

Guess Paper – 2014
Class – XII
Subject – Chemistry

PRACTICE PROBLEMS TOPIC – SOLID STATE

Attempt all questions.

- Q-1 Classify as being either a p-type or n-type semiconductor.
(i) Ge doped with In (ii) B doped with Si
- Q-2 Explain ZnO is white, on heating it becomes yellow.
- Q-3 Out of simple, B.C.C. and C.C.P. which one has highest packing efficiency.
- Q-4 Analysis shows that nickel oxide has formula $\text{Ni}_{0.98}\text{O}_{1.00}$ what fraction of the nickel exists as Ni^{++} and Ni^{3+}
- Q-5 Calculate the density of Ag which crystallizes in the face centered cubic structure. The distance between the nearest silver atoms in this structure is 287 pm.
[$A_g = 107.8$, $N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$]
- Q-6 What do you understand by stacking sequence.
(a) AB AB (b) ABC ABC
- Q-7 Write short notes on-
(a) Frenkel defect (b) F centre
- Q-8 Calculate the no of atoms in simple, B.C.C. and F.C.C.
- Q-9 Calculate the distance b/w Na^+ & Cl^- in NaCl crystal if its density is 2.165 g/cm^3 [Molar M of NaCl 58.5, $N_A = 6.02 \times 10^{23} \text{ mol}^{-1}$]
- Q-10 What is the ideal value of radius ratio for a tetrahedral void and octahedral void.
- Q-11 Write the axial distance and angle in the following structure-
(a) Triclinic (b) Hexagonal
- Q-12 A compound is formed by two elements M and N. The element N forms CCP and atoms of M occupy $2/3^{\text{rd}}$ of these one occupied. What is the formula of compound.
- Q-13 (a) What do you mean by packing efficiency?
(b) Density of Li atom is 0.53 g/cm^3 . the edge length Li is 3.5 \AA find out the no of Li atoms in unit cell. [$N_A = 6.02 \times 10^{23}$, $M = 6.94$]

- Q-14 Give the answer of following-
- What is doping.
 - Write relation between 'r' and 'a' in bcc structure.
 - What type of defect arises when a solid heated?
- Q-15 Classify the following solid as an ionic, covalent, metallic or molecular.
- (i) Graphite (ii) SiC (iii) Rb (iv) P₄O₁₀
- Q-16 Classify following into paramagnetic and diamagnetic-
- Cu⁺⁺ NaCl Fe³⁺ TiO₂
- Q-17 Electrical conductivity of metal decreases with rise in temperature why?
- Q-18 Analysis shows that Iron oxide has formula Fe_{0.96}O_{1.00} what fraction of the Iron exist as Fe⁺⁺ and Fe³⁺ ion.
- Q-19 What is the difference between schottky & Frenkel defect?
- Q-20 Explain the term super conductor & ferromagnetism.

Our aim is to give a right path towards success

**Contact No- 9 4 1 5 5 7 3 3 4 2, 9 8 8 9 2 1 4 5 8 8
9 2 1 4 5 8 8**



EQUILIBRIUM CLASSES BY ANUJ SIR