

**Class : IPG
Major : Physics**

**Time: 3 hours
Max. Marks: 60**

17MPHC04 – Solid State Physics

Part A

10 x 1/2 = 5

Choose the correct answer

- The number of lattice points in a primitive cell is
a. 1 b. $\frac{1}{2}$ c. 2 d. $\frac{3}{2}$
- The nearest neighbour distance in the case of bcc structure is
a. $a\sqrt{3}/2$ b. $a\sqrt{2}/2$ c. $2a/\sqrt{3}$ d. $2a/\sqrt{2}$
- _____ is the lattice errors at isolated lattice points.
a. vacancy b. Frenkel defect c. Point defect d. Schottky defect
- In an ionic crystal there is a vacancy in a _____ site.
a. positive ion b. negative ion c. zero d. none
- General form of reciprocal lattice vector is
a. $G = ha^* + kb^* + lc^*$ b. $G = ha^* + kb^*$ c. $G = ha^* + lc^*$ d. $G = ha^* - kb^* - lc^*$
- The first zone for a simple cubic lattice is
a. square b. cube c. triangular d. pyramid
- The unit of thermal conductivity is
a. Wmk b. Wmk^{-1} c. $Wm^{-1}k^{-1}$ d. $W^{-1}mk^{-1}$
- The Debye model is a method developed by peter Debye in
a. 1910 b. 1912 c. 1922 d. 1915
- Melt growth is a field of crystal growth, which relates to
a. liquids b. gases c. solids d. fluids
- _____ is the precursor of crystal growth & of the overall crystallization process.
a. solute b. nucleation c. saturation d. supersaturation

