

Unit Test 1

SUB: APP. PHYSICS I

DATE: 02/09/15

DIV: ALL

TIME: 12.00 to 1.00

SEM-I

MARKS- 15

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Q.1. Solve any Five from the following: -

- Define Space lattice and Unit cell. What are lattice parameters.?
- Derive an expression for density of a solid in terms of lattice constant.
- Draw the structure of unit cell of diamond & write the number of atoms per unit cell.
- Gold belongs to cubic crystal structure. Its density is 19320 kg/m^3 lattice constant 4.08 \AA . Its atomic weight is 197. Determine the type of structure.
- An elemental crystal has density of 8570 kg/m^3 & packing fraction 0.68. Determine the mass of the atom of the nearest neighbor distance is 2.86 \AA .
- Define atomic packing fraction and explain its significance.

Q.2. a) Draw and Explain HCP structure. Give the crystal parameters.

b) Explain the crystal parameters of BCC and FCC structures.

OR

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All the Best