

01515

**Diploma in Civil Engineering**

**Term-End Examination**

**June, 2010**

**BCE-034 : ESTIMATING & QUANTITY  
SURVEYING-I**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** *Attempt five questions in all. Question number 1 is Compulsory. Assume suitable data, wherever required. Use of calculator is permitted.*

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1. Write the correct answer from the given alternatives : **7x2=14**
- (a) The borrow pits not exceeding 30 cm in depth are treated as surface excavation of soil, the unit of measurement for the work is :
- (i) Running Metre
  - (ii) M<sup>3</sup>
  - (iii) M<sup>2</sup>
  - (iv) Numbers

(b) Prismoidal formula for calculating the quantity of earth work along a road alignment is :

$$(i) \quad V = \left( \frac{A_1 + A_2}{2} \right) l$$

$$(ii) \quad V = \frac{l}{6} (A_1 + 4A_m + A_2)$$

$$(iii) \quad V = A_m \times l$$

$$(iv) \quad V = iR$$

(c) From the brick work quantity no deduction is made for :

(i) Door openings in wall

(ii) Window openings in wall

(iii) RCC lintels over openings

(iv) Cement concrete blocks for fixing hold fasts and holding down bolts

(d) In Crossing Method the length of long wall and short wall at any level of cross section is taken :

(i) Long wall = Inner length of wall +  
2 (wall Thickness)

short wall = Inner length of wall

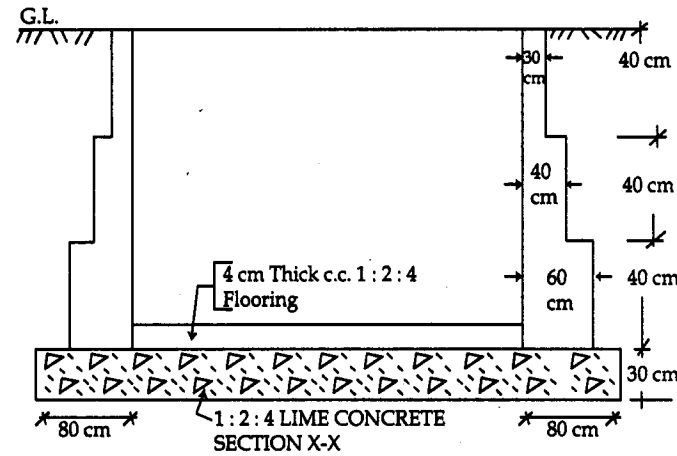
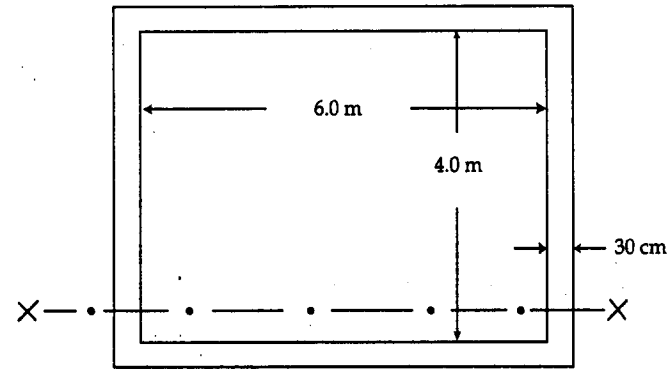
(ii) Long wall = Centre to centre length of  
wall and

short wall = Inner length of wall

- (iii) Long wall = Inner length of wall and  
short wall = Centre to centre length of  
wall
- (iv) Long wall = Inner length of wall and  
short wall = Inner length of wall + 2  
(wall thickness)
- (e) Standard unit of measurement for white  
washing/colour washing/distempering is :
  - (i) Per kg
  - (ii) Per litre
  - (iii) Per m<sup>3</sup>
  - (iv) Per m<sup>2</sup>
- (f) One of the following is part of contract  
documents :
  - (i) A set of conditions of contract
  - (ii) Market rates of labour
  - (iii) Market rates of materials
  - (iv) Standard schedule of rates (SSR)
- (g) Muster Roll is used for recording :
  - (i) Daily labour engaged on a work
  - (ii) Food bill of labour
  - (iii) Transport charges claimed by labour
  - (iv) House rent recovered from labour

2. With the help of the given sketch of under ground masonry water tank calculate the following items : 2x7=14

- (a) Earth work in excavation  
 (b) 4 cm thick cement concrete 1 : 2 : 4 flooring



3. For a 50 m long stretch of road calculate the earth work in cutting using Prismoidal Formula Method with the help of given data : **14**
- Cross sectional area in cutting at one end ( $A_1$ ) = 20.00 M<sup>2</sup>
  - Cross sectional area in cutting at other end ( $A_2$ ) = 15.00 M<sup>2</sup>
  - Cross sectional area in cutting at mid point of 50 m stretch ( $A_m$ ) = 18.00 M<sup>2</sup>
4. Prepare an analysis of rates of *any two* of the following : **2x7=14**
- (a) First class brick work with white lime and surkhi mortar 1 : 2 in foundation and plinth.
  - (b) Lime concrete for foundation and under floors with 4 cm gauge brick ballast, with white lime and surkhi mortar in 100 : 16 : 32 proportion.
  - (c) First class brick work in 1 : 6 cement sand mortar in foundation and plinth.
5. Differentiate between *any four* of the following : **4x3½=14**
- (a) Average cross - sectional area method and mid - sectional area method for road earth work
  - (b) Random Rubble and Ashlar stone masonry
  - (c) Lump-sum contract and Item rate contract
  - (d) Minor works and Major works
  - (e) Long wall and short wall method and centre line method
  - (f) Flush pointing and v-grooved pointing

6. Write the specifications for *any two* of the following : **2x7=14**

- (a) Half brick wall masonry
- (b) RCC work in slabs
- (c) Earth work in cutting
- (d) Cement plastering on brick walls

7. Write short notes on *any four* of the following : **4x3½=14**

- (a) Earth work along road alignment by average cross - sectional area method
- (b) Class 'A' buildings
- (c) Jack arch roof
- (d) Sloped roofs
- (e) Roofing over trusses
- (f) Types of contract