Periodic Properties Atomic Radius

1. Among the elements Ca, Mg, p and Cl, the order of increasing atomic radii is (AIPMT 2010)
(1) $Mg < Ca < Cl < P$ (2) $Cl < P < Mg < Ca$ (3) $P < Cl < Ca < Mg$ (4) $Ca < Mg < P < Cl$
2. Lanthanide contraction is caused due to (AIEEE-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
3. A reduction in atomic size with increase in atomic number is a characteristic of elements of (AIEEE-2003)
1) b-block 2) Radioactive series 3) High atomic mass 4) d-block
4. 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 stat
5. Which set represents isoelectronic species? (AIEEE-2004)
1) $Na^+, Mg^{2+}, Al^{3+}, Cl^-$ 2) $Na^+, Ca^{2+}, Sc^{3+}, F^-$
3) $K^+, Cl^-, Mg^{2+}, Sc^{3+}$ 4) $K^+, Cl^-, Ca^{2+}, Sc^{3+}$
6. Identify the correct order in which the ionic radius of the following ions increases. (M 2005)
(I) F^- (II) Na^+ (III) N^{3-}
1) III, I, II 2) II, I, III 3) I, II, III 4) II, III, I

7. The ions O^{-2} , F^{-} , Na^{+} , Mg^{2+} and Al^{3+} are is o electronic. 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 to Na^{+} to Al^{3+}
- 3) A significant decrease from to O^{-2} to Al^{3+}
- 4) A significant increase from O^{-2} to Al^{3+}

8. The correct order of atomic radii is (AIEEE-2002)

- 1) $Ce > Sm > Yb > Lu$
- 2) $Sm > Ce > Lu > Yb$
- 3) $Lu > Yb > Sm > Ce$
- 4) $Sm > Yb > Ce > Lu$

9. 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