

Department of Physics, B.J.B. Autonomous College, Bhubaneswar
Value Added Course, 2022-23
on
“Crystal Physics”

Unit - I

Crystal Structure: Distinction between Crystalline and Amorphous –Different features of the crystals–Crystal Lattice – Basis –Crystal Structure – Unit cell – Primitive lattice – Seven crystal system

Unit - II

Crystal Defects: Classification of Crystal imperfections –Schottky Defect – Frenkel defect – Edge dislocation – Screw dislocation

Unit - III

Bonding in Solids: Type of Bonds in Crystals – Ionic – Covalent – Metallic – Molecular - Hydrogen bonding

Unit - IV

Band Theory of Solids: Classification of solids based on Band theory: Conductors – Semiconductors– Insulators– Conductivity of Semiconductors

REFERENCES

1. Modern Physics– R Murugesan, 2018, S. Chand & Co
2. Concepts of Modern Physics – Arthur Beiser, Sixth Edition, 2013, McGraw Hill
3. Solid State Physics – Gupta and Kumar, 9th Revised Edition, 2016, K. Nath& Co, Meerut
4. Elements of Solid State - Crystal Physics