PRERNA EDUCATION
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Chapter 4: Chemical Bonding and Molecular Structure

Assignment 2

Class 11

PRERNA EDUCATION

DPP
DAILY PRACTICE PROBLEMS

Class : XIth **Subject : CHEMISTRY**
Date : **DPP No. : 2**

Topic :- Chemical Bonding and Molecular Structure

1. The radii of F, F^-, O and O^{2-} are in the order of:

   a) $O^{2-} > F^- > F > O$ b) $F^- > O^{2-} > F > O$ c) $O^{2-} > O > F^- > F$ d) $O^{2-} > F^- > O > F$

2. The correct order of decreasing second ionisation enthalpy of Ti (22), V (23), Cr (24) and Mn (25) is:

   a) $V > Mn > Cr > Ti$ b) $Mn > Cr > Ti > V$ c) $Ti > V > Cr > Mn$ d) $Cr > Mn > V > Ti$

3. How many σ and π-bonds are present in given compound?

   $Ph - CH = \underset{\displaystyle CH_3}{\overset{\displaystyle |}{C}} - C_2H_5$

   a) 19 σ and 4 π − bonds b) 22 σ and 4 π − bonds

   c) 25 σ and 4 π − bonds d) 26 σ and 4 π − bonds

4. C − Cl bond is stronger than C –I bond, because

   a) C − Cl bond is more ionic than C –I b) C − Cl bond is polar covalent bond

   c) C − Cl bond is more covalent than C –I d) C − Cl bond length is longer than C –I

5. The ICl molecule is:

   a) Purely covalent

   b) Purely electrovalent

   c) Polar with negative end on chlorine

d) Polar with negative end on iodine

6. Which of the following silver salts is insoluble in water?

a) $AgClO_4$ b) Ag_2SO_4 c) AgF d) $AgNO_3$

7. Silicon has 4 electrons in the outermost orbit. In forming the bond:

a) It gains electrons b) It losses electrons c) It shares electrons d) None of these

8. The shape of gaseous $SnCl_2$ is

a) Tetrahedral b) Linear c) Angular d) T-shape

9. Chlorine atom tends to acquire the structure of:

a) He b) Ne c) Ar d) Kr

10. The d – orbital involved in $sp^3\ d$ – hybridisation is

a) $d_{x^2-y^2}$ b) d_{xy} c) d_{z^2} d) d_{zx}

11. When O_2 is converted into O_2^+;

a) Both paramagnetic character and bond order increase

b) Bond order decreases

c) Paramagnetic character increases

d) Paramagnetic character decreases and the bond order increases

12. Intramolecular hydrogen bond is present in

a) Water b) *o*-nitrophenol c) *p*-nitrophenol d) methylamine

13. A pair of compounds which have odd electrons in the group NO, CO, ClO_2, N_2O_s, SO_2 and O_2 are

a) NO and ClO_2 b) COI and SO_2 c) $ClO_2$and CO d) $SO_2$and O_3

14. According to VSEPR theory the repulsion between different pair (lone or bond) of electrons obey the order

a) *lp bp lp lp bp bp*

b) *lp bp bp bp lp lp*

c) *lp lp lp bp bp bp*

d) *bp bp lp lp lp bp*

15. The bond between two identical non-metal atoms has a pair of electrons:

a) Unequally shared between the two

b) Equally shared between the two

c) Transferred fully from one atom to another

d) None of the above

16. The bond angle in AsH_3 is greater than that in

a) NH_3 b) H_2O c) BCl_3 d) None of these

17. The correct order of increasing electropositive character among Cu, Fe and Mg is:

a) $Cu \approx Fe < Mg$ b) $Fe < Cu < Mg$ c) $Fe < Mg < Cu$ d) $Cu < Fe < Mg$

18. H—O—H bond angle in H_2O is 104.5° and not 109°28′ because of:

a) High electronegativity of oxygen

b) Bond pair-bond pair repulsion

c) Lone pair-lone pair repulsion

d) Lone pair-bond pair repulsion

19. The bond order in O_2^+ is equal to bond order in:

a) N_2^+ b) CN^- c) CO d) NO^+

20. The electron affinity for inert gases is likely to be:

a) High b) Small c) Zero d) Positive