7. In terms of period & Group where will you locate the 17th group

ans Period - 7
Group - 14
Block - p

8. Why do elements in the same group have similar and chemical properties?

ans The elements in a group have valence shell electronic configuration and hence have similar physical and chemical properties

9. What does atomic radius & Ionic radius really means to you

ans Atomic radius - Distance between the centre of nucleus to the outermost shell of electrons in the atom any Element is called Atomic radius
Ionic Radius - The Ionic radii can be Estimated by measuring the distance between cations and anions in Ionic crystals

10. How do atomic radius vary in a period and in a group? How do you explain the variation?

ans With a group Atomic radius Increases down the group Reason - This is due to continuous increases in the number of Electronic shells or orbitals numbers in the structure of atoms of the Elements down a group

Atomic Radii - from left to right across a period generally decreases due to Increase in Effective nuclear charge from left to right across a period

11. What do you understand by Iso Electronic species? Name a species that will be Iso Electronic with each of the following atoms / Ions
(i) F^- (ii) Ar (iii) Mg^{+2} (iv) Pb^{+}

ans Iso Electronic species are those species (atoms / ions) which have same number of Electrons. Iso Electronic species are:
(i) Na^+ (iii) Na^+
(ii) K^+ (iv) Sr^{2+}

12. Consider the following species:
N^{3-}, O^{2-}, F^-, Na^+, Mg^{2+}, Al^{3+}
(a) What is common in them?
(b) Arrange them in order of Increasing Ionic radii

ans (a) All of them have same no. of Electrons with in them
(b) In Iso Electronic Species, greater the nuclear charge, lesser will be the atomic or Ionic radius
$Al^{+3} < Mg^{+2} < Na^+ < F^- < O^{2-} < N^{3-}$

13. Explain why cations are smaller and anions larger in radii than their parent atoms.

ans A cation is smaller than the parent atom because it has fewer Electrons while its nuclear charge remain the same. The size of anion will be larger than that of parent atom because the addition of one or more Electrons would results in increased among the Electrons and a decrease in Effective nuclear charge