



ACE

Engineering College

(NBA ACCREDITED B.TECH COURSES & NAAC "A" GRADE)

An Autonomous Institution

Ankushapur (V), Ghatkesar (M), Madchal. Dist – 501 301

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

I B.Tech I Semester Regular(R20) (2020-21)

Sub:Chemistry

ASSIGNMENT –1:

- 1.what are atomic and molecular orbits?
- 2.Give the important postulates of molecular orbital theory and write a detailed note on Linear combination of atomic models.
- 3.Draw the molecular orbital of N₂ molecule diagrams.Determine the bond order and magnetic properties.
- 4.Draw the molecular orbital diagram of O₂ molecule.
Determine the bond order and magnetic properties.
5. Draw the molecular orbital diagram of F₂ molecule.
Determine the bond order and magnetic properties.
- 6.Explain the formation of pi –molecular orbitals in 1,3 butadiene with neat diagrams.
- 7.Explain the formation of pi-molecular orbitals in benzene with neat diagram.
- 8.Write the salient features of crystal field Theory .Explain the crystal field splitting of d-orbitals in octahedral and tetrahedral fields and support your answer with diagram.

9. Describe the crystal field splitting of d-orbitals in square planar complex with a neat diagram.

10. Explain the band structure of solids by taking Lithium as example.

11. Define the terms doping and dopant. Explain how doping affects the conductivity in semiconductor.

12. Differentiate between n-type and p-type semiconductors.

13. What is meant by a P-type semiconductor? Explain with an example.

14. What is meant by a N-type semiconductor? Explain with an example.

15. What is an Intrinsic semiconductor? How does the conductor occur in an intrinsic semiconductor?

16. Explain the classification of solids based on band theory.