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BET-015

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

**Term-End Examination, 2019**

**BET-015 : ENGINEERING MATERIALS**

**Time : 2 Hours**

**Maximum Marks : 70**

**Note : Question No. 1 is compulsory. Attempt any four questions from the remaining questions. All questions carry equal marks.**

**Note : Choose the correct alternative :**

**[7×2=14]**

1. (a) The rocks which are formed by gradual deposition are :
- (i) Sedimentary Rocks
  - (ii) Igneous Rocks
  - (iii) Metamorphic Rocks
  - (iv) None of the above

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- (b) Soluble salts present in the brick cause :
- (i) Burning
  - (ii) Efflorescence
  - (iii) Drying
  - (iv) Sedimentation
- (c) The property by virtue of which lime sets under water is called :
- (i) Slacking
  - (ii) Setting
  - (iii) Hydraulicity
  - (iv) Calcining
- (d) The trees which grow inwards in a longitudinal fibrous mass are known as :
- (i) Exogeneous
  - (ii) Conifers
  - (iii) Deciduous
  - (iv) Endogenous

(e) One bag of cement has a volume of :

- (i) 35 litres
- (ii) 50 litres
- (iii) 85 litres
- (iv) 100 litres

(f) The liquid medium used in paints is :

- (i) Oil
- (ii) Linseed oil
- (iii) Thinner
- (iv) Turpentine

(g) Laminated glasses are made by :

- (i) Gluing only
- (ii) Resin bonding
- (iii) Heat and Pressure
- (iv) Heat only

2. (a) Explain the classification of Rocks. [7]
- (b) Discuss various points which should be given due consideration for preservation of stone work. [7]
3. (a) Describe the chemical composition of portland cement. [7]
- (b) Explain various field tests of lime. [7]
4. (a) Discuss the cross-section of an exogeneous tree with the help of a neat sketch. [7]
- (b) What do you mean by seasoning of timber ? Explain the different methods of seasoning. [7]
5. (a) What do you mean by grade of concrete ? Explain the correlation between "Grade Designation" and specified characteristics compressive strength at 28 days in a tabular form. [7]
- (b) Discuss "Bulking of Sand". Also explain the procedure of determining it. [7]
6. (a) Describe the constituents of an oil paint. [7]
- (b) Discuss various types of polymer products used in construction. [7]

7. Write short notes on the following : [4×3½=14]

- (a) Manufacture of bricks
- (b) Grades of concrete
- (c) Compaction of concrete
- (d) Measurement of timber

8. Differentiate between the following : [4×3½=14]

- (a) Cement and Lime
- (b) Stratified and Unstratified Rocks
- (c) Hard and Soft Wood
- (d) Reinforced and Prestressed Concrete

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