

Diploma in Civil Engineering

Term-End Examination

December, 2007

**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 answer from the given alternatives.

7×2=14

- (a) In quantity surveying, operation of taking off is
- (i) Measuring dimensions of executed work and recording in MB
 - (ii) Measuring dimensions from working drawings and recording on take off sheets
 - (iii) Correcting dimensions in drawings
 - (iv) Costing of quantities
- (b) At the end of SSR-rates Part II an Appendix 'A' is attached, which provides
- (i) Rates of steel items
 - (ii) Rates of aluminium items
 - (iii) Standard weight of structural steel and aluminium sections
 - (iv) General Rules applicable to all sections

- (c) Abstracting is the process of
- (i) Collection of measurements of identical character and description under different trades
 - (ii) Recording result of squaring the dimensions
 - (iii) Brief description of items
 - (iv) Recording dimensions on take off sheets
- (d) Which of the following is a major factor affecting analysis of rates ?
- (i) Cost of tools and plants
 - (ii) Cost due to site conditions
 - (iii) Overhead charges
 - (iv) Cost of materials
- (e) The capacity of a concrete mixer is denoted as 400/300. It denotes the capacity per batch in
- (i) litres of wet mix and dry mix
 - (ii) litres of dry mix and wet mix
 - (iii) kg of wet mix and dry mix
 - (iv) kg of dry mix and wet mix
- (f) As per general conditions of contract in MES, any single work, job or service ordered on a Term contract (T.C.) shall **not** exceed :
- (i) Rs. 80,000
 - (ii) Rs. 90,000
 - (iii) Rs. 3,000
 - (iv) Rs. 60,000

(g) Unit of measurement for surface excavation in soft soil is

- (i) M^2
- (ii) M^3
- (iii) Each Building
- (iv) Metre

2. (i) Prepare a proportional rate analysis for 30 mm thick shutter (door) with the help of following data :

- The rate of 35 mm — Rs. 1,500 per sq. m thick shutter for doors
- The rate of 40 mm — Rs. 2,000 per sq. m thick shutter for doors

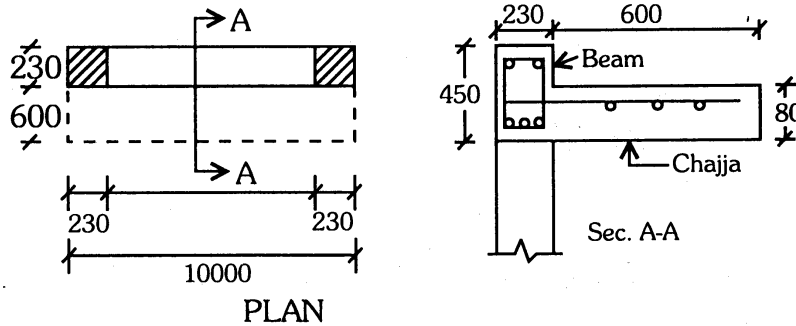
(ii) Prepare analysis of rate for R.C.C. in slabs for floors, roofs, landings and the like with cement concrete 1 : 2 : 4 (20 mm graded stone aggregate).

$$2 \times 7 = 14$$

3. A 10 m long R.C.C. beam resting on two brick columns has chajja projection of 600 mm width as shown in the sketch below. Calculate the following quantity.

$$4 \times 3 \frac{1}{2} = 14$$

- (i) R.C.C. 1 : 2 : 4 in chajja projection
- (ii) Form work for chajja projection
- (iii) R.C.C. 1 : 2 : 4 in beam
- (iv) Form work for beam



Note : All dimensions are in mm.

4. A rectangular-shaped building (single storey) has external dimensions 12 m × 6 m. Calculate the following items for it :

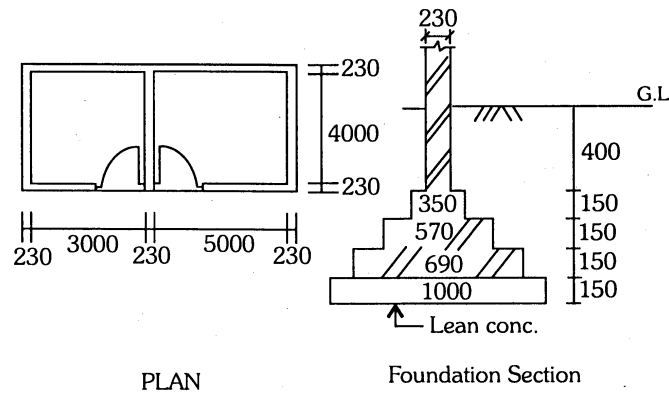
$$4 \times 3 \frac{1}{2} = 14$$

- (i) Surface excavation assuming excavation upto 3 m beyond external face of building.
- (ii) Area of plinth protection for providing it 700 mm wide all around the building.
- (iii) R.C.C. 1 : 2 : 4 for roof slab assuming thickness 120 mm and full bearing on walls.
- (iv) Plinth area of the building.

5. Calculate the following items with the help of given sketch of a building :

$$2 \times 7 = 14$$

- (i) Earthwork in excavation in foundation trenches
- (ii) Brick work in cement sand mortar 1 : 6 in foundation upto G.L.



6. A building has the following types of doors, windows and ventilators. Calculate the painting area : 14

Fully glazed steel ventilators 900 × 600 mm – 6 Nos

Fully glazed wooden windows 900 × 1200 mm – 12 Nos

Fully panelled wooden doors 1000 × 2100 mm – 8 Nos

Collapsible steel shutters 2400 × 2100 mm – 2 Nos

7. Covered area of a residential building at ground floor is 150 sq. m and building height is 5 m. Calculate the cost of building by estimating on 'Cubical Contents Basis' assuming cost per cu. m Rs. 900 and +15% Building Cost Index. 14

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

- (i) Estimate on typical bay basis
- (ii) Standard Schedule of Rates
- (iii) Brief particular specifications of a building
- (iv) Principles for abstracting and billing
- (v) Minor factors affecting analysis of rate
- (vi) Labour output