

Roll No .....

**ES-220(CE)**

**B.E., III Semester**

Examination, December 2016

**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.  
iii) Assume suitable data if necessary.

1. a) Discuss on metallic materials and polymeric materials.  
b) Explain briefly the factors that affect the selection of construction material.
2. a) Explain briefly the recent advancement in material science.  
b) Explain briefly the types of atomic bonds.
3. a) Explain briefly the thermal properties of materials.  
b) Explain various the causes of failure of material.
4. a) Enlist the properties of fresh and hardened concrete.  
b) Enlist the various tests that can be conducted on stone and brick.
5. a) Explain the properties of reinforcing steel.  
b) Explain the importance of polymers and their properties.

6. a) Explain the properties of asphalt.  
b) Explain the application of asphalt.
7. a) Explain the importance of concrete proportioning.  
b) Explain the uses of polymers.
8. Write short notes on (any three) :
  - a) Corrosion
  - b) Creep
  - c) Cement mortar
  - d) Thermoplastics

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