

THE SOLID STATE - I
UNIT TEST

STD: XI
CODE: AX

MARKS: 50
TIME: 1 Hr

PART - I

CHOOSE THE CORRECT ANSWER:

(10X1=10)

1. The intersection of two adjacent faces gives rise to
(a) Form (b) edges (c) interfacial angle (d) plane
2. The number of atoms in a face centred cubic unit cell is
(a) 4 (b) 3 (c) 2 (d) 1
3. In a face centred cubic cell, an atom at the face centre is shared by
(a) 4 unit cells (b) 2 unit cells (c) 1 unit cell (d) 6 unit cell
4. The designation of the following plane is



- (a) 100 (b) 010 (c) 001 (d) 011
5. The miller indices of crystal planes which cut through the crystal axes at $(2a, 3b, c)$ will be
(a) $(2, 3, 1)$ (b) $(1/2, 1/3, 1)$ (c) $(3, 2, 6)$ (d) $(2, 3, 6)$
 6. Which one of the following does not have NaCl like arrangement?
(a) NaI (b) KCl (c) Tl Br (d) RbI
 7. Example for a crystal having all faces not alike is
(a) Fluorspar (b) Dolomite (c) galena (d) NaCl
 8. Which of the following is the characteristic property of crystalline solids?
(a) Isotropic (b) anisotropic (c) wide range of melting point (d) irregular geometry
 9. An amorphous solid is:
(a) NaCl (b) CaF_2 (c) glass (d) CsCl
 10. The 8:8 type of packing is preset in
(a) CsCl (b) KCl (c) NaCl (d) MgF_2

PART - II

ANSWER ALL THE QUESTIONS:

(10X3=30)

11. What is meant by 'Unit cell' in crystallography?
12. How many types of cubic unit cell exist?
13. What are Miller Indices?
14. Mention the number of sodium and chloride ions in each unit cell of NaCl
15. Mention the number of cesium and chloride ions in each unit cell of CsCl
16. State the law of rational indices.
17. Write formula for distances between parallel planes in a crystal.
18. Explain the term. Anisotropy
19. What is face centred cubic unit cell?
20. Define: Crystallographic axes.

PART - III

ANSWER ALL THE QUESTIONS:

(1x10=10)

21. (a) Give the distinguishing features of crystalline solids and amorphous solids.
22. (b) Draw a neat diagram for sodium chloride structure and describe it accordingly.