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**Diploma in Electrical and Mechanical  
Engineering**

**Term-End Examination**

**December, 2010**

**BCE-025 : ELEMENTARY CIVIL ENGINEERING**

*Time : 2 hours*

*Maximum Marks : 70*

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*Note : Question no. 1 is compulsory. Attempt any four more questions out of questions no. 2 to 7. All questions carry equal marks. Explain your answers with the help of neat and labelled sketches.*

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1. Choose the correct alternatives: 7x2=14

(a) The distance between the inner faces of the rails for Narrow gauge rail track is :

(i) 0.765m      (ii) 1.000m

(iii) 1.5000m      (iv) 1.676m

(b) A partially saturated soil is said to be :

(i) One phase system

(ii) Two phase system with soil and air

(iii) Two phase system with soil and water

(iv) Three phase system

(c) M30 grade of concrete is Judged by the strength criteria of :

(i)  $30 \text{ N/cm}^2$                       (ii)  $30 \text{ N/mm}^2$

(iii)  $30 \text{ N/m}^2$                       (iv)  $30 \text{ KN/m}^2$

(d) The type of bond in which alternate courses of headers and stretchers are laid are known as :

(i) Stretcher Bond    (ii) Flemish Bond

(iii) English Bond    (iv) Zigzag Bond

(e) Indian Standard Light Beam is written as :

(i) ISLB                      (ii) ISJB

(iii) ISMB                      (iv) ISWB

(f) The type of window provided on the sloping side of a kitched roof is called :

(i) Cable window    (ii) Dormer window

(iii) Lantern                      (iv) None of the above

(g) An enclosure for servicing, overhead and doing repairs of the aircrafts is known as :

(i) Faxiway                      (ii) Apron

(iii) Hanger                      (iv) Runways

2. (a) Describe the different means of transportation. Explain how these means are essential for development of country ?  $4+3=7$

(b) Explain the basic functions of a Civil Engineer for any type of construction project. 7

3. (a) What is meant by field identification of soil? Explain in brief field identification test for coarse-grained soils. 5+2=7
- (b) Explain in brief the various types of loads on the foundation. 7
4. (a) Describe the various points to be observed while supervising the brick work. 7
- (b) Discuss the significance of bond in brick work. 7
5. (a) Discuss the uses of concrete. 7
- (b) What do you mean by Water Cement Ratio? Explain its significance. 4+3=7
6. (a) Enlist different types of rolled steel sections. Explain how built-up sections are different than rolled sections. 3+4=7
- (b) Differentiate between water proofing and damp proofing. 7
7. Write short notes on *any four* of the following: 4x3½=14
- (a) Segregation of concrete
- (b) Construction procedure of flooring
- (c) Location of an airport
- (d) Stanchions
- (e) Metal windows
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