School of Marvel-Asella

Subject: Chemistry *Grade: 11* *2019/2020* *Unit Three*

Homes take challenge *Time Allotted 1:00 hrs.*

Questions on Unit-3

Choose the Best answer from the given alternatives

1. In Allene C_3H_4, the type of hybridization of C- atom is/are
   A) sp & sp^3 B) sp & sp^2 c) only sp^2
   D) sp^2 & sp^3
2. The sp^3d^2 hybridization of central atom of a molecule would lead to
   A) square planar B) octahedral
   c) Trigonal bipyramidal D) Tetrahedral
3. Which one of the following is paramagnetic
   A) N_2 B) NO c) CO D) O_3
4. The hybridization of orbitals of N-atom in NO_3^-, NO_2^+ and NH_4^+ respectively are
   A) sp^3, sp^2, sp B) sp, sp^2, sp^3
   c) sp^2, sp^3, sp D) sp^2, sp, sp^3
5. The structure of IF_7 is
   A) pentagonal bipyramidal c) Octahedral
   B) square pyramidal D) Tetrahedral
6. Which one of the following has maximum No of lone pairs of electrons associated with Xe?
   A) XeF_2 B) XeO_3 c) XeF_4 D) XeF_6
7. Malleability and ductility of metals can be associated due to
   A) The presence of electrostatic force
   B) The crystalline structure of metal
   C) The capacity of the layers of metal ions to slide over each other

7. The interaction of electrons with metal ion in the Lattice

8. During the formation of chemical bonding
   A) Energy decreases
   B) Energy increases
   C) The energy of the system doesn't change
   D) Electron - Electron repulsion is much more than nucleus - electron attraction.

9. Which one of the following pairs is ISO structural (i.e having the same shape and hybridization)
   A) NF_3 & BF_3 B) BF_4^- & NH_4^+
   C) BCl_3 & $BrCl_3$ D) NH_3 & NO_3^-

10. π bonding occurs in each of the following species except
   A) CO_2 B) C_2H_4 C) CN^- D) CH_4

12. Which one of the following has Zero dipole moment
   A) HCN B) NO_2 C) SO_2 D) PF_5

12. The Number of types of bonds bln the two C-atoms in calcium carbide CaC_2 is
   A) $2\delta, 2\pi$ B) $1\delta, 2\pi$ C) $1\delta, 1\pi$ D) $2\delta, 1\pi$

13. The hybridization of C_2 and C_3 of $CH_3 - CH = C = CH - CH_3$ are
   A) sp, sp^3 B) sp^2, sp C) sp^2, sp^2
   D) sp, sp

14. According to VSEPR Theory, the progressive decrease in bond angle in a series of molecules CH_4, NH_3 and H_2O is due to

A) Decrease strength of the bond
B) Decrease the size of the central atom
c) Increase in the Electronegativity of the central atom
D) Decrease in repulsion bln H-atoms

15. Elements A and B with Valence electron configuration $2s^2 2p^5$ and $4s^2 4p^3$ respectively form

A) Ionic Bond B) metallic c) covalent bond D) Both Ionic and covalent bonds

16. which group of element has paramagnetic character

A) Alkaline Earth metals c) Noble gas
B) Group II B D) carbon family

17. which One of the following has trigonal bipyramidal structure

A) SF_4 B) ICl_5 c) IF_4^- D) BrF_5

18. which One of the following molecule or ion doesn't have tetrahedral shape

A) XeF_4 B) CCl_4 c) BCl_4^- D) NH_4^+

19. According to VBT, which orbital overlap form a bond bln p and cl in PCl_3

A) sp^3 - p overlap B) sp^3d - s overlap
c) sp^3d - p overlap D) sp^3d^2 - s overlap

20. what hybridization change occur in c when it undergoes combustion

$$C_2H_4 + O_2 \longrightarrow CO_2 + H_2O$$

A) $sp \rightarrow sp^2$ B) $sp^3 \rightarrow sp^2$

c) $sp^2 \rightarrow sp$ D) $sp^3 \rightarrow sp$

21. What is the bond order in O_2^{-2}

A) 1 B) 1.5 c) 2 D) 3

22. Which one of the following ion doesn't exist as molecule

A) O_2^{+2} B) C_2^{+2} c) Li_2^{+2} D) B_2^{-2}

23. All of the following has resonance structure except

A) ClO_3^- B) CO_3^{-2} c) N_2F_4 D) NO_2^-

24. All of the following has coordinate covalent bond except

A) ClO_3^- B) IF_4^- c) XeF_4 D) PF_3

25. Which one of the following cpd has the greatest Lattice energy

A) LiF B) MgF_2 C) BaF_2 D) KCl