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Exam Class !

Take the exams and know the secret !

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Part I: Multiple Choices (1 pts each)

- D 1. Which one of the following is true about modern view of atomic structure?
 (A) Atom of the same element has equal number of protons and electrons X
 (B) Every atom has equal number of protons X
 (C) Every atom is made up of molecules
 (D) Proton and electron reside together in the nucleus of an atom
- B 2. One of the following is true about isotopes
 (A) Atom with different atomic and proton number X
 (B) Atom of a given element have the same atomic number
 (C) Atom with different proton number X
 (D) Atom of a given element have the same mass number
- C 3. Which one of the following elements normally occurs as a diatomic molecule?
 (A) Ozone (C) Nitrogen
 (B) Water (D) Ammonia
- A 4. One of the following compounds is not build from a polyatomic ion?
 (A) Ammonium bromide (C) Potassium sulfate,
 (B) Cobalt (II) nitrate (D) Iron (III) chloride
- D 5. Which one of the following is true about polar covalent bond
 (A) The bond is formed by equal sharing of pair of electrons
 (B) The bond is formed by electron transfer within an organic compound
 (C) The bond is formed due to unequal sharing of pair of electrons in the formed ionic compound
 (D) The bond is formed due to the difference in electronegativity between individual atoms
- C 6. Which of the following molecule has the strongest bond?
 (A) Oxygen molecule (C) Nitrogen molecule
 (B) Hydrogen molecule (D) Fluorine molecule
- B 7. What is the possible geometry in sp³d hybridization?
 (A) Linear (C) Tetrahedral
 (B) Trigonal bipyramidal (D) Octahedral
- B 8. What kinds of hybrid orbitals are formed between sulfur and oxygen atoms in sulfur dioxide molecules?
 (A) sp (C) sp³
 (B) sp² (D) sp²d

$$\frac{1}{4}$$

$$\frac{1}{2}AB^2A^{-1} \frac{1}{16}B^4B^4 \frac{1}{A^{-1}}$$

$$\frac{1}{2}A \frac{1}{B^4} \frac{1}{A^{-1}}$$

$$\frac{2^{11}}{2^{11}} \frac{1}{A^4} \frac{1}{B^4} \frac{1}{A^4} = \frac{10}{10} \frac{1}{A^4} \frac{1}{B^4}$$

6. From the given molecule NO, NO⁺, and NO⁻.

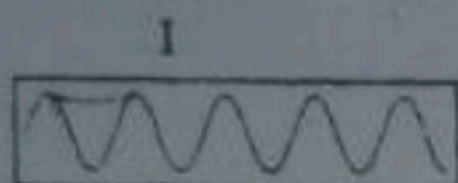
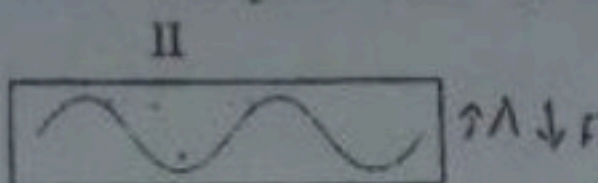
(A) Which molecule has the highest bond order? NO⁺ (3 pts)

(B) The most stable molecule is NO⁺

(C) Which one is diamagnetic? NO⁺

7. From the two electromagnetic wave representations;

(2 pts)



(A) Which wave has the higher frequency? I

(B) If one Wave represent Infrared light and the other represent Ultraviolet light, then,

Which wave is Ultraviolet and infrared, respectively? I and II

8. For the complex [Co(NH₃)₄(H₂O)Cl]Cl₂;

(4 pts)

(A) Oxidation number of central metal ion +2

(B) The condensed state electron configuration of central metal ion 1s²2s²2p⁶3s²3p⁶4s²3d⁷

(C) The coordination number of the metal 6

(D) Systematic name of the complex Tetraammineaquachlorocobalt(II) dichloride

$$Zn = 1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^{10}$$

$18 + 2$

$20 + 7$

$3d^7$