Model questions module wise

Module-2: Inorganic and Organometallic Complexes

Q1. What is the basis for the formation of inorganic complexes?

Q2. Define ligands. How do the ligands influence the structure and properties of metal complexes?

Q3. What is the significance of sprectrochemical series?

Q4. Differentiate the tetrahedral and square planar geometries with suitable examples.

Q5. Explain the d2sp3 and sp3d2 hybridizations with suitable examples.

Q6. How are low-spin and high-spin complexes formed? Give examples.

Q7. How are inorganic complexes useful industrially? Give any three examples.

Q8. “The coordination chemistry is extensively used in the softening of hard water’. Justify with a suitable example.

Q9. What are different ligands used in organometallic chemistry? Give any three examples with their hapticity.

Q10. Classify the organometallic complexes based on their bonding of ligands.

Q12. Are the organometallic complexes stable to water and acids? Why?

Q13. What is the significance of 18VE rule for an organometallic complex?

Q14. How are metal-carbonyls and ferrocene stabilized?

Q15. Discuss the applications of metal-carbonyls and ferrocene.

Q16. Discuss briefly the role of Mg in photosynthesis process.

Q17. How does the coordination chemistry of iron work in the functioning of hemoglobin?