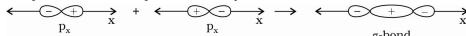


Daily Tutorial Sheet-4 Level – 1

- **46.(C)** Greater the s-character, greater will be the electronegativity
- **47.(A)** Hybridization involves mixing of orbitals to form new hybrid orbitals.
- **48.(D)** (A) Sigma bond has free rotation around its axis
 - **(B)** Two p orbitals can overlap head-on is they have same orientation



- **(C)** There can be only one sigma bond between two atoms.
- **49.(B)** $CaC_2 \longrightarrow Ca^{2+} C_2^{2-}$; $C_2^{2-} \longrightarrow \left[: C \equiv C : \right]^{2-}$
- 50.(c) $\stackrel{H}{\underset{H}{\longleftarrow}} \stackrel{C}{\underset{C-H}{\longleftarrow}} \stackrel{H}{\underset{H}{\longleftarrow}} \stackrel{H}{\underset{H}{\longleftarrow}} \stackrel{H}{\underset{C-H}{\longleftarrow}}$
- **51.(D)** XeOF₄ F Xe
- **52.(A)** $NO_2^+ \rightarrow [O = N = O]^+$ sp

$$NO_3^- \longrightarrow O^{\Theta} - N = O$$

$$O$$

$$Sp^2$$

53.(A) $PF_3Cl_2 \longrightarrow sp^3d$ Cl F

 $IF_5 \rightarrow sp^3d^2$ square pyramidal

 ${\rm BrF}_5 \to {\rm sp}^3 {\rm d}^2$ square pyramidal

 $\mathrm{SbF}_5^{2-} \to \mathrm{sp}^3 \mathrm{d}^2$ square pyramidal

- **55.(C)** Bond strength depends on extent of overlapping.

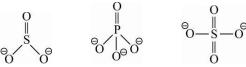
Overlapping ∞ directional character $\infty \frac{1}{\text{size}}$. Directional character of p orbital is more than that of s-orbital

- **56.(D)** ICl_2^{\oplus} $\begin{bmatrix} \vdots \\ Cl \end{bmatrix}^{\oplus}$ Bent shape
- **57.(B)** Hydrogen does not have unpaired electrons in p orbital to form π bond.



58.(D) $XeO_2F_2 \longrightarrow sp^3d$ (with one ℓp)

59.(D) All have π electrons and π bonds



60.(B) CO molecule

