

Chemical Bonding & Molecular Structure

- * In which of the following species the central atom has type of hybridization which is not as that present in other three $H = \frac{1}{2} [V + X - C + A]$
- a) I_3^-
 - b) XeF_4
 - c) PCl_5
 - d) SF_4
- Ans: b)
- * In which of the following, the central atom has one lone pair and three bond pair
- a) H_2O
 - b) NH_2^-
 - c) PCl_3
 - d) BF_3
- Ans: c)
- * Which of the following pairs are iso structural?
- a) NH_4^+ and NH_3
 - b) CH_4 and BF_4^-
 - c) NH_2^- and BeF_2
 - d) PCl_3 and BF_3
- Ans: b)
- * The angle between the covalent bond is maximum in
- a) CH_4
 - b) NH_3
 - c) H_2O
 - d) BF_3
- Ans: d)
- * Which of the following has non zero dipole
- a) BF_3
 - b) SiF_4
 - c) PCl_5
 - d) SF_4
- Ans: d)
- * Which of the following are arranged in an increasing order of bond strengths?
- a) $O_2^- < O_2 < O_2^+ < O_2^2$
 - b) $O_2^{2-} < O_2^- < O_2 < O_2^+$
 - c) $O_2^- < O_2^{2-} < O_2 < O_2^+$
 - d) $O_2^+ < O_2 < O_2^- < O_2^{2-}$
- Ans: b)

- * Bond stability of H_2^+ , H_2^- and H_2
- $H_2^+ > H_2 > H_2^-$
 - $H_2^- > H_2^+ > H_2$
 - $H_2 > H_2^+ > H_2^-$
 - $H_2^- > H_2 > H_2^+$
- Ans: c)
- * When O_2 is converted to O_2^+
- Paramagnetic character decreases and bond order increases.
 - Paramagnetic character increases.
 - Bond order decreases.
 - Both Paramagnetic character and bond order increases.
- Ans: a)
- * Which one of the following has No Unpaired electron (Diamagnetic) ?
- O_2^-
 - O_2^+
 - O_2^-
 - O_2
- Ans: c)
- * Which has maximum covalent character
- LiF
 - LiCl
 - LiBr
 - LiI
- Ans: d)
- * Which has maximum covalent character
- LiCl
 - $BeCl_2$
 - NaCl
 - $BaCl_2$
- Ans: b)