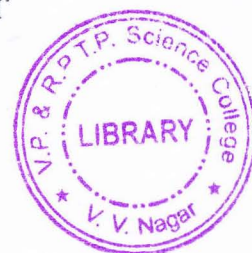


VP & RPTP Science College-Vallabh Vidyanagar

Internal Test: 2015

S Y BSc [Semester-IV]

Subject-Physics US04CPHY02



Date: 14/03/2015 Saturday

Time: 10.30 am to 12.00 pm

Total Marks-25

Q-1 Multiple Choice Questions: [Attempt all]

3

(i) The number of atoms present in unit cell of BCC structure is

- (a) 1 (b) 2
(c) 4 (d) 6

(ii) The solid sodium is vaporized by supplying energy equal to _____ energy.

- (a) Ionization (b) Dissociation
(c) Sublimation (d) Lattice

(iii) If one of the hydrogen atom in polyethylene are replaced by CH_3 , the resulting polymer is called

- (a) Polyvinyl chloride (b) Polypropylene
(c) Polytetrafluoroethylene (d) Polycarbonate

Q-2 Answer the following questions in short [Attempt any two].

4

- (a) Draw (100) and (110) planes for cubic system.
(b) Give common features of materials having metallic bond.
(c) Define molecular weight for polymers.

Q-3 Discuss seven crystal systems based on lattice parameters, in detail.

6

OR

Q-3 Define atomic packing factor (APF). Calculate APF for FCC structure.

6

Q-4 Calculate the lattice energy of ionic crystals.

6

OR

Q-4 Derive the Madelung constant of ionic crystals.

6

Q-5 Give classification of polymers based on molecular characteristics.

6

OR

Q-5 Discuss isomerism in detail.

6