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BCE-042

DIPLOMA IN CIVIL ENGINEERING

Term-End Examination

June, 2012

03760

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.*

1. Select the correct answers from the given alternatives : **7x2=14**

   (a) Estimation 'Typical Bay Basis' is a/an :

   (i) Preliminary estimate

   (ii) Itemmise estimate

   (iii) Lump-sum estimate

   (iv) False estimate

   (b) Take-off sheet column no. 2 as per MES practice is used for :

   (i) Recording result of squaring of dimensions

   (ii) Writing dimensions of measured quantity

   (iii) Writing short notes

   (iv) Writing alternate items

(c) Standard unit of measurement for steel reinforcement in RCC is :

(i) Per mm dia of bar

(ii) Per Sq m

(iii) Per metre length

(iv) Per kg

(d) Labour constant is defined as :

(i) Labour work in 24 hours

(ii) Fixed number of labour per day

(iii) Labour working on one project only

(iv) The quantity of work which an average labour can do in one working day of eight hours.

(e) The unit of measurement of WC seat with P-trap is :

(i) Each

(ii) Seat height in metres

(iii) Per Cu m

(iv) Weight of WC and Trap in kg.

(f) Painting factor for steel rolling shutter for each face painting is :

(i) 1.2 (ii) 1.3

(iii) 1.1 (iv) 0.75

(g) Cost due to magnitude of work in a building work is a :

(i) Major factor

(ii) Minor factor

(iii) Magnitude factor

(iv) Real factor

2. Prepare analysis of rates for : **7x2=14**

(a) Cement concrete in foundations, filling and mass concrete, type D_2 1 : 4 : 8 (40 mm graded aggregate).

(b) Prepare a proportional rate for providing cement concrete floor with concrete mix 1 : 2 : 4 (20 mm graded aggregate), 50 mm thick finished even and smooth using extra cement. Given data is as following :

- Rate of CC 1 : 2 : 4 (20 mm graded aggregate) for 25 mm thick flooring - Rs. 75.00 per sq m.

- Rate of CC 1 : 2 : 4 (20 mm graded aggregate) but for each extra 15 mm thick - Rs. 45.00 per sq m.

- Finishing concrete surface even and smooth using extra cement -

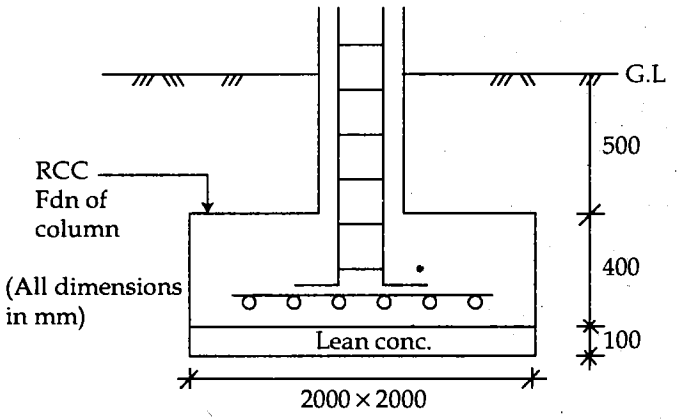
Rs. 15.00 per sq m

3. Calculate the total painting area for painting of the following doors and windows : **1x14=14**

- Steel glazed windows 1800 x 1200 mm - 3 Nos
- Wooden panelled door shutters 1000 x 2100 mm - 4 Nos
- Collapsible gate 2000 x 2100 mm - 2 Nos
- Flush door shutter 900 x 2100 mm - 3 Nos
- Wooden glazed window 1500 x 1200 mm - 6 Nos

4. (a) A building has external dimensions 60 m × 10 m. The plinth protection of 600 mm width is to be provided along its external walls. Calculate the quantity of plinth protection and cost taking rates Rs. 150 per sq m. **2x7=14**

(b) A building has 12 number of RCC columns with isolated footings. With the help of the given sketch, calculate quantity of RCC in column foundation for all the 12 columns. Also, compute the earth work in excavation.



SECTION COLUMN FOUNDATION

Note : All dimensions are in mm

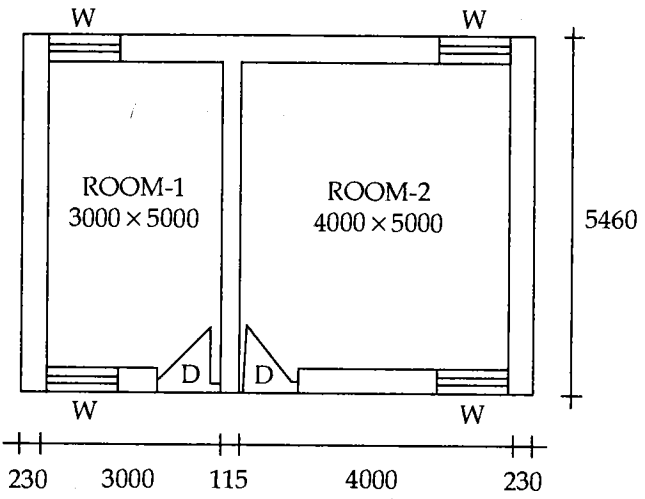
5. With the help of the given plan of the building calculate the following quantities : **4x3½=14**

(a) Brick work in half brick thick wall in super-structure. Take ceiling height from floor level 3000 mm.

(b) Flooring in rooms including door sills.

(c) Internal white wash on walls and ceiling. Assume flat roof, and floor to ceiling height 3000 mm.

(d) Internal plastering on walls. Taking wall height as 3000 mm.



D = 1000 × 2100 mm

W = 900 × 1200 mm

Note : All dimensions are in mm

6. Prepare a requisition for repair to brick compound wall 230 mm thick, 30 m long and 1.5 m high above ground level. Demolished material will not be re-used. Calculate quantities of items only. Assume your own damage pattern of the wall. **1x14=14**

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

(a) Ordinary Requisition for repair work

(b) Minor factors affecting analysis of rates (any two)

(c) SSR Part-I specifications

(d) Importance of Estimation

(e) Estimate on service unit basis

(f) Relation between specifications and the total cost of a given work.