



c09-c-404

**3425**

**BOARD DIPLOMA EXAMINATION, (C-09)**

**OCT/NOV—2017**

**DCE—FOURTH SEMESTER EXAMINATION**

**QUANTITY SURVEYING**

*Time : 3 hours ]*

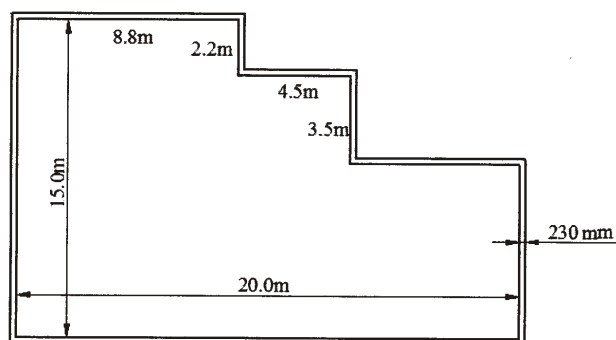
*[ Total Marks : 80*

**PART—A**

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List any four duties of quantity surveyor.
2. Prepare an approximate estimate of a hospital building for 50 beds. The cost of the construction altogether for each bed is ₹ 60,000. Determine the total cost of the hospital building.
3. The plan of compound wall is shown in the figure below. Calculate its centre line length :



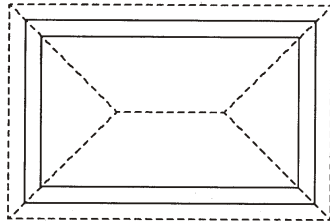
4. Calculate the length of common rafter and number of common rafters spaces at 0.5 m c/c of the hipped roof shown below :

Room size = 6.0 m × 4.0 m

Wall thickness = 300 mm

Slope of roof =  $\frac{1}{3}$  of span

Eaves projection = 500 mm



5. Find the cost of materials at site for the following :

Sl. No.	Materials	Rate at source (in ₹)	Leads (in km)	Conveyance charges (in ₹)
1	20 mm size HBG metal	450.00/m <sup>3</sup>	30	9.0 per cum/km
2	Cement	3400/1 tonne	8	80/1 tonne/km

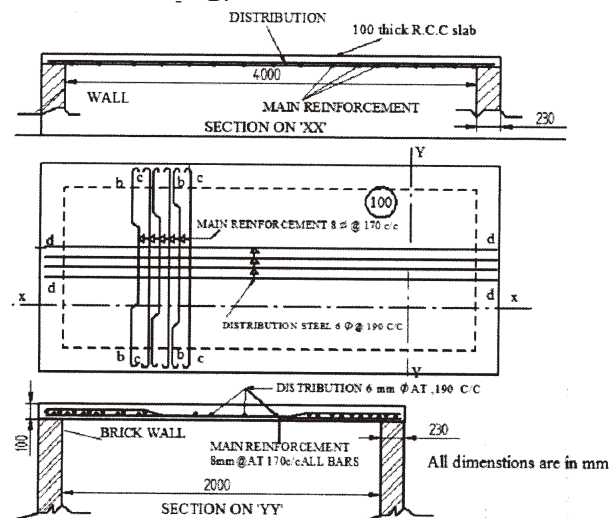
6. From the following figure calculate the quantity of distribution steel 6 mm @ 190 mm c/c required for bottom mat :

Top cover (clear) = 25 mm

Side clear cover = 25 mm

Bottom cover (clear) = 15 mm

6 mm dia bars 0.22 kg/m

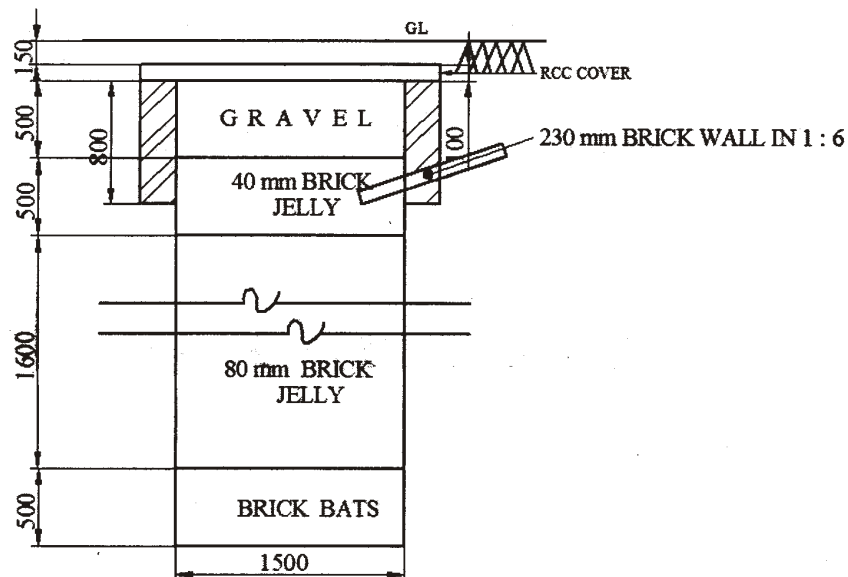


\*

7. Find the volume of the earthwork in an embankment of length 100.0 m, top width 7.0 m and depth 3.5 m. The side slopes are  $1\frac{1}{2} : 1$ .

