



Chapter 1 The Solid State

Assignment 1

Class 12

Prerna Edu

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DPP

DAILY PRACTICE PROBLEMS

CLASS : Xith

DATE :

SUBJECT : CHEMISTRY

DPP No. : 1

Topic :- THE SOLID STATE

- Schottky defect generally appears in
 - NaCl
 - KCl
 - CsCl
 - All of these
- Which arrangement of electrons leads ferromagnetism?
 - $\uparrow\uparrow\uparrow\uparrow$
 - $\uparrow\downarrow\uparrow\downarrow$
 - $\uparrow\uparrow\uparrow\downarrow\downarrow$
 - None of these
- The crystal are bounded by plane faces (f), straight edges (e) and interfacial angel (c). The relationship between these is :
 - $f + c = e + 2$
 - $f + e = c + 2$
 - $c + e = f + 2$
 - None of these
- The melting point of RbBr is 682°C , while that of NaF is 988°C . The principle reason that melting point of NaF is much higher than that of RbBr is that :
 - The two crystals are not isomorphous
 - The molar mass of NaF is smaller than that of RbBr
 - The internuclear distance $r_c + r_a$ is greater for RbBr than for NaF
 - The bond in RbBr has more covalent character than the bond in NaF.
- If a crystal lattice of a compound, each corner of a cube is enjoyed by sodium, each edge of a cube has oxygen and centre of a cube is enjoyed by tungsten (W), then give its formula
 - Na_2WO_4
 - NaWO_3
 - Na_3WO_3
 - Na_2WO_3
- In antifluorite structure, the negative ions:
 - Occupy tetrahedral voids

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- b) Occupy octahedral voids
c) Are arranged in ccp
d) Are arranged in hcp
7. An insulator oxide is :
a) CuO b) CoO c) Fe_2O_3 d) All of these
8. A solid with high electrical and thermal conductivity from the following is :
a) Si b) Li c) NaCl d) ice
9. The radius ratio $\left(\frac{r_+}{r_-}\right)$ of an ionic solid (A^+B^-) is 0.69. What is the coordination number of B^- ?
a) 6 b) 8 c) 2 d) 10
10. The axial angles in triclinic crystal system are
a) $\alpha = \beta = \gamma = 90^\circ$ b) $\alpha = \gamma = 90^\circ, \beta \neq 90^\circ$ c) $\alpha \neq \beta \neq \gamma \neq 90^\circ$ d) $\alpha = \beta = \gamma \neq 90^\circ$
11. In NaCl crystal each Cl^- ion is surrounded by
a) 4 Na^+ ions b) 6 Na^+ ions c) 1 Na^+ ion d) 2 Na^+ ions
12. For an ionic crystal of the general formula A^+B^- and co-ordination number 6, the radius ratio will be :
a) Greater than 0.73
b) Between 0.73 and 0.41
c) Between 0.41 and 0.22
d) Less than 0.22
13. The ratio of cations to anion in a octahedral close packing is :

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- a) 0.414 b) 0.225 c) 0.02 d) None of these
14. Electrons in a paramagnetic compound are
a) Shared b) Unpaired c) Donated d) Paired
15. Crystals which are good conductor of electricity and heat are known as :
a) Ionic crystals b) Covalent crystals c) Metallic crystals d) Molecular crystal
16. An element has bcc structure having unit cells 12.08×10^{23} . The number of atoms in these cells is :
a) 12.08×10^{23} b) 24.16×10^{23} c) 48.38×10^{23} d) 12.08×10^{22}
17. Among the following types of voids, which one is the largest void?
a) Triangular b) Cubic c) Tetrahedral d) Octahedral
18. The crystalline structure of NaCl is
a) Hexagonal close packing b) Face centred cubic
c) Square planar d) Body centred cubic
19. Metals have conductivity of the order of ($\text{ohm}^{-1} \text{cm}^{-1}$) :
a) 10^{12} b) 10^8 c) 10^2 d) 10^{-6}
20. Of the elements Sr, Zr, Mo, Cd and Sb, all of which are in V period, the paramagnetics are:
a) Se, Cd and Sb b) Zr, Mo and Cd c) Sr, Zr and Cd d) Zr, Mo and Sb