CLASS : Std. XII (Chemistry)

Question Bank from Syllabus of April, May and July.

1. What are polymorphs? Give example.
2. What is the name of unit cell in which the atoms are present at all six faces including 8 corners of a cube?
3. What is meant by coordination number.
4. What is maximum possible coordination number of an atom in hcp crystal structure.
5. What is coordination number of each sphere in the body centered cubic close packed structure.
6. In an alloy of Gold and Cadmium, gold crystallizes cubic structure occupying the corners only and cadmium fit in to the face centered voids. What is the quantitative composition of alloy?
7. What is the number of tetrahedral voids in an unit cell of a ABCABC…. type structure?
8. What is the edge-length of unit cell if the radius of atom is 75 pm and it crystallize in bcc lattice.
9. What type of compounds exhibit schottky defect?
10. What is the effect of schottky defect on the density of a crystal?
11. Name one solid (or compound) in which both frenkel schottky defect occur.

12. Why does ZnO appear yellow on heating?

13. On heating, crystal of KCI in potassium vapour the crystal start exhibiting violet colour. Why?

14. Which point defect lowers the density of ionic crystal? (AI-2000 C, Det 2004, 09, 10)

15. Why is frenkel defect found in AgCL?

16. What is dopping? Why is it done?

What is difference between phosphorus doped and Gallium doped semi-conductors?

18. What are F-centres?

19. Write a distinguishing feature of metallic solid?

20. What type of interactions hold the molecules together in a molecular solid like polar molecular solid [CBSE – 2010] and in non-polar m. solid?

21. How do metallic and ionic solid differ in conducting electricity?

22. How are the following properties of crystals affected by schottky and frenkel defect.
(i) Density (ii) Electrical conductivity.

23. Crystalline solids are anisotropic in nature. What does this statement mean.

24. Define the following
(i) Ferromagnetism (ii) Ferrimagnetisms (iii) Paramagnetism
(iv) 12-16 compound and 13-15 compound (v) Frenkel defect [CBSE – 2007]

25. In a compound PQ_2O_4, Oxideions are arranged in CCP and cations ‘P’ are present in O-Voids. Cation Q are equally distributed between t-voids and O-Voids. What is the fraction of O-Voids occupied?

26. In a diamond, there is a unit cell of carbon atoms as FCC and if carbon atoms is sp^3 hybridized. What will be the number of C-atoms per unit cell?

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Chapter-Solution

Question Bank from Syllabus of April, May and July

1. Define molarity
2. Define mole-Fraction of a component in a solution
3. How is molality of solution different from molarity [CBSE-2004]. What is the effect of temperature of a solution its molarity and molarity as
4. State one advantage on molality over moarity as the unit of concentration
5. Define molality
6. State Henry law and mention two application for the law

7. State Raoult's law in its general form in reference to solution [CBSE-2011]

8. State Raoult's law for a solution of two volatile liquids.

9. What is ideal and non-ideal solution?

10. What is meant by positive and negative deviation from Roult's law and how is the sign of Δmix H related to positive and negative deviation from Roult's law?

11. Show graphically how the V.P. of a solvent and a solu n/: in it of a non-volatile solute change with temperature. Show on this graph the boiling points of the solvent and the solution. Which is higher and why?

12. Distingvish between the terms molality and molarity. Under what conditions are the molarity & molality of solu n/: nearly the same?

13. What is meant by -ve deviation from R-law? Draw a diagram to illustrate the relationship between vapour pressure and mole-fraction of component to represent negative of deviation.

14. What is abnormal molecular mass?

15. What do you understand by colligative properties? Name various colligative properties.

16. Define (i) Molal elevation constant/Ebulliocopie constant (ii) Molal depression constant (cryoscopie constant)

17. Define osmotic pressure. [CBSE-2009], Del-07], What is the advantage of using osmotic pressure as compared to other colligative properties for the determination of molar masses of solute in solution?

18. What is meant by (i) Reverse osrrosis

(ii) Isotonic solu n/:

(iii) Hypertonic

(iv) Hypotonic solu n/:

19. What is vant-Hoff factor? What type of values can it have if solute molecules udergo

(i) dissociation (ii) association? (iii) neither dissociation nor association