Hall Ticket Number:

Code No.: 21602 S

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD

B.E. II Year I-Semester (Supplementary) Examinations, May/June-2016

Bridge Course : Physics of Materials

Time: 1½ hours Max. Marks: 25

*Note: Answer **ALL** questions in **Part-A** and any **TWO** from **Part-B***

Part-A (5 X 1=5 Marks)

1. The Magnetic susceptibility of a ferromagnetic material is _____ and _____.
2. The electronic polarizability is directly proportional to [ ]

   a) R^3 b) R^2 c) R d) R^{-1}
3. A solar cell converts sunlight directly into electricity by [ ]

   a) Photo electric effect b) Photovoltaic effect

   c) Thermo electric effect d) none
4. Write any two applications of Nanomaterials.
5. Soft magnetic material possess ____ retentivity and ____ coercivity

Part-B (2 X 10=20 Marks)
(All bits carry equal marks)

6. a) Discuss different types of polarizations in a dielectric medium.

   b) Explain Ferromagnetic Hysteresis on the basis of Weiss theory of domain.

7. a) Explain working principle of photo diode and mention few applications.

   b) Explain the terms surface to volume ratio and quantum confinement.

8. a) Distinguish between ferro - , ferri -, and anti-ferromagnetic materials.

   b) Obtain an expression for an intrinsic concentration of a semiconductor.

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