

XI Chemistry Class Quest

Time 40 minutes

Max Marks 10

I. FILL IN THE BLANKS: [$\frac{1}{2} \times 8 = 4$ MARKS]

1. The lower density of ice is attributed to _____ bonding between H_2O Molecules.
2. BF_3 is a _____ molecule while NH_3 is pyramidal.
3. In Ethyne molecule (C_2H_2) there are _____ σ bonds and _____ π bonds between two C atoms.
4. In H_2O molecule _____ Hybridisation is presumed for Oxygen atom.
5. _____ hybrid orbital has 25% s-character and 75% p-character.
6. The dipole moment of CH_3OH is _____ than that of CH_3SH
7. The Hydrogen bond energy is around _____ kJ mol^{-1} .
8. BeF_2 is a linear molecule, therefore Be atom involves _____ hybridisation.

II. CHOOSE THE CORRECT ANSWER: $\frac{1}{2} \times 4 = 2$ MARKS

1. Which one of the following is responsible for the existence of solid Helium at very low temperature.
a) Non polar covalent bonding b) Hydrogen Bonding
c) Vanderwaals interactions d) Co-ordinate Bonding
2. The Hybridisation of Carbon atom in C—C single bond of $\text{HC}\equiv\text{C}-\text{CH}=\text{CH}_2$ is:
a) sp^3-sp^3 b) sp^2-sp^3
c) $\text{sp}-\text{sp}^2$ d) sp^3-sp
3. Which one of the following bonds is non polar?
a) The H—Cl bond in HCl b) The N—N bond in N_2
c) The C—Cl bond in CCl_4 d) The C—O bond in CO_2

4. Which of the following pairs is most likely to form ionic bonds?

a) H and Cl

b) H and O

c) H and F

d) K and Cl

III EXPLAIN BRIEFLY:

1) The bonding in Ethene ($\text{CH}_2=\text{CH}_2$) Molecule using Hybridisation. 1 marks

2) The Conditions necessary For the formation of an Ionic bond. 1 marks

3) Para nitro phenol has got a higher boiling point than ortho nitro Phenol. 1 mark

4) The Carbon tetra chloride molecule has got a zero dipole moment even though the C-Cl bond is polar. 1 mark.