



MARGSHREE CLASSES PVT. LTD.

IIT-JEE / NEET / FOUNDATION (IX & X)

Time: 2 hours

Chemistry | NEET

Marks: 50

(Chemical Bonding)

NAME OF THE STUDENT:- _____

DATE:- _____

INSTRUCTION – ATTEMPT ALL QUESTIONS

Q.1. In PO_4^{3-} ion, the formal charge on each oxygen atom and P-O bond order respectively are

- (a) -0.75, 1.25 (b) -0.75, 1.0 (c) -0.75, 0.6 (d) -3, 1.25

Q.2. Among LiCl, $BeCl_2$, BCl_3 and CCl_4 , the covalent bond character follows the order

- (a) $BeCl_2 > BCl_3 > CCl_4 < LiCl$ (b) $BeCl_2 < BCl_3 < CCl_4 < LiCl$
(c) $LiCl < BeCl_2 < BCl_3 < CCl_4$ (d) $LiCl > BeCl_2 > BCl_3 > CCl_4$

Q.3. Which one of the following formulae does not correctly represent the bonding capacities of the two atoms involved?

- (a) $\begin{array}{c} H \\ | \\ H-P-H \\ | \\ H \end{array}^+$ (b) $\begin{array}{c} F \\ | \\ F-O-F \end{array}$ (c) $O \leftarrow N \begin{array}{l} \diagup O \\ \diagdown O-H \end{array}$ (d) $H-C \equiv C \begin{array}{l} \diagup O \\ \diagdown O-H \end{array}$

Q.4. Among the following, which compound will show the highest lattice energy ?

- (a) KF (b) NaF (c) CsF (d) RbF

Q.5. Which of the following set of molecules will have zero dipole moment?

- (a) Ammonia, Beryllium difluoride, water, 1,4-dichlorobenzene
(b) Boron trifluoride, hydrogen fluoride, carbon dioxide, 1,3-dichlorobenzene
(c) Nitrogen trifluoride, beryllium difluoride, water, 1,3-dichlorobenzene
(d) Boron trifluoride, beryllium difluoride, carbon dioxide, 1,4-dichlorobenzene

Q.6. Which of the following is the correct order of dipole moment ?

(a) $\text{NH}_3 < \text{BF}_3 < \text{NF}_3 < \text{H}_2\text{O}$ (b) $\text{BF}_3 < \text{NF}_3 < \text{NH}_3 < \text{H}_2\text{O}$

(c) $\text{BF}_3 < \text{NH}_3 < \text{NF}_3 < \text{H}_2\text{O}$ (d) $\text{H}_2\text{O} < \text{NF}_3 < \text{NH}_3 < \text{BF}_3$

Q.7. The species, having bond angles of 120° is

(a) ClF_3 (b) NCl_3 (c) BCl_3 (d) PH_3

Q.8. Consider the molecules CH_4 , NH_3 and H_2O . Which of the given statements is false?

(a) The $\text{H}-\text{O}-\text{H}$ bond angle in H_2O is smaller than the $\text{H}-\text{N}-\text{H}$ bond angle in NH_3 .

(b) The $\text{H}-\text{C}-\text{H}$ bond angle in CH_4 is larger than the $\text{H}-\text{N}-\text{H}$ bond angle in NH_3 .

(c) The $\text{H}-\text{C}-\text{H}$ bond angle in CH_4 is smaller than the $\text{H}-\text{N}-\text{H}$ bond angle in NH_3 , and the $\text{H}-\text{O}-\text{H}$ bond angle in H_2O are all greater than 90° .

(d) The $\text{H}-\text{O}-\text{H}$ bond angle in H_2O is larger than the $\text{H}-\text{C}-\text{H}$ bond angle in CH_4 .

Q.9. Which of the following molecules has the maximum dipole moment?

(a) CO_2 (b) CH_4 (c) NH_3 (d) NF_3

Q.10. The correct order of increasing bond length of $\text{C}-\text{H}$, $\text{C}-\text{O}$, $\text{C}-\text{C}$ and $\text{C}\equiv\text{C}$ is

(a) $\text{C}-\text{H} < \text{C}\equiv\text{C} < \text{C}-\text{O} < \text{C}-\text{C}$

(b) $\text{C}-\text{C} < \text{C}\equiv\text{C} < \text{C}-\text{O} < \text{C}-\text{H}$

(c) $\text{C}-\text{O} < \text{C}-\text{H} < \text{C}-\text{C} < \text{C}\equiv\text{C}$

(d) $\text{C}-\text{H} < \text{C}-\text{O} < \text{C}-\text{C} < \text{C}\equiv\text{C}$