

CHEMISTRY-11	Chapter#06-Second Half (6.4.4 – 6.6) Test-3		
	Name:	Class:	ID:
Date: / /	Marks Total: 30	Marks Obtained:	
Time Allowed: 50 Min.			

Maximum Marks: 10

(OBJECTIVE TYPE)

Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

- The number of bonds in oxygen molecule is:
 - One sigma and one pi
 - One sigma and two pi
 - Three sigma only
 - Two sigma only
- The hybridization in ammonia molecule is:
 - dsp^2
 - sp^2
 - sp^3
 - sp
- Total number of bonds in C_2H_4 molecule is:
 - Six
 - Four
 - Five
 - Eight
- Which one of the followings has the highest bond order?
 - O_2^{+1}
 - O_2^{+2}
 - O_2^{-1}
 - O_2^{-2}
- Dipole moment of CO_2 is:
 - 1.25 D
 - 1.85 D
 - 3.1 D
 - 0 D
- Pi bond is possible between:
 - s-s
 - s-p
 - p-p
 - Both 'b' & 'c'
- The waves associated with electrons present in bonding molecular orbitals make:
 - Constructive interference
 - Destructive interference
 - Both 'a' & 'b'
 - None of the above
- Which pair of orbitals is degenerate?
 - $\sigma 2s$ and $\sigma^* 2s$
 - $\sigma^* 2p_x$ and $\pi^* 2p_y$
 - $\sigma^* 2s$ and $\sigma 2p_x$
 - $\pi^* 2p_y$ and $\pi^* 2p_z$
- The energy difference between 2s and 2p orbitals for C_2 is:
 - 1595 kJmol^{-1}
 - 1195 kJmol^{-1}
 - 846 kJmol^{-1}
 - 554 kJmol^{-1}
- The energy required to break all bonds in one mole of H_2O is:
 - 436 kJmol^{-1}
 - 463 kJmol^{-1}
 - 634 kJmol^{-1}
 - 926 kJmol^{-1}

Maximum Marks: 20

(SUBJECTIVE TYPE)

Time Allowed: 40 Min.

SECTION-I

- Q.2: Give brief answers to the following questions: (12)**
- Differentiate between sigma (σ) and pi (π) bond.
 - The bond angles of H_2O and NH_3 are not 109.5° like that of CH_4 , although oxygen and nitrogen atoms are sp^3 hybridized. Why?
 - Differentiate between atomic and molecular orbitals.
 - Draw molecular orbital picture of N_2 molecule and also calculate its bond order.
 - Define bond energy?
 - Why the dipole moment of CH_4 molecule is zero?

SECTION-II

NOTE: Attempt All Questions:

(08)

Q.3: What is hybridization? Explain the geometry of ethene on the basis of sp^2 hybridization.

Q.4: What is dipole moment? Give its units. How does it explain the geometry of CO_2 and BF_3 molecule?