

00340

**Diploma in Civil Engineering / Diploma  
in Electrical & Mechanical Engineering**

**Term-End Examination**

**December, 2010**

**BET-015 : ENGINEERING MATERIALS**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Question number 1 is compulsory. Attempt any four more questions out of the remaining questions. All questions carry equal marks.*

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1. Choose the correct alternative: 7x2=14

(a) Geologically, marble is known as :

- (i) sedimentary rock.
- (ii) igneous rocks.
- (iii) metamorphic rock.
- (iv) stratified rock.

(b) The standard size of masonry bricks, is :

- (i) 18cm × 8cm × 8cm
- (ii) 19cm × 9cm × 9cm
- (iii) 20cm × 10cm × 10cm
- (iv) 21cm × 11cm × 11cm

- (c) The kiln which may work regularly throughout the year, is :
- (i) clamp
  - (ii) Buu's kiln
  - (iii) Haffman's kiln
  - (iv) None of these
- (d) The base material for distemper, is :
- (i) chalk oil
  - (ii) linseed oil
  - (iii) kerosene oil
  - (iv) acetate of lead
- (e) A prime coat is given to steel work with :
- (i) an oxide of Iron paint
  - (ii) a mixture of white lead and lead paint
  - (iii) a Special paint
  - (iv) cement paint
- (f) Percentage *cement of silica* in window glass, is :
- (i) 40 to 45
  - (ii) 50 to 55
  - (iii) 60 to 65
  - (iv) 70 to 75

- (g) Bessemer process is used for the manufacture of :
- (i) pig Iron
  - (ii) cast Iron
  - (iii) wrought Iron
  - (iv) steel
2. (a) Write down in detail the characteristics of good Building Stones in details. 7
- (b) Outline the classification and characteristics of bricks as per Indian Standard Institute. 7
3. (a) Write down in detail the methods of preservation of timber. 7
- (b) What do you understand by pre-cast concrete? Describe in detail. What are its advantages? 7
4. (a) Describe the manufacturing of cement by wet process. 7
- (b) Write down the functions of cement ingredients. 7
5. (a) Write down the characteristics of an ideal paint. 7
- (b) Write down the advantages of PVC pipes with the precautions in design and installation. 7

6. (a) Describe the various properties of glass in detail. 7
- (b) Give a comparison between Fat lime and Hydraulic lime. 7
7. Write short notes on the following :  $4 \times 3\frac{1}{2} = 14$
- (a) Water absorption test of stone.
- (b) Manufacturing of tiles.
- (c) Workability of concrete.
- (d) Hydraulic lime.
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