

Class: XIth Subject: CHEMISTRY

Date: DPP No.: 5

Topic:- Chemical Bonding and Molecular Structure

1.	In which of the	following mole	cules are all the	bonds not equal?
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- a) AlF₃
- b) NF₃
- c) ClF₃
- d) BF₃

- 2. Which of the following compound is covalent?
 - a) H₂

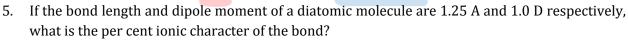
- b) KCl
- c) Na₂S
- d) CaO
- 3. Which of the following molecular species has unpaired electron (s)?
 - a) N₂

 $b) F_2$

c) 0_2^-

 $d)0_2^{2-}$

- 4. The correct order of bond angles is:
 - a) $PF_3 < PCl_3 < PBr_3 < PI_3$
 - b) $PF_3 < PBr_3 < PCl_3 < PI_3$
 - c) $PI_3 < PBr_3 < PCl_3 < PF_3$
 - d) $PF_3 > PCl_3 < PBr_3 < PI_3$



- a) 10.66
- b) 12.33
- c) 16.66
- d) 19.33
- 6. The molecule which does not exhibit dipole moment is
 - a) NH₃
- b) CHCl₃
- c) H_2O
- d) CCl₄
- 7. N_2 accept electron and convert into N_2^- , where this electron goes?
 - a) Antibonding π -molecular orbital
 - b) Bonding π -molecular orbital
 - c) σ -bonding molecular orbital
 - d) σ -antibonding molecular orbital
- 8. The correct order of radii is:
 - a) N < Be < B
- b) $F^- < 0^{2-} < N^{3-}$
 - c) Na < *Li* < *K*
- d) $Fe^{3+} < Fe^{2+} < Fe^{4+}$

9. The bond order is maximum in:

10.	a) H_2 Which of the following	b) H ₂ ⁺ atoms has minimum co	c) He ₂ valent radius?	d) He ₂ ⁺			
	a) Si	b) N	c) C	d)B			
11.	The screening effect of d -electrons is: a) Equal to the p -electrons b) Much more than p -electrons c) Same as f -electrons d) Less than p -electrons						
12.	Which of the following statement is wrong? a) The stability of hydrides increase from NH_3 to BiH_3 in group 15 of the periodic table. b) Nitrogen cannot form $d\pi - p\pi$ bond. c) Single N — N bond is weaker than the single P — P bond. d) N_2O_4 has two resonance structure						
13.	The molecule having per a) SF_4	ermanent dipole momer b)XeF4	nt is: c) SiF ₄	d)BF ₃			
14.	Unusually high boiling point of water is result of a) Intermolecular hydrogen bonding b) Intramolecular hydrogen bonding c) Both intra and inter molecular hydrogend) High specific heat bonding						
15.	Which of the following a) CaF_2	is le <mark>ast io</mark> nic? b) CaBr ₂	c) CaI ₂	d) CaCl ₂			
16.	What bond order does O_2^{2-} have?						
	a) 1	b) 2	c) 3	d)1/3			
17.	A compound contains X , Y and Z atoms. The oxidation states of X , Y and Z are $+2$, $+2$ and -2 respectively. The possible formula of the compound is						
	a) XYZ_2	$b)Y_2(XZ_3)_2$	c) $X_3(Y_4Z)_2$	$d)X_3(YZ_4)_3$			
18.	Which one of the following is a non-polar molecule?						
	a) CCl ₄	b) CHCl ₃	c) CH ₂ Cl ₂	d) CH ₃ Cl			
19.	Which one of the following has the regular tetrahedral structure? (Atomic numbers $B = 5$, $S = 16$, $Ni = 28$, $Xe = 54$)						
	a) XeF ₄	b) SF ₄	c) BF ₄	d) $[Ni(CN)_3]^{2-}$			

20. If the dipole moment of toluene and nitro-benzene are 0.43 D and 3.93 D, then what is the expected dipole moment of *p*-nitro toluene?

a) 3.50 D

b) 2.18 D

c) 4.36 D

d) 5.30 D

