

**Diploma in Civil Engineering**

**Term-End Examination**

**December, 2006**

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

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Question number 1 is **compulsory**. Attempt any **four** questions from the remaining. Assume suitable data wherever necessary and state it clearly. Use of calculator is allowed.

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1. Choose the correct answer from the given alternatives.

$7 \times 2 = 14$

- (i) The brickwork is measured in sq.m., instead of cubic metres, in the case of
- (a) Honeycomb brickwork
  - (b) B/W in lime
  - (c) Reinforced B/W
  - (d) B/W in fire-places

- (ii) The most reliable estimate is
- (a) Plinth area estimate
  - (b) Preliminary estimate
  - (c) Detailed estimate
  - (d) Cubic rate estimate
- (iii) According of Bureau of Indian Standards (BIS), in method of measurement, the order is in sequence
- (a) length, width and height
  - (b) width, height and length
  - (c) height, length and width
  - (d) None of these
- (iv) For plastering the exposed brick walls, the cement sand mortar should be
- (a) 1 : 6
  - (b) 1 : 4
  - (c) 1 : 5
  - (d) 1 : 2
- (v) Prismoidal formula for calculation of earthwork is
- (a)  $V = \frac{l}{6} (A_1 + 4A_m + A_2)$
  - (b)  $V = \frac{l}{3} (2A_1 + A_m + 4A_2)$
  - (c)  $V = \frac{l}{3} (A_1 + 4A_2 + A_m)$
  - (d)  $V = \frac{l}{6} (A_m + 4A_1 + A_2)$

- (vi) The projections of head or sill of a door or window frame are called
- (a) Posts
  - (b) Transom
  - (c) Horns
  - (d) Chocks
- (vii) What percentage of estimated cost is security money ?
- (a) 1%
  - (b) 2%
  - (c) 5%
  - (d) 10%
- 2.** (a) What are the various methods of building estimating ? Explain any one method in brief. 4
- (b) Estimate the quantities of the following items of work from the given drawing : 10
- (i) Earthwork in excavation
  - (ii) Lime Concrete (1 : 4 : 8) in foundation
  - (iii) Brickwork 1 : 6 in CM in steps upto plinth
  - (iv) Brickwork 1 : 6 in CM in superstructure



3. Calculate the quantity of earthwork for 300 m length for a portion of road in cutting, the height of the banks at two ends being 1.10 m and 1.50 m. The formation width is 4.00 m and side slope is 2 : 1 (Horz : Vert).

Solve the question by any **two** methods from the following : 2×7=14

- (i) Average cross-sectional area method
- (ii) Mid-sectional area method
- (iii) Prismoidal formula method

4. Prepare the analysis of rates for any **two** of the following items of works : 2×7=14

- (a) 1 : 5 : 10 cement concrete in foundation
- (b) second class brickwork in superstructure
- (c) 1 : 2 flush pointing in cement mortar
- (d) RCC 1 : 2 : 4 in beams and lintels

5. Write down detailed specifications of any **two** items of the following work : 2×7=14

- (a) White washing and colour washing
- (b) First class brickwork 1 : 6 CM in superstructure
- (c) Sal wood work in door frame and shutters
- (d) Stone masonry works in walls

6. Differentiate any **four** of the following :  $4 \times 3 \frac{1}{2} = 14$

- (a) Tender and Contract
- (b) Minor work and Petty work
- (c) Security money and Earnest money
- (d) Colour washing and Distemping
- (e) Spoil bank and Borrow pit
- (f) Lump sum contract and Percentage rate contract

7. Write short notes on any **four** of the following :  $4 \times 3 \frac{1}{2} = 14$

- (a) Glazed doors and windows
- (b) Underwater concreting
- (c) Lift and lead in earthwork
- (d) Muster Roll
- (e) Technical sanction
- (f) Deposit works