MATERIAL SCIENCE IN ENGINEERING

UNIT-1

1. Briefly describe about Rutherford's and Bohr's atomic models.
2. What is the modern concept of atomic model?
3. Describe about different types of chemical bonding.
4. What is Unit cells?
5. What is space lattices?
6. What is atomic packing factor?
7. Discuss about Simple cubic (SC), Body centered cubic (BCC), Face centered cubic (FCC) and Hexagonal cubic pact (HCP) crystal structure.
8. Calculate the no. of atoms in SC, BCC and FCC.
9. What is Miller indices? Describe X-ray crystallography techniques by powder method.
10. Discuss about different types of crystal defects.
11. What are crystal imperfections?
12. What is edge dislocation? Discuss about different types of edge dislocation.
13. What is screw dislocation? Explain different types of screw dislocation.
14. Explain Slip of material
15. Explain twining of material.
16. Explain surface defect.
17. Explain Tilt boundary surface defect.
18. Explain twin boundary surface defect.
19. Describe about various mechanical properties of materials.
20. What is dislocation? Explain different types of dislocations?
21. What is burger vector?
22.) Draw the following crystal planes, whose miller indices are given:
    (111), (100), (010), (001), (101), (-10-1)