8. The cross-section of a circular dispersion trench 1.5 m dia is shown in the figure below. Calculate the quantity of—

- (a) brick bats;  
(b) RCC cover.



9. Write a short note on book value.

\*

10. The cost of a building including cost of land is ₹ 1,00,000. The owner expects 10% return. If the expenditure on all outgoings including sinking fund is ₹ 5,000. Find the gross rent of property per month.

\*

## PART—B

10×5=50

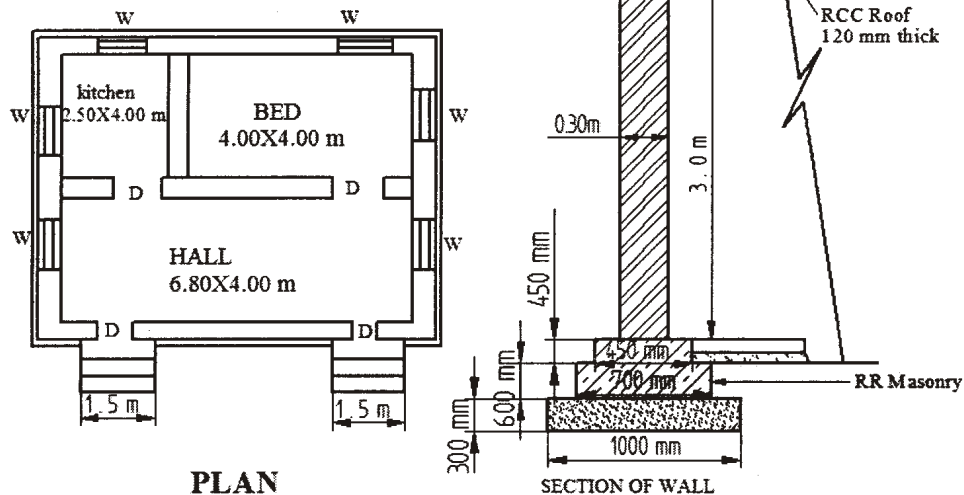
**Instructions :** (1) Answer *any five* questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

**11.** Prepare the detailed estimate for the following items of work for the residential building shown in the figure below :

- (1) CC (1 : 5 : 10) for foundation bed
- (2) Brick masonry for super structure walls without deduction
- (3) RCC 1:2:4 for roof slab



**REFERENCE:**  
 DOOR D 1000 X 2000  
 WINDOW W 1000 X 1250

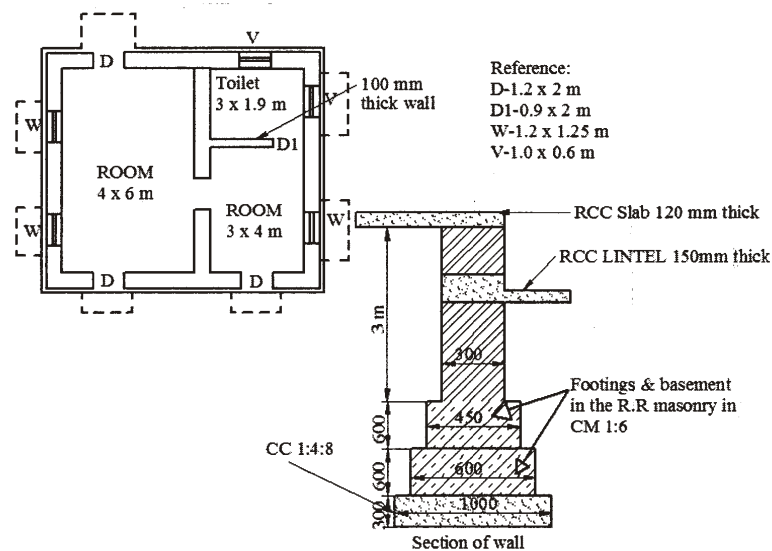
\*

**12.** From the following drawing, calculate the quantities for the following items of the work :

(a) Earthwork excavation for foundation

(b) Brick masonry in CM (1:6) for superstructure wall without deductions

(c) Plastering to ceiling with CM (1:3)



