CHEMISTRY-11	Chapter#06 (Complete) Test-6		
	Name:	Class:	ID:
Date: / /	**Marks Total: 40**	**Marks Obtained:**	
Time Allowed: 75 Min.			

Maximum Marks: 08 **(OBJECTIVE TYPE)** Time Allowed: 10 Min.

NOTE: Tick The Correct Option:

1) Which of the following statements is not correct regarding bonding molecular orbital?

(a) Bonding molecular orbitals possess less energy than atomic orbital from which they are formed.

(b) Bonding molecular orbitals have low electron density between the two nuclei.

(c) Every electron in bonding molecular orbitals contributes to the attraction between the atoms.

(d) Bonding molecular orbitals are formed when the electron waves undergo constructive interference.

2) The octet rule is not followed by:

(a) NH_3 (b) Cl_2 (c) CCl_4 (d) PCl_5

3) CsF has ionic character:

(a) 60% (b) 80% (c) 92% (d) 100%

4) The shape of $SnCl_2$ molecule is:

(a) Linear (b) Angular (c) Trigonal planar (d) Tetrahedral

5) The carbon atom in C_2H_4 is _____ hybridized.

(a) sp^3 (b) sp^2 (c) sp (d) dsp^2

6) Bond order of O_2^{2-} is:

(a) Zero (b) One (c) Two (d) Three

7) Which of the followings has highest bond energy?

(a) HI (b) HBr (c) HCl (d) HF

8) Which pair of orbitals is degenerate?

(a) σ2s and σ*2s (b) σ*$2p_x$ and π*$2p_y$ (c) σ*2s and σ$2p_x$ (d) π*$2p_y$ and π*$2p_z$

Maximum Marks: 32 **(SUBJECTIVE TYPE)** Time Allowed: 65 Min.

SECTION-I

Q.2: Give brief answers to the following questions: (20)

i. Why the radius of an atom cannot be determined precisely?

ii. Why does I.E. decrease from top to bottom in a group?

iii. Define electron affinity. Give an example.

iv. Differentiate between polar and non-polar bond.

v. What is the basic assumption of VSEPR theory?

vi. 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?

vii. Why anti-bonding molecular orbital has greater energy than bonding molecular orbital?

viii. Draw molecular orbital picture of N_2 molecule and also calculate its bond order.

ix. Define bond length.

x. Why the dipole moment of CH_4 molecule is zero?

SECTION-II

NOTE: Attempt All Questions: (12)

Q.3: Discuss the main postulates of VSEPR theory and explain the structures of NH_3 on the basis of this theory.

Q.3: Explain valence bond theory VBT with examples showing the overlapping of strength.

Q.3: Define bond energy and explain with help of suitable example the effect of the ionic character on its value.