

KEAM 2024 Chemistry Model Question Paper PDF 1

This set of Engineering Chemistry Multiple Choice Questions & Answers (MCQs) focuses on "Valence Bond Theory".

1. Valence Bond Theory was developed in the year?

- a) 1916
- b) 1927
- c) 1930
- d) 1932

2. According to VBT, the formation of a stable bond requires _____

- a) The electrons should have opposite spins
- b) The two atoms should be close to each other
- c) The greater overlapping of the electron clouds
- d) All of the mentioned

3. The s-orbital does not show preference to any direction because _____

- a) It is the smallest orbital
- b) It is present in every atom
- c) It is spherically symmetric
- d) It is the first orbital

4. The p-orbital is in the shape of a _____

- a) Sphere
- b) Dumbbell
- c) Pear-shaped lobe
- d) None of the mentioned

6. According to VBT, the direction of a bond which is formed due to overlapping will be _____

- a) In the same direction in which orbitals are concentrated
- b) In the opposite direction in which orbitals are concentrated
- c) Perpendicular to the direction in which orbitals are concentrated
- d) None of the mentioned

7. Which orbital would form a more stronger bond if both of them have identical stability?

- a) The one which is less directionally concentrated
- b) The one which is more directionally concentrated
- c) Both will be equally strong
- d) It differs from atom to atom

2. If our eyes travel in counter clockwise direction from the ligand of highest priority to the ligand of lowest priority, the configuration is _____

- a) R-Configuration
- b) S-Configuration
- c) E-Configuration
- d) C-Configuration

3. According to the selection rules, the decreasing order of preference is _____

- a) $-\text{NH}_2 > -\text{C}_6\text{H}_5 > -\text{CH}(\text{CH}_3)_2 > -\text{H}$
- b) $-\text{CH}(\text{CH}_3)_2 > -\text{C}_6\text{H}_5 > -\text{H} > -\text{NH}_2$
- c) $-\text{NH}_2 > -\text{CH}(\text{CH}_3)_2 > -\text{C}_6\text{H}_5 > -\text{H}$
- d) $-\text{C}_6\text{H}_5 > -\text{CH}(\text{CH}_3)_2 > -\text{NH}_2 > -\text{H}$

4. The process of removal of hardness of water, irrespective of whether it is temporary or permanent is termed as _____

- a) Cleansing action of water
- b) Hardness of water
- c) Softening of water
- d) Purity of water