

CLASS – XI CHEMISTRY ASSIGNMENT NO. 3 CHEMICAL BONDING AND MOLECULAR STRUCTURE

- Q1. What is a chemical bond? Explain it with reference to Kossel Lewis approach?
- Q2. Write the Lewis dot symbols of the following elements: - Mg, Na, B, O, N, Cl, F
- Q3. What is an ionic bond? Explain the formation of NaCl & CaF₂.
- Q4. What is octet rule? Point out its limitations.
- Q5. Is the octet rule applicable in all cases? If not, give eg(s) of exceptions of this rule.
- Q6. What is covalent bond? Write the lewis structure of the following:-
Cl₂, H₂, O₂, H₂O, CCl₄, CO₂, CO, N₂, C₂H₄, C₂H₂, O₃, NF₃, HNO₃, CO₃⁻²
- Q7. What are the factors that influence the formation of an ionic bond?
- Q8. Explain the followings (a) Lattice Enthalpy (b) Bond length (c) Bond angle (d) Bond Enthalpy (e) Bond Order
- Q9. Explain resonance. How is it related with stability of the molecule?
- Q10. What do you mean by Dipole moment? Give its units.
- Q11. Give reason: (a) The Dipole moment of BeF₂ is zero. (b) The Dipole moment of BF₃ is also zero.
- Q12. Why dipole moment of NH₃ is greater than that of NF₃.
- Q13. Discuss Fajans rules of partial covalent character of Ionic bonds.
- Q14. Explain VSEPR theory. Give various assumption of VSEPR theory.
- Q15. On the basis of VSEPR theory, discuss the shape of BF₃ & SF₆.
- Q16. Explain the formation of H₂ molecule in terms of valence Bond Theory.
- Q17. Write the difference b/w σ & π bond.
- Q18. What is hybridization? Write the salient features & important conditions for hybridization.
- Q19. Explain the following types of hybridization with examples:- (i) CP (ii) SP² (iii) SP³ (iv) SP³d (v) SP³d²
- Q20. Explain the salient features of Molecular ORBITAL Theory.
- Q21. What is meant by the term bond order? Calculate the bond order of :- H₂, He₂, Li₂, C₂, O₂, B₂, N₂, Fe₂ & Ne₂ by using molecular orbital diagram.
- Q22. What do you mean by H-bonding? Explain its type with examples.