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1 Order of radius is -Vander Wall's radius > Metallic radius > Covalent radius

2. Same no. of electrons

$P^{3-}, S^{2-}, Cl^{-}, Ar$

3. $_{\cdot 20}Ca = 2,8,8,2$

$Ca^{2+} = 2,8,8$

Hence, Ca^{2+} has 8 electrons each in outermost and penultimate shell.

4. Therefore, among the given ions Al^{3+} have the highest +3 charge.

5. (B) $F^{-} < O^{2-} < N^{3-}$ More negative charge.

(C) $Na > Li < K$ Along the group the size increases.

(D) $Fe^{2+} > Fe^{3+} > Fe^{4+}$ Due to more positive charge

6. (A) Be and Al are not in same group. (Correct)

They are in different groups.

(B) All the transition metal correspond to d-block.

Yes , d- block elements are called the transition elements.

(C) Be and Al are having lot of similarities in their properties.

Eg: Diagonal relationship.

(D) The atomic radius decreases with small difference.

7. The atomic mass number of an element IS 80 , and it lies in group 17 of the periodic table.

$Z = 35, A = 45 + 35 = 80$ Group $= 17$

The monoatomic anion has 45 neutrons.

The monoatomic anion has 36 electrons total.

$\therefore$ The number of electrons in a monoatomic atom $= 36 - 1 = 35$

$(Z = 35)$ The atom's atomic number. The atom is thus bromine and is a member of the halogen family in group 17.

No. of protons = No. of electrons = 35

8. (Cs > Na > Mg > Si > CI)

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9. Correct Answer - Atomic radius of K is larger than F because the size of cation is smaller than its parent atom while size of anion is bigger than its parent atom. Thus, atomic radii of K will be greater than 1.34Å while atomic radii of F will be less than 1.34Å. Atomic radius of K is larger than F because the size of cation is smaller than its parent atom while size of anion is bigger than its parent atom. Thus, atomic radii of K will be greater than 1.34Å while atomic radii of F will be less than 1.34Å.

10. (i) K

(ii) Br^-

(iii) O^{2-}

(iv) Na^+

(v) As

(vi) Na^+