

ES-220 (IT)**B.E. IV Semester**

Examination, June 2017

Choice Based Credit System (CBCS)**Material Science****Time : Three Hours****Maximum Marks : 60**

- Note:** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the optical fibre and its properties.
b) Explain the following terms:
i) Types of metal alloys
ii) Toxic heavy materials
2. a) Explain the soft and hard magnetic materials.
b) Explain radius ratio rules of ceramic crystal and density computation.
3. a) Explain Metal decomposition techniques.
b) Explain drift mobility and diffusion length.
4. a) What do you mean by E-waste? Explain the generation of E-waste in India.
b) Explain the laws regarding E-waste management.

5. a) Explain WEEE/E-waste life cycle and also explain the components of WEEE/E-waste management.
b) Explain the hazardous substances (ROHS) directives.

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6. a) Explain the obligations of the producer under the WEEE and barriers to recycling of WEEE.
b) Explain each of the following:
i) E-waste in the global context
ii) Environment concerns and health hazards
7. a) Explain the parameters for measurements of conductivity types.
b) Explain hexagonal closed packed crystal structure.
8. Explain the following:
a) E-waste projection and recycling
b) Electron spin and ferromagnetism
c) Classification of materials
d) Bipolar and MOS integration

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