

Question bank

Unit-1

1. What is Valence bond theory (VBT) and Molecular orbital theory (MOT)
2. Explain the bonding in homo nuclear diatomic molecules using energy level diagram of any homonuclear diatomic molecule ex. O₂ molecule.
3. Write short note on- Electronegativity, Energy of ionization
4. Discuss various types of magnetism with suitable Diagram.
5. Write down difference between atomic and molecular orbital.
6. Explain crystal field theory (CFT)
7. Draw the energy level diagram for NO, NO⁺ and NO⁻ Calculate the bond order.

Unit-2

1. State second law of thermodynamic
2. What is mean by internal energy
3. What is the need of second law of thermodynamic
4. State the Hess's law of constant heat summation. what are its applications
5. Explain what is mean by change of entropy of system.
6. State difference between extensive and intensive properties
7. What is pilling Bed worth rule state its Significance
8. Explain the Mechanism of elelctrochemical corrosion by evolution of hydrogen and absorption of oxygen.
9. Write short notes on –pitting corrosion ,intergranular corrosion ,stress corrosion
10. Expalin the role of Sacrificial anod in controlling corrosion of underground pipeline.
11. Expalin how corrosion can be controlled by the cathodic protection using impressed current

Unit-3

1. State Beer's lambert's law and discuss its application and limitation
2. Expalin in Brief Bathochromic and hyperchromic shift.
3. Expalin in Brief the woodward Fischer rule for conjugated diene. Explain with suitable example.
4. Define- Spectroscopy, Absorption, molar absorptivity, transmittance
5. Define- Flurescence and Phosphorescence.

Unit-4

1. What is the Green Chemistry and what are its priciples?
2. What are the goal of green chemistry perspective? What are the various approach that lead towards thos goal?
3. Write informative notes on any two of the following from the point of view if green chemistry .a) Supercritical carbon dioxide b) Atom economy

Unit -5

1. What is Desalination? Name the different method of desalination and describe anyone.
2. Write note on a) Caustic Embrittlement b) Reverse osmosis
3. What is the principle involved in the determination of total hardness of water by EDTA
4. During deionization process, water is first passed through cation exchanger and then through anion exchanger, why ?
5. Give the advantages of reverse osmosis
6. What is break point chlorination? What is its significance?
7. What is desalination? Describe desalination by electro dialysis process.
8. What are scales and sludge what are the causes and disadvantages of Scale and sludge.
9. Explain the construction ,working advantages and limitation of Zeolite water softening method.