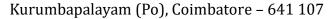


SNS COLLEGE OF ENGINEERING





AN AUTONOMOUS INSTITUTION

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

UNIT -IV CRYSTAL PHYSICS

TOPIC - X QUESTION BANK

- 1. (i) Explain the terms: atomic radius, Co-ordination number and packing factor.
 - (ii) Show that the packing factor for Face centered Cubic and Hexagonal Close packed Structures are equal. (JAN. 2010)
- 2. (i) What are Miller indices? Explain.
 - (ii) Derive an expression for the interplanar spacing for (hkl) planes of a cubic structure. (JAN. 2010)
- 3. (i) What is packing factor? Obtain packing factor for SC, BCC and FCC lattices
 - (ii) Describe the crystal structure of diamond. (JAN 2011)
- Calculate atomic radius and packing factor for diamond structure. Explain what type of bond is present in diamond. (JAN 2012)
- 5. (i) What are bravais lattice?
 - (ii) What is primitive cell?
 - (iii) Derive an expression for the interplanar spacing for (hkl) planes of a cubic structure. (DEC. 2008)
- 6. (i). Define atomic radius and Packing Factor.
 - (ii). Describe a HCP structure. Show that for an HCP structure $c/a = \sqrt{8/3}$ and hence c calculate the packing fraction for the HCP structure. (DEC. 2008)
- 7. Explain the Bridgman and Czocharlski techniques for growing crystal. (JAN 2014)
- 8. Describe CVD and PVD crystal growth techniques.
- 9. Write a note on types of crystal system.