CHEMISTRY-11	Chapter#06-Second Half (6.4.4 – 6.6) Test-4		
	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:

1) Molecule in which the distance between two carbon atoms is the largest is:
(a) C_2H_6 (b) C_2H_4 (c) C_2H_3 (d) C_6H_6

2) The molecule, having zero dipole moment is:
(a) NH_3 (b) $CHCl_3$ (c) H_2O (d) BF_3

3) C_2H_2 has bonds:
(a) One sigma and two pi (b) Two sigma and two pi
(c) Two sigma and one pi (d) Three sigma and two pi

4) Molecular orbital theory considers the whole _____ as a single unit.
(a) Atom (b) Molecule (c) Radical (d) Both 'a' & 'b'

5) The energies of the molecular orbitals are determined by:
(a) X-rays diffraction (b) Mass spectrometer
(c) Spectroscopic measurements (d) Calorimeter

6) The energy difference between 2s and 2p orbitals for B_2 is:
(a) 846 $kJmol^{-1}$ (b) 1195 $kJmol^{-1}$ (c) 1595 $kJmol^{-1}$ (d) 554 $kJmol^{-1}$

7) The enthalpy of atomization of hydrogen is _____ the bond energy of hydrogen.
(a) Equal to (b) Half of (c) Twice (d) All

8) Dipole moment is the measure of the _____ of the molecule.
(a) Stability (b) Polarity (c) Symmetry (d) All

9) 1 Debye=?
(a) 3.336×10^{30} Cm (b) 3.336×10^{-30} Cm (c) 1.602×10^{-19} Cm (d) 6.336×10^{30} Cm

10) Ionic compounds do not show isomerism because ionic bonds are:
(a) Rigid and directional (b) Rigid and non-directional
(c) Non-rigid and non-directional (d) Non-rigid and directional

Maximum Marks: 20 **(SUBJECTIVE TYPE)** Time Allowed: 40 Min.

SECTION-I

Q.2: Give brief answers to the following questions: **(12)**

i. What is π-bond? Give an example.
ii. Why anti-bonding molecular orbital has greater energy than bonding molecular orbital?
iii. The abnormality of bond length and bond strength in HI is less prominent than that of HCl.Why?
iv. Define bond length.
v. The dipole moment of CO_2 is zero but that of H_2O is 1.85 D. Why?
vi. The dipole moment of CO_2 is zero but that of CO is 0.12 Debye. Give reason.

SECTION-II

NOTE: Attempt All Questions: **(08)**

Q.3: Define orbital hybridization. Discuss sp^3 hybridization in detail. Draw thw structure of methane molecule.

Q.4: Calculate the bond order of O_2 molecule by making energy level diagram. Also show that it is paramagnetic.