

67. On the basis of Lanthanoid contraction, explain the following :

- (i) Nature of bonding in La_2O_3 and Lu_2O_3 .
- (ii) Trends in the stability of oxo salts of lanthanoids from La to Lu.
- (iii) Stability of the complexes of lanthanoids.
- (iv) Radii of 4*d* and 5*d* block elements.

67. Hint : (i) As the size decreases covalent character increases. Therefore La_2O_3 is more ionic and Lu_2O_3 is more covalent.

(ii) As the size decreases from La to Lu, stability of oxo salts also decreases.

(iii) Stability of complexes increases as the size of lanthanoids decreases.

(iv) Radii of 4*d* and 5*d* block elements will be almost same.

(v) Acidic character of oxides increases from La to Lu.