



INDIAN SCHOOL DARSAIT  
DEPARTMENT OF CHEMISTRY



Subject: Chemistry		Topic : Solid state	Date of Worksheet: 4.2.2019
Resource Person: Rohitha		Date of Submission: _____	
Name of the Student: _____		Class & Division: XI	Roll Number: _____
1	Define 'forbidden zone' of an insulator.		1
2	Which point defect in crystal units alters the density of a solid?		1
3	Crystalline solids are anisotropic in nature. Explain		1
4	Frenkel defects are not found in alkali metal halides. Why?		1
5	How many lattice points are there in one unit cell of a) fcc b) bcc c) simple cubic		1
6	What are the co-ordination numbers of octahedral voids and tetrahedral voids?		1
7	Explain how electrical neutrality is maintained in compounds showing Frenkel and Schottky defect.		2
8	Calculate the number of atoms in a cubic unit cell having one atom on each corner and two atoms on each body diagonal.		2
9	The electrical conductivity of a metal decreases with rise in temperature while that of a semi-conductor increases. Explain.		2
10	What type of substances would make better permanent magnets, ferromagnetic or ferrimagnetic, Why?		2
11	In a crystalline solid, the atoms A and B are arranged as follows: atoms A are arranged in ccp array and atoms B occupy half of the tetrahedral voids. What is the formula of the compound?		2
12	What happen when KCl is heated in an atmosphere of K vapours? Explain.		2
13	An element E crystallizes in body centered cubic structure. If the edge length of the cell is $1.49 \times 10^{-10}$ m and the density is $19.3 \text{ g cm}^{-3}$ , calculate the atomic mass of this element. Also calculate the radius of an atom of the element.		3
14	i) What type of substances show antiferromagnetism? ii) Assign reason for the fact that silicon doped with phosphorus is a semiconductor.		3
15	Copper crystallizes into a fcc lattice with edge length $3.61 \times 10^{-8}$ cm. show that the calculated density is in agreement with its measured value of $8.29 \text{ g/cm}^3$ . Also find radius of a copper atom.		3
16	Write a short note on a) Schottky defect b) Frenkel defect c) vacancy defect		3
17	Differentiate crystalline and amorphous solid.		3
18	Calculate the packing of a BCC unit cell.		3

