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CLASS –XI CHEMISTRY

CHEMICAL BONDING

Q.1. Number of P-O bonds in P_4O_{10} is

- a) 17 b) 16 c) 15 d) 6

Q.2. Bond angle of 109.5° is found in

- a) NH_3 b) H_2O c) CH_3^+ d) NH_4^+

Q.3. Hybridization of the central atom changes in which of the following transitions?

- a) $AlCl_3$ changes to $AlCl_4^-$

- b) H_2O changes to H_3O^+

- c) NH_3 changes to NH_4^+

- d) in all cases

Q.4. The number of lone pairs on Xe in XeF_2 , XeF_4 and XeF_6 respectively are

- a) 3,2,1 b) 2,4,6 c) 1,2,3 d) 6,4,2

Q.5. A square planar complex is formed by hybridization of the following atomic orbitals

- a) s, p_x, p_y, p_z b) s, p_x, p_y, p_z, d c) $d_{x^2-y^2}, s, p_x, p_y$ d) s, p_x, p_y, p_z, d_z^2

Q.6. Increasing order of bond strength of O_2 , O_2^- , O_2^{2-} and O_2^+ is

- a) $O_2^+ < O_2 < O_2^- < O_2^{2-}$

- b) $O_2^- < O_2^+ < O_2 < O_2^{2-}$

- c) $O_2^- < O_2^{2-} < O_2^+ < O_2$

- d) $O_2^{2-} < O_2^- < O_2 < O_2^+$

Q.7. Select correct statement:

- a) When a covalent bond is formed, transfer of electron takes place

b) Pure H_2O does not contain any ion

c) A bond is formed when attractive forces overcome repulsive forces

d) HF is less polar than HBr

Q.8. Which of the following compounds has the smallest bond angle in its molecule?

a) SO_2 b) H_2O c) H_2S d) NH_3

Q.9. Which of the following pairs of molecules will have permanent dipole moments for both members?

a) SiF_4 and NO_2 b) NO_2 and CO_2 c) NO_2 and O_3 d) SiF_4 and CO_2

Q.10. The pair of species having identical shapes for molecules of both species is..

a) CF_4 , SF_4 b) XeF_4 , CO_2 c) BF_3 , PCl_3 d) PF_5 , IF_5

Answers:

Q.1 b Q.2 d Q.3 a Q.4 a Q.5 c Q.6 d Q.7 c Q.8 c Q.9 c Q.10 b