**13.** Prepare the data sheet and find the cost of the following items of works :

(1) Cement concrete 1:4:8 of foundation using 40 mm broken stone, unit—1 m<sup>3</sup>

(2) Plastering with CM 1:4—12 mm, thick unit—10 m<sup>2</sup>

(a) Quantities for CC 1:4:8 for 1 m<sup>3</sup>

0.92 m <sup>3</sup>	40 mm size broken stone
0.46 cum	Sand
0.115 m <sup>3</sup>	Cement
0.2 Nos.	Mason
1.80 Nos.	Man mazdoor
1.40 Nos.	Women mazdoor
LS	Sundries

\*

(b) Quantities for plastering with CM (1 : 4)—12 mm, thick—10 m<sup>2</sup>

0.15 cum	CM (1 : 4)
1.1 Nos.	Brick layer
0.5 Nos.	Man mazdoor
1.1 Nos.	Women mazdoor
LS	Sundries

Lead statement :

Sl. No.	Materials	Rate at source (in ₹)	Leads (in km)	Conveyance charges (in ₹)
1	40 mm size broken stone	400.00 one 1 m <sup>3</sup>	12 km MT	3.00/1 m <sup>3</sup> /km
2	Sand	95.00 per 1 m <sup>3</sup>	35 km MT	3.00/1 m <sup>3</sup> /km
3	Cement	2400.00 per 10 kN or 1 tonne	At site	

Labour charges :

Mason or brick layer	₹ 300/day
Men and women mazdoors	₹ 180/day
Mixing charges	₹ 27.50/cum

**14.** Prepare the data sheet and calculate the cost of the items given below, using the lead statement of materials.

(a) Cement concrete 1 : 3 : 6 using 40 mm HBG metal, unit—1 cum

0.92 m <sup>3</sup>	40 mm HBG metal
—	Sand
—	Cement
0.06 Nos.	Mason 1st class
0.14 Nos.	Mason 2nd class
1.80 Nos.	Men mazdoor
1.40 Nos.	Women mazdoor
LS	Sundries

(b) RR Masonry in CM (1 : 6) unit—1 cum

1.10 cum	Rough stone
0.34 cum	CM (1 : 6)
0.54 Nos.	Masons 1st class
1.26 Nos.	Masons 2nd class
1.40 Nos.	Man mazdoors
1.40 Nos.	Women mazdoors
LS	Sundries

\*

\*

Lead statement of materials :

Sl. No.	Materials	Rate at source (in ₹)	Leads (in km)	Conveyance charges (in ₹)
1	40 mm HBG metal	300 per m <sup>3</sup>	10 km	15/m <sup>3</sup>
2	Sand	75 per m <sup>3</sup>	20 km	10/m <sup>3</sup>
3	Cement	1800 per tonne	—	At site
4	Rough stone	250 per m <sup>3</sup>	8 km	12/m <sup>3</sup>

Labour :

- (a) Mason 1st class ₹ 250/each/day
- (b) Mason 2nd class ₹ 240/each/day
- (c) Men mazdoors ₹ 230/each/day
- (d) Women mazdoors ₹ 225/each/day
- (e) Mixing charges of CM ₹ 40/cum

- 15.** For an embankment 60 m long having uniform gradient with the height of bank 3·0 m at one end and 1·8 m at the other end. The width of embankment at top is 6 m and its side slopes are 2:1. Estimate the quantity of earthwork by—

- (a) prismoidal rule;
- (b) mid sectional method;
- (c) mean sectional method.

