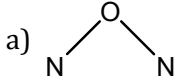
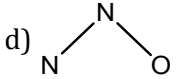


Class : XIth
Date :

Subject : CHEMISTRY
DPP No. : 7

Topic :- Chemical Bonding and Molecular Structure

- 6, 6
a) 6, 6 b) 6, 6 c) 6, 6 d) 6, 6
- Greater the dipole moment:
a) Greater is the ionic nature
b) Lesser the polarity
c) Smaller the ionic nature
d) None of these
- H—B—H bond angle in BH_4^- is:
a) 180° b) 120° c) 109° d) 90°
- Which of the following molecular orbitals has two nodal planes?
a) $\sigma 2p_x$ b) $\pi 2p_y$ c) $\pi^* 2p_y$ d) $\sigma^* 2p_x$
- The common feature among the species CN^- , CO and NO^+ are:
a) Bond order three and isoelectronic
b) Bond order three and weak field ligands
c) Bond order two and π -acceptors
d) Isoelectronic and weak field ligands
- Hydrogen bonding is maximum in
a) $\text{C}_2\text{H}_5\text{OH}$ b) CH_3OCH_3 c) $(\text{CH}_3)_2\text{C} = \text{O}$ d) CH_3CHO
- The O—H bond distance in water molecule is:
a) 1.0 \AA b) 1.33 \AA c) 0.96 \AA d) 1.45 \AA
- O_2^{2+} has a bond order of
a) 1 b) 2 c) 3 d) 4
- Which among the following molecules/ ions is diamagnetic?
a) Super oxide ion b) Oxygen
c) Carbon molecule
d) Unipositive ion of N_2 molecule

10. The enolic form of acetone contains
 a) 9 sigma bonds, 1 pi bond and two lone pairs
 b) 8 sigma bonds, 2 pi bond and two lone pairs
 c) 10 sigma bonds, 1 pi bond and one lone pairs
 d) 9 sigma bonds, 2 pi bond and one lone pairs
11. Which of the following are isoelectronic and isostructural?
 NO_3^- , CO_3^{2-} , ClO_3^- , SO_3
 a) NO_3^- , CO_3^{2-} b) SO_3 , NO_3^- c) ClO_3^- , CO_3^{2-} d) CO_3^{2-} , SO_3
12. Which of the following is paramagnetic with bond order 0.5?
 a) F_2 b) H_2^+ c) N_2 d) O_2^-
13. Water has high heat of vaporization due to:
 a) Covalent bonding b) H-bonding c) Ionic bonding d) None of these
14. The C - H bond distance is the longest in
 a) C_2H_6 b) C_2H_2 c) $\text{C}_2\text{H}_2\text{Br}_2$ d) C_2H_4
15. If the electronegativity difference between two atoms A and B is 2.0, then the percentage of covalent character in the molecule is
 a) 54% b) 46% c) 23% d) 72%
16. Structure of ICl_2^- is:
 a) Trigonal
 b) Octahedral
 c) Square planar
 d) Distorted trigonal pyramidal
17. Polar covalent compounds are soluble in:
 a) Polar solvents b) Non-polar solvents c) Concentrated acids d) All solvents
18. N_2O is isoelectronic to CO_2 and N_3^- . Which of the following is the structure of N_2O ?
 a)  b) $\text{N} - \text{O} - \text{N}$ c) $\text{N} = \text{O} = \text{N}$ d) 
19. Which does not show hydrogen bonding?
 a) $\text{C}_2\text{H}_5\text{OH}$ b) Liquid NH_3 c) H_2O d) Liquid HBr
20. All bond angles are exactly equal to $109^\circ 28'$ in
 a) Methyl chloride b) Iodoform

c) Chloroform

d) Carbon tetrachloride

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