Diploma in Civil Engineering

Term-End Examination

December, 2006

BCE-042 : ESTIMATING & QUANTITY SURVEYING-II

Time : 2 hours *Maximum Marks : 70*

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

1. Select the correct answer from the given alternatives. *7×2=14*

(a) Which is the more accurate estimate ?

(i) Item wise

(ii) Plinth area basis

(iii) Service unit basis

(iv) Bay basis

(b) The service unit for an Apartment building is

(i) per tenement

(ii) per seat

(iii) per bed

(iv) per cell

(c) Squaring dimensions is the process of
   (i) Collection of quantities
   (ii) Booking of dimensions
   (iii) Writing dimensions in tradewise manner
   (iv) Adding and/or multiplying of the recorded dimensions

(d) Collections during taking off quantities of work are
   (i) Calculation of quantities
   (ii) Preliminary calculations to arrive at a dimension
   (iii) Incorrect dimensions
   (iv) Name of Jobs

(e) In the analysis of rate of an item of work the minor factor is
   (i) Cost of material
   (ii) Cost of labour
   (iii) Cost due to site conditions
   (iv) None of the above

(f) For concrete mixing machine rating 400/300 indicates the ratio of
   (i) coarse aggregate and fine aggregate
   (ii) per batch volume in litres of dry and wet mix
   (iii) water and dry mix
   (iv) mass of dry/wet mix

(g) Which of the following could be the part of 'Repair to Joinery' ?
   (i) Seasoning of wood
   (ii) Painting and Polishing
   (iii) Taking down door/window shutters
   (iv) Scrapping the paint from shutters

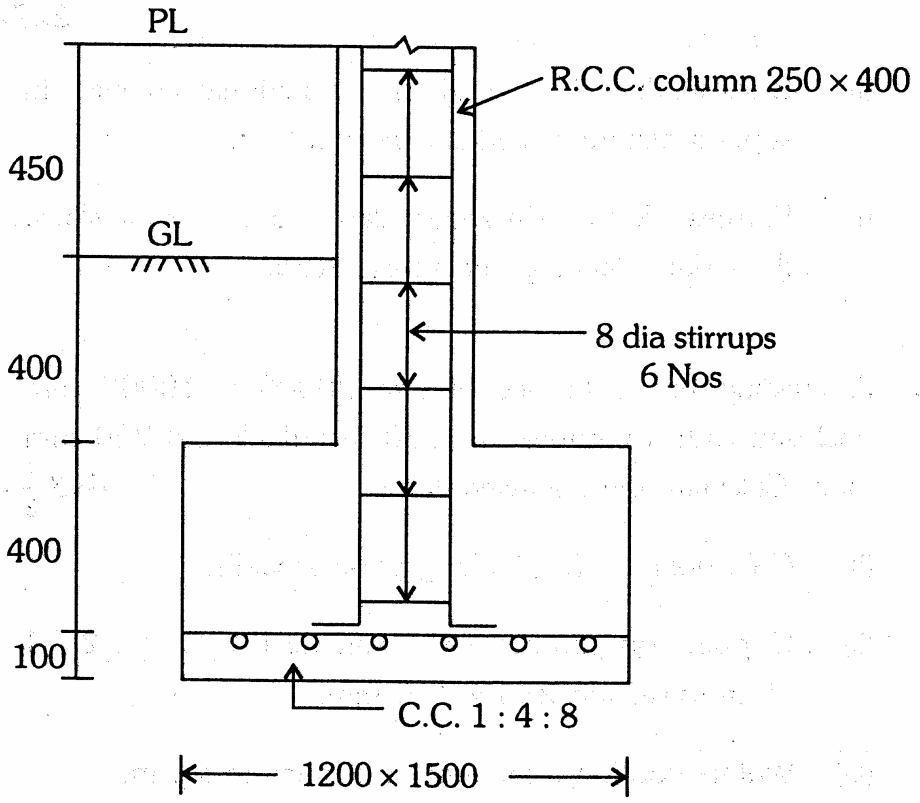
2. A building has six identical columns of R.C.C. of the given section in the sketch. Calculate the following items of the building : $4 \times 3\frac{1}{2} = 14$

(i) Cement concrete 1 : 4 : 8 in column foundations

(ii) R.C.C. 1 : 2 : 4 in column foundations

(iii) R.C.C. 1 : 2 : 4 in column upto plinth level

(iv) Reinforcement in stirrups upto plinth level assuming 40 mm side cover



Note : *All dimensions are in mm.*

3. A building has the following type of doors and windows :

Fully panelled doors	1000 × 2100 mm — 5 nos.
Flush doors	900 × 2100 mm — 3 nos.
Fully glazed steel windows	1500 × 1200 mm — 10 nos.
Rolling shutters	2500 × 2100 mm — 1 no.

Calculate the painting area required for painting doors and windows. *14*

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

(i) Brick-work with well-burnt traditional bricks in super-structure in cement mortar 1 : 6.

(ii) Form-work for suspended slabs such as roof slabs, floor slabs, landing and similar works.

5. A building has a terrace of size 20000 × 10000 mm enclosed with a parapet wall 230 mm thick and 750 mm high. Calculate the following items : $4 \times 3\frac{1}{2} = 14$

(i) C.C. gola 1 : 2 : 4 along parapet walls.

(ii) Copping on parapet wall assuming R.C.C. 1 : 2 : 4 of cross-section 230 × 100 mm.

(iii) Water-proofing treatment on terrace in sq. m.

(iv) Number of rain water pipes assuming 40 sq. m shall be covered by each pipe.

6. (i) Plinth area of a building is 1200 sq. m. The plinth area rate of similar building in the same area are Rs. 8000·00 per sq. m + 10% Building Cost Index. Calculate the cost of the building.

(ii) A hospital building is proposed to be constructed for 200 bed capacity. If cost of similar building is Rs. 50,000·00 per bed + 5% Building Cost Index, calculate the cost of the building project. $2\times7=14$

7. An R.C.C. column of cross-section 250 × 400 mm and height 5000 mm has main reinforcement (vertical)
20 mm dia bars — 4 nos. and
16 mm dia bars — 2 nos.
Calculate the following quantities : $2\times7=14$

(i) Form-work for the column

(ii) Vertical reinforcement quantity neglecting top and bottom covers

8. Write short notes on any ***four*** of the following : $4\times3\frac{1}{2}=14$

(i) Star rate items

(ii) Prorata analysis of items

(iii) Essentials of analysis of rates

(iv) Principles for abstracting and billing

(v) Importance of Estimation