

## **Diploma in Civil Engineering**

### **Term-End Examination**

**June, 2007**

### **BCE-042 : ESTIMATING & QUANTITY SURVEYING-II**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Attempt **five** questions in all. Question No. 1 is **compulsory**. Assume suitable data wherever required. Use of calculator is permitted.

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1. Select the correct answer from the given alternatives.  $7 \times 2 = 14$

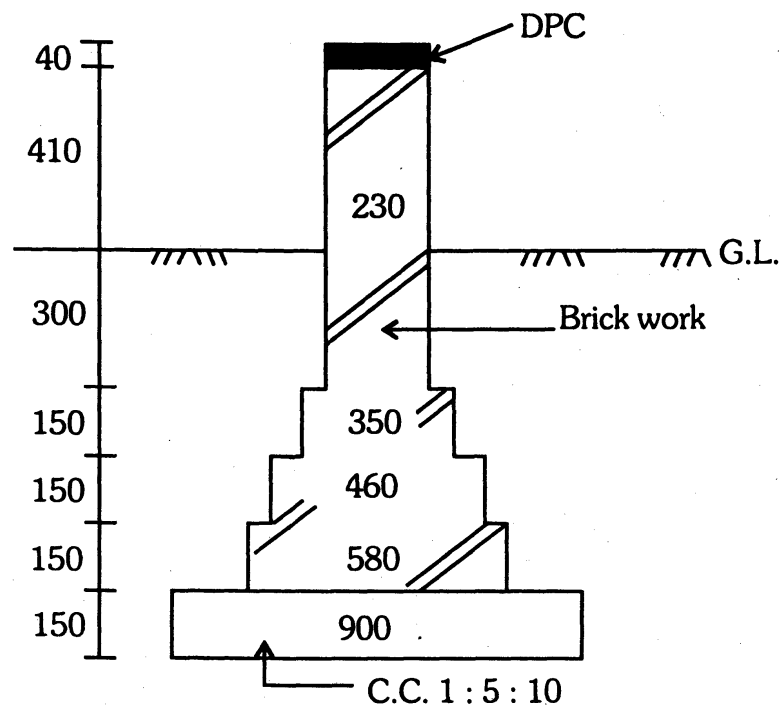
- (a) The detailed estimate of a project is
- (i) estimate on plinth area basis
  - (ii) estimate on service unit basis
  - (iii) estimate on cost index basis
  - (iv) estimate on itemwise quantities basis
- (b) Service unit for a prison building is
- (i) per bed
  - (ii) per tenement
  - (iii) per cell
  - (iv) per seat

- (c) In quantity surveying billing is the process of
  - (i) writing items in tradewise manner from abstract sheet
  - (ii) collection of quantities of identical nature
  - (iii) booking of dimensions on the take-off sheets
  - (iv) measurement
  
- (d) One of the fundamental requirements of quantity surveying is
  - (i) to use ruled paper
  - (ii) to use plain paper
  - (iii) to use computer software
  - (iv) to observe the accuracy in measuring quantities
  
- (e) Analysis of rate of an item of work is prepared
  - (i) to calculate major factors
  - (ii) to calculate minor factors
  - (iii) to make advance payment to contractor
  - (iv) to determine the cost per unit of an item of work

- (f) The standard labour constant of mixing mortar by hand in brick work is for
- (i) Bhisti
  - (ii) Mate
  - (iii) Mazdoor
  - (iv) Carpenter
- (g) Which of the following could be the part of 'Repair to Brick work' ?
- (i) Earth work in surface dressing
  - (ii) Filling available earth under floors
  - (iii) Demolition of brick work
  - (iv) Laying lean concrete under floors

**2.** Calculate the following quantities from the given sketch for a room having internal dimensions  $5000 \times 4000$  mm and one door opening of size  $1000 \times 2100$  mm : 14

- (i) Earth work in excavation in foundation trench
- (ii) Cement concrete 1 : 5 : 10 in foundation
- (iii) Brick work in foundation and plinth with cement sand mortar 1 : 6
- (iv) 40 mm thick D.P.C. of mix 1 : 2 : 4 including water proofing compound



Note : All dimensions are in mm

3. Prepare analysis of rate for the following items :  $2 \times 7 = 14$

(i) Prorata analysis for 38 mm thick door shutter using following data :

Rates of 40 mm thick shutters —

Rs. 1400.00 per sq. m

Rates of 35 mm thick shutters —

Rs. 1200.00 per sq. m

(ii) Analysis of rate for cement concrete in foundations, fillings and mass concrete with mix 1 : 4 : 8 (40 mm graded stone aggregate). Assume suitable rates of labour and materials etc.



- (i) Internal plastering on walls assuming ceiling height 3000 mm.
  - (ii) Marble chips flooring.
  - (iii) RCC in suspended floor (slab) taking full bearing on walls and thickness 120 mm.
  - (iv) Sand filling in plinth under floor taking thickness 100 mm.
7. A beam of cross-section 250 × 600 mm is 6000 mm long. It has longitudinal reinforcement of 4 bars at bottom of 20 mm dia and 2 bars on top of 16 mm dia. Stirrups of 8 mm dia bars @ 250 mm c/c. Assuming end covers 50 mm and side, top and bottom cover to the reinforcement 25 mm, calculate
- $$4 \times 3 \frac{1}{2} = 14$$
- (i) Main reinforcement of beam
  - (ii) Reinforcement of stirrups
  - (iii) RCC 1 : 2 : 4 in beam
  - (iv) Centring and shuttering (form work) for beam taking full bearing of both ends on walls 230 mm thick and embedded (sides encased).