

**DIPLOMA IN CIVIL ENGINEERING DCLE(G)/
ADVANCED LEVEL CERTIFICATE COURSE IN
CIVIL ENGINEERING (DCLEVI/ACCLEVI)**

00220

Term-End Examination

June, 2014

BET-015 : ENGINEERING MATERIALS

Time : 2 hours

Maximum Marks : 70

Note : *Question no. 1 is compulsory. Attempt any four more questions out of the remaining questions. All questions carry equal marks. Missing data may be suitably assumed.*

1. Choose the correct alternative : $7 \times 2 = 14$
- (a) The standard size of masonry brick is
- (i) $20 \times 10 \times 10$ cm
 - (ii) $21 \times 11 \times 11$ cm
 - (iii) $18 \times 8 \times 8$ cm
 - (iv) $19 \times 19 \times 9$ cm
- (b) Geologically, marble is known as
- (i) Metamorphic rock
 - (ii) Stratified rock
 - (iii) Sedimentary rock
 - (iv) Igneous rock

- (c) Percentage cement of silica in window glass is
- (i) 70 to 75
 - (ii) 40 to 45
 - (iii) 50 to 55
 - (iv) 60 to 65
- (d) Bessemer process is used for the manufacture of
- (i) Cast Iron
 - (ii) Wrought Iron
 - (iii) Steel
 - (iv) Pig Iron
- (e) The kiln which may work regularly throughout the year is
- (i) Clamp
 - (ii) Hoffmann's kiln
 - (iii) Buu's kiln
 - (iv) None of these
- (f) The base material for distemper is
- (i) Acetate of lead
 - (ii) Chalk oil
 - (iii) Linseed oil
 - (iv) Kerosene oil

- (g) A prime coat is given to steel work with
 - (i) Cement paint
 - (ii) A special paint
 - (iii) A mixture of white lead and lead paint
 - (iv) An oxide of iron paint

- 2. (a) Describe in detail pre-cast concrete with advantages. 7
- (b) Write down the methods of preservation of timber in detail. 7

- 3. (a) Compare in detail fat lime with hydraulic lime. 7
- (b) Describe the various properties of glass in detail. 7

- 4. (a) Write down the advantages of PVC pipes with the precautions to be taken in design and installation. 7
- (b) Write down the characteristics of an ideal paint. 7

- 5. (a) Write down the functions of ingredients of cement. 7
- (b) Describe the manufacturing of cement by wet process. 7

6. (a) Write down the classification and characteristics of bricks as per Indian Standards Institution. 7
- (b) Write down the characteristics of good building stones in detail. 7
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Hydraulic lime
- (b) Workability of concrete
- (c) Manufacturing of tiles
- (d) Water absorption test of stones
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