

## ECAT Chemistry Chapter 6 Chemical Bonding

Sr	Questions	Answers Choice
1	The bond angles in methane $\text{CH}_4$ are equal to	A. $109.5^\circ$ B. $107.5^\circ$ C. $104.5^\circ$ D. $120^\circ$
2	Which of the following has highest bond order	
3	The overlapping of two partially filled atomic orbital is in such a way that the probability of finding the electron pair is maximum along the axis joining the two nuclei, the bond is	A. Sigma bond B. Pi bond C. Ionic bond D. Non-polar bond
4	The Electro-negativity difference for ionic bond must be greater than	A. 1.6 B. 1.7 C. 1.8 D. 1.0
5	When elements of group I react with the elements of group VIA they form	A. Ionic bond B. Covalent bond C. Polar bond D. None
6	The formation of compounds like $\text{PF}_5$ , $\text{BCl}_3$ , $\text{SF}_6$ indicates that	A. These halides are ionic B. These halides are covalent C. They are Lewis acids D. Octet rule not obeyed so the rule is not universal
7	Which of the following has no dipole moment	A. $\text{HCl}$ B. $\text{H}_2\text{S}$ C. $\text{H}_2\text{O}$ D. $\text{CO}_2$
8	The number of electron pairs shared in carbon tetrachloride molecule is	A. 2 B. 3 C. 4 D. 1
9	A molecule in which $\text{sp}^2$ hybrid orbitals are used by the central atom in forming covalent bonds is	A. $\text{He}_2$ B. $\text{SO}_2$ C. $\text{PCl}_5$ D. $\text{N}_2$
10	Which of the following is a polar molecule	A. Carbon dioxide B. Carbon tetrachloride C. Methanol D. Ethane
11	B-atom in $\text{BF}_3$ has	A. $\text{sp}^3$ hybridization B. $\text{sp}^2$ hybridization C. $\text{sp}$ hybridization D. no hybridization
12	The bond order of individual C - C bond in benzene is	A. One B. Two C. Between one and two D. One and two alternately
13	Which of the following molecules have multiple bonds	A. $\text{CH}_4$ B. $\text{C}_2\text{H}_4$ C. $\text{C}_2\text{H}_6$ D. $\text{CCl}_4$
14	Ca, Mg, Be, Ba, belong to the same group, the order of their ionization energy values is	A. Be > Mg > Ca > Ba B. Ba > Ca > Mg > Be C. Ca > Mg > Be > Ba D. Ba > Mg > Ca > Be
15	The three N - H $\sigma$ -bonds are made by	A. $\text{sp}^3$ - s overlap B. $\text{sp}^2$ - s overlap C. p - p overlap D. sp - overlap
		A. Li B. -

16	Which of the following charge	B. Be C. H D. He
17	Which of the hydrogen halides has the highest percentage of ionic character	A. HCl B. HBr C. HF D. HI
18	Two H-atom combine to form a strong H <sub>2</sub> molecule due to	A. Increase in potential energy B. Decrease in potential energy C. Energy remains unchanged D. Distance is increased
19	Nitrogen in NH <sub>3</sub> is sp <sup>3</sup> hybridized but the bond angle in NH <sub>3</sub> is 107° and not 109.5° due to	A. sp <sup>3</sup> orbital planar B. sp <sup>3</sup> orbital trigonal C. Repulsion between lone pair and bonded pairs D. None of them
20	Shielding effect intervening electrons causes	A. Decreases in atomic radii in a period from right to left B. Increase in atomic radii in a period from left to right C. Decrease in atomic radii down the group D. Increase in atomic radii down the group