

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

**Term-End Examination**

**00560**

**June, 2016**

**BET-015 : ENGINEERING MATERIALS**

*Time : 2 hours*

*Maximum Marks : 70*

---

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

---

1. Choose the correct alternative.

$7 \times 2 = 14$

- (a) A heavy stone is suitable for
- (i) Retaining Wall
  - (ii) Arches
  - (iii) Rubble Masonry
  - (iv) Roads
- (b) The frog of the brick in a brick masonry is generally placed on its
- (i) Bottom face
  - (ii) Top face
  - (iii) Shorter side
  - (iv) Longer side

- (c) The property by virtue of which lime sets under water is
- (i) Slacking
  - (ii) Setting
  - (iii) Hydraulicity
  - (iv) Calcining
- (d) An air-entraining agent when added to cement improves
- (i) Density of concrete
  - (ii) Durability of concrete
  - (iii) Strength of concrete
  - (iv) Workability of concrete
- (e) Strength of timber is maximum along the following direction :
- (i) Parallel to the grains
  - (ii) Perpendicular to the grains
  - (iii)  $45^\circ$  to the grains
  - (iv) In all directions
- (f) Extenders in paints are mainly used for
- (i) Colouring
  - (ii) Easy spreading
  - (iii) Glossy surface
  - (iv) Ease in washing

- (g) Laminated glasses are made by
- (i) Gluing only
  - (ii) Resin Bonding
  - (iii) Heat and Pressure
  - (iv) None of the above
2. (a) Describe the characteristics of good building stones. 7
- (b) Discuss the various operations involved in the manufacture of tiles. 7
3. (a) With respect to hydration of cement, discuss the behaviour of each of the products of hydration. 7
- (b) Explain the various types of lime. 7
4. (a) Describe the qualities of good concrete. 7
- (b) Discuss the various methods adopted for compaction of concrete. 7
5. (a) Classify trees according to their mode of growth. 7
- (b) Explain the common methods of preservation of timber. 7
6. (a) Describe the various operations involved in distempering a surface. 7
- (b) Explain the different materials used to cover the internal walls of any building. 7

**7. Write short notes on the following :**

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Natural Bed of Stone
- (b) Workability of Concrete
- (c) Manufacturing of Tiles
- (d) Decorative Plastering

**8. Differentiate between the following :**

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Hydraulic and Fat Lime
  - (b) Igneous and Sedimentary Rocks
  - (c) Hard and Soft Wood
  - (d) Laminated and Reflective Glass
-