ANANDALAYA

विद्या सर्वार्थ साधिका

Weekly Test 2

Class : XI

Subject: CHEMISTRY M.M: 25

Date : 13/10/ 2015 Time: 1 Hour

Q1	Draw the Lewis structure of HCOOH.	1
Q2	Arrange the following in order of increasing bond angle around the central atom : H_2O, SF_6, BF_3, CH_4 .	1
Q3	Give an example of cation which is isostructural with NH_3.	1
Q4	A student gave the following resonating forms of formaldehyde I II III Which one is least significant and why?	2
Q5	Which out of NH_3 and NF_3 has higher dipole moment and why?	2
Q6	Account for the following : (a) NF_3 is pyramidal while BF_3 is triangular planar. (b) Bond angle in H_2O is larger than bond angle in H_2S.	2
Q7	What is the formal charge on various atoms in NO_2^- ion.	2
Q8	Write the favourable conditions for the formation of ionic bond.	3
Q9	Name different types of hybridization involving s and p-orbitals. Arrange these orbitals in order of increasing (a) Bond length (b) s- character	3
Q10	Apply VSEPR model to predict the shapes of : ASF_3, PH_3, $BeCl_2$	3
Q11	Compare the relative stability of the following species and indicate their magnetic properties: O_2, O_2^+, O_2^-(super oxide), O_2^{2-}(peroxide)	5

Marking Scheme

WT2

Classs XI (Chemistry)

Q1	HCOOH.	1
Q2	SF_6, H_2O, CH_4, BF_3.	1
Q3	H3O+	1
Q4	Str III bec + charge is on electronegative atom	2
Q5	NH_3 bec three N-H bonds reinforce the lone pair moment.	2
Q6	(a) NF3 – one lone pair and three bond pairs while in BF3 no lone pair. (b) O is more electronegative than S	2
Q7	N=0, O = 0 and -	2
Q8	(i) 1Low IE (ii) More –ve electron gain enthalpy (iii) High lattice enthalpy	3
Q9	sp, sp^2,sp^3 (a) sp^3, sp^2, sp (b) sp^3, sp^2, sp	3
Q10	Trigonal bipyramidal, Pyramidal, Linear	3
Q11	EC and BO relative stability O_2^+(2.5), O_2(2.0), O_2^-(1.5), O_2^{2-}(1.0) magnetic properties O_2^+(2.5) Paramagnetic O_2(2.0) Paramagnetic O_2^-(1.5) Paramagnetic O_2^{2-}(1.0) Diamagnetic	2 1 ½ ½ ½ ½

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CHAPTER					
	MARKS	1 M	2 M	3 M	5M
Chemical bonding and molecular structure	25	3	4	3	1

APPLICATION 8(32%) UNDERSTANDING 7(28%) KNOWLEDGE3 (12%) HOTS 2(8%) EVALUATION AND SYNTHESIS 5(20%)