**Unit 1. Questionnaire**

1. Define lattice, basis and crystal structure. Classify solids in terms of the length of their ordered region.

3. Describe a unit cell and primitive cell. Define lattice parameters with appropriate diagram.

4. Define Bravais lattice. Explain the seven different crystal systems and fourteen different Bravais lattices in cubic systems.

5. Define co-ordination number and the atomic packing fraction.

6. Find the atomic packing fraction for simple cubic, BCC, and FCC lattices.

7. What are Miller indices? Derive the expression for interplanar distance between consecutive planes described by Miller indices (hkl).

8. What is meant in defect / imperfection in a crystal structure? Describe different types of point defects with appropriate figure.

12. Explain line defect.

13. Describe planar and volume defects.

14. Differentiate between Schottky and Frenkel defects with proper illustration.