

Daily Tutorial Sheet 4

Level – 1

- 46.(B)** Chlorine has higher electron affinity because incoming electron experience less repulsive force due to large size of 3p-orbital.
- 47.(B)** $2\text{HClO}_4 \xrightarrow{\Delta} \text{Cl}_2\text{O}_7 + \text{H}_2\text{O}$
- 48.(B)** $\text{HClO}_4 > \text{HBrO}_4 > \text{HIO}_4$
- 49.(D)** $\text{Cl} > \text{F} > \text{Br} > \text{I}$
- 50.(D)** Species having an element in its highest oxidation state will not disproportionate.
- $$2\text{ClO}^- \longrightarrow \text{Cl}^- + \text{ClO}_2^- \quad \text{or} \quad 3\text{ClO}^- \longrightarrow 2\text{Cl}^- + \text{ClO}_3^-$$
- $$3\text{ClO}_2^- \longrightarrow \text{Cl}^- + 2\text{ClO}_3^-$$
- $$4\text{ClO}_3^- \longrightarrow \text{Cl}^- + 3\text{ClO}_4^-$$
- 51.(B)** Thermal stability of hydrides decrease down the group thus heat of formation of halogen acids decreases from HF to HI.
- 52.(C)** Common bleaching agents are moist SO_2 , moist Cl_2 , H_2O_2 , O_3 , bleaching powder etc.
- 53.(C)** $2\text{HClO}_4 \longrightarrow \text{Cl}_2\text{O}_7 + \text{H}_2\text{O}$ $2\text{HClO}_3 \longrightarrow \text{Cl}_2\text{O}_5 + \text{H}_2\text{O}$
- $\text{HClO}_3 + \text{HClO} \longrightarrow \text{Cl}_2\text{O}_3 + \text{H}_2\text{O}$ [Cl_2O_3 is mixed anhydride]
- $2\text{HClO} \longrightarrow \text{Cl}_2\text{O} + \text{H}_2\text{O}$
- 54.(D)** Acidic strength of non-metal oxide increases with increase in oxidation state of non-metallic elements.
 $\text{Cl}_2\text{O}_5(+5)$; $\text{Cl}_2\text{O}(+1)$; $\text{Cl}_2\text{O}_3(+3)$; $\text{Cl}_2\text{O}_7(+7)$
- 55.(D)** There is Lewis acid (I_2) and Lewis base (I^-) reaction.
- $$\text{KI} + \text{I}_2 \longrightarrow \text{KI}_3$$
- 56.(A)** Stability of oxide of chlorine increases with increase in number of oxygen atom.
- 57.(D)** The deficiency of I_2 in diet causes goiter.
- 58.(D)** Acidic strength increases down the group.
- 59.(D)** $2\text{KBr} + \text{Cl}_2 \longrightarrow 2\text{KCl} + \text{Br}_2$.
- 60.(D)** Order of bond dissociation enthalpy $\text{Cl}_2 > \text{F}_2 > \text{Br}_2 > \text{I}_2$.