

FAQ

SOLID STATE

1. What is photovoltaic cell?
2. What do you mean by the term Doping?
3. What the term 12 – 16 compounds stand for?
4. What is the number of tetrahedral voids in a ccp structure of solid?
5. Crystalline solids are anisotropic in nature. comment on this statement.
6. What is the percentage efficiency of a solid whose particles are having ccp structure?
7. LiCl crystal appears to be pink in colour .Why?
8. When Ge is doped with slight amount of In, what type of semiconductor will be formed?
9. Metal deficiency defect with extra anions in interstitial sites can't be produced in solids. Why?
10. The electrical conductivity of semiconductors increases with increase in temperature but in case of metals conductivity decreases with rise in temp. Why?
11. The window panes seem to be thicker at the bottom in case of old buildings. what can be the reason?
12. Assign the relationship between edge length (a,b,c) and values of α , β and γ for tetragonal unit cell.
13. Give an example of solid which can exhibit schottky defect as well as frenkel defect.
14. Atoms of element A are occupying all the octahedral voids while atoms of B are in $1/4^{\text{th}}$ tetrahedral voids and atoms of C are arranged in hexagonal arrays .what will be the formula of the compound?
15. What is the co-ordination number of a particle in ccp structure?
16. What happens when Na vapours is passed over crystalline NaCl?
17. Ferromagnetic and ferrimagnetic solids on heating converted into paramagnetic in nature. justify the reason.
18. Glass is assumed to be supercooled liquid. why?
19. Give an example of solid which has its structure as fluorite type structure.

20. Copper is conducting as such while copper sulphate is conducting only in aqueous solution .why?

Ans.

1 device which converts sunlight into electrical energy.

2 Introduction of defects in solid by incorporating foreign particles.

3 compounds formed by combination of group 12 elements and group 16 elements.e.gZnS

4 $2N$ or 8

5 a single property differs in different direction in solids.

6 74%

7 presence of F – centre .

8 p – type semiconductor

9 usually anions are larger in size and hence donot fit into interstitial sites

10 kernels makesxibration and creates obstacles in the motion of electrons in case of metals.

11 Glass is supercooled liquid and has floed under the influence of gravity.

12 $a = b \neq c, \alpha = \beta = \gamma = 90^\circ$

13 AgBr.

14 A_2BC_2

15 12

16 Appears yellow due to creation of F – centre.

17 Due to randomization of electrons.

18 Flowing tendency under influence of gravity.

19 CaF_2

20 Copper is electronic conductor but copper sulphate is ionic conductor so ions are free only in molten or in aqueous state.

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