

DIPLOMA IN CIVIL ENGINEERING
DCLE(G) / DCLEVI

Term-End Examination

June, 2017

00434

BCE-042 : ESTIMATING AND QUANTITY
SURVEYING - II

Time : 2 hours

Maximum Marks : 70

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

1. Select the correct answer from the given alternatives. 7×2=14
- (a) No deduction is made in masonry for openings up to
- (i) 0.01 m²
 - (ii) 0.1 m²
 - (iii) 1.00 m²
 - (iv) 10.00 m²
- (b) Approximate estimates are prepared for hospitals on the basis of
- (i) per head
 - (ii) per seat
 - (iii) per bed
 - (iv) plinth area

- (c) A parapet is a breast high wall generally provided on the _____ of a building.
- (i) basement
 - (ii) sill level
 - (iii) plinth
 - (iv) roof
- (d) The weight of reinforcement steel rods is taken as
- (i) 7700 kg/m^3
 - (ii) 7750 kg/m^3
 - (iii) 7800 kg/m^3
 - (iv) 7850 kg/m^3
- (e) The number of standard bricks required for 1 m^3 of brickwork is
- (i) 400
 - (ii) 450
 - (iii) 500
 - (iv) 550
- (f) The unit of measurement for steel reinforcement is
- (i) sq. m.
 - (ii) sq. ft.
 - (iii) Quintal
 - (iv) kg

(g) The quantity of cement required for one cu. m. of cement concrete with mix ratio 1 : 2 : 4 is

- (i) 200 kg
- (ii) 305 kg
- (iii) 405 kg
- (iv) 500 kg

2. (a) What is the difference between Revised estimate and supplementary estimate ? 6

(b) Prepare a preliminary estimate of a building project with a total plinth area of all buildings of 1500 m² given that 8

- (i) Plinth area rate - ₹ 950 per sq. m.
- (ii) Extra for architectural treatment - $1\frac{1}{2}$ %
- (iii) Extra for water supply and sanitary installation - 5%
- (iv) Extra for internal installation - 14%
- (v) Extra for services - 6%
- (vi) Contingencies - 3%
- (vii) Supervision charges - 8%

3. Analyse the rate for cement concrete 1 : 2 : 4 with the given data 14

Material Cost :

- (i) Stone ballast 40 mm gauge - 900 per m³
- (ii) Sand - 700 per m³
- (iii) Cement - 6325 per m³

Labour wages per day :

- (iv) Mistri – ₹ 500
- (v) Mason – ₹ 400
- (vi) Mazdoor – ₹ 300
- (vii) Coolie – ₹ 150
- (viii) Bhishti – ₹ 150

Water charges – $1\frac{1}{2}\%$

Contractor profit – 10%

4. Write the detailed specifications for the following items : 7+7=14

- (a) Brickwork Ist class
- (b) Plastering cement mortar 1 : 5

5. For a room of size 6 m × 3 m with wall thickness 30 cm, covered with one-way slab of 18 cm thickness, having main reinforcement 10 mm diameter at 15 cm c/c and distribution bars of 8 mm diameter at 25 cm c/c, calculate the quantities of the following : 2+5+5+2=14

- (a) Formwork
- (b) Main reinforcement
- (c) Distribution bars
- (d) RCC 1 : $1\frac{1}{2}$: 3

6. Calculate the quantities of PCC 1 : 4 : 8, brickwork for foundation and wall and plastering with CM 1 : 6, for 100 m length of a jail wall whose cross-section is given in Figure 1.

14

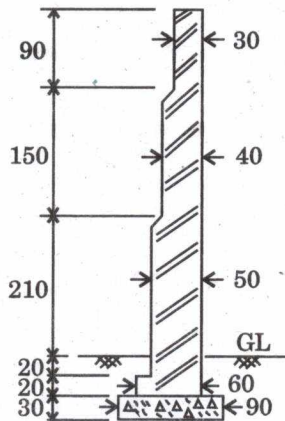


Figure 1
Cross section of Jail Wall
(All dimensions are in cm)

7. Write short notes on any **four** of the following :

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

- Bill of Quantities
- Cube Rate Estimate
- Schedule of Rates
- Varnishing
- Acquittance Bill
- Standard Measurement Book
- Tools and Plants