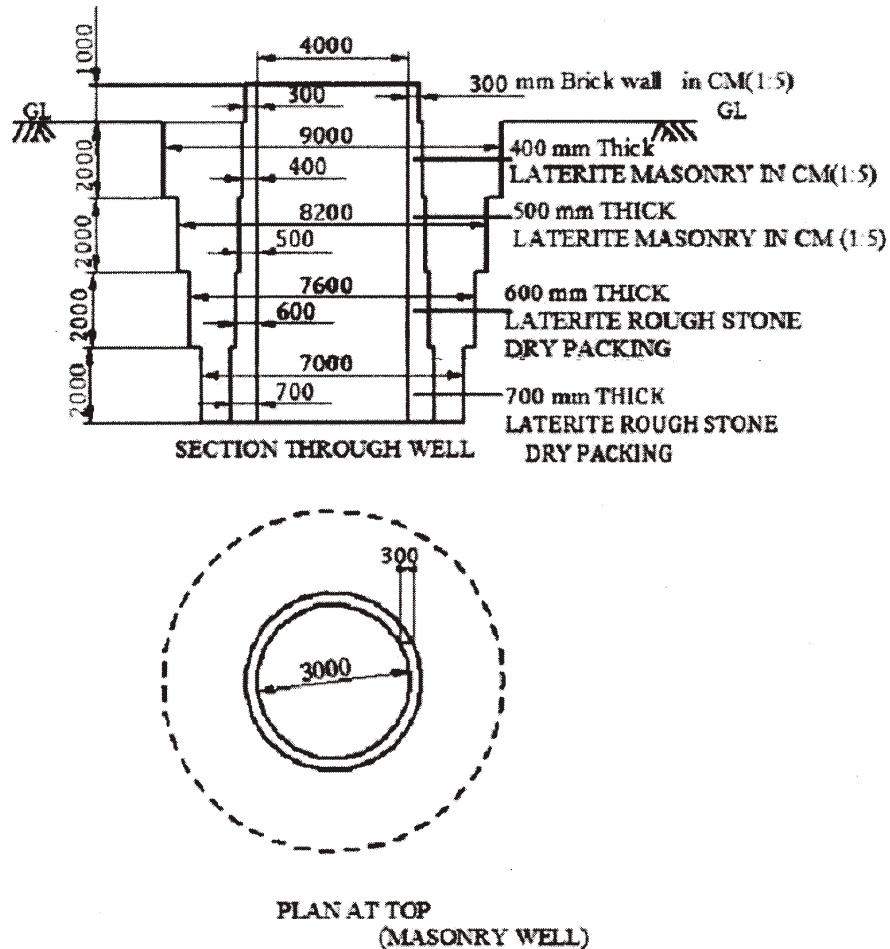
The longitudinal and transverse gradient of the ground is nil.

- 16.** Calculate the quantities for the following items of work for an open well shown in the figure below :

- (a) Refilling with excavated earth around the well staining

\*

(b) Laterite rough stone dry packing for well staining.



17. Calculate the quantities for the following item of a work for a slab culvert shown in the figure below.

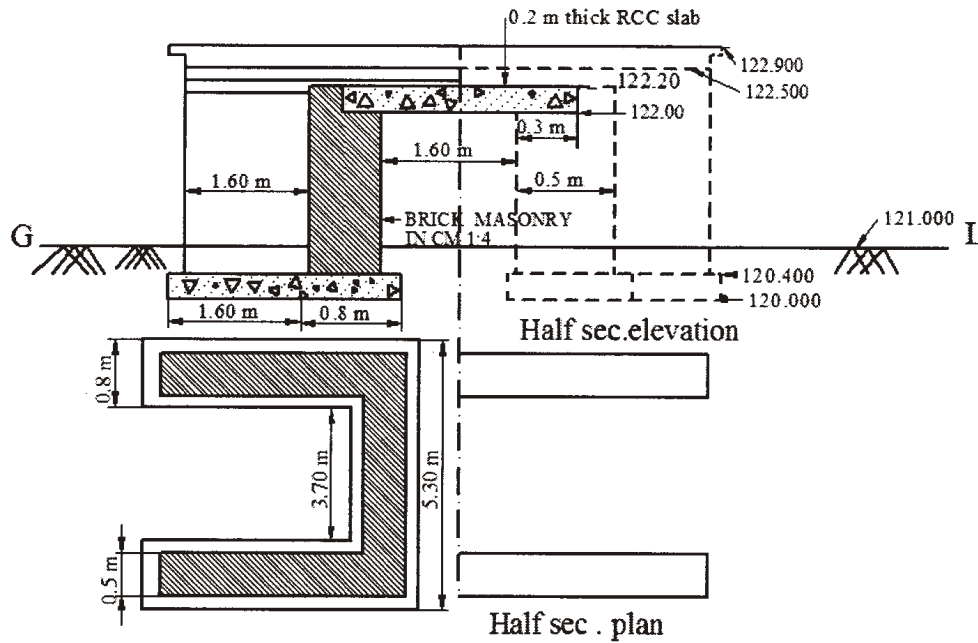
(a) CC (1 : 4 : 8) for abutment and wing walls

(b) Brick masonry in CM (1 : 4) for abutment and wing walls up to bottom deck slab



\*

(c) RCC for deck slab



18. Residential building constructed 12 years ago is situated on a plot whose total area is  $400 \text{ m}^2$ . The plinth area of the building is  $240 \text{ m}^2$ . The present cost of construction of the building is ₹ 1,30,000 and the cost of the land is ₹ 180/ $\text{m}^2$ . The rate of depreciation for the value of the building is 1%. Calculate the total value of the property.

\*\*\*