



C14-C-403

4421

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH / APRIL - 2019

DCE - IV SEMESTER EXAMINATION

QUANTITY SURVEYING - I

Time : 3 Hours]

[Total Marks : 80

PART - A

3×10=30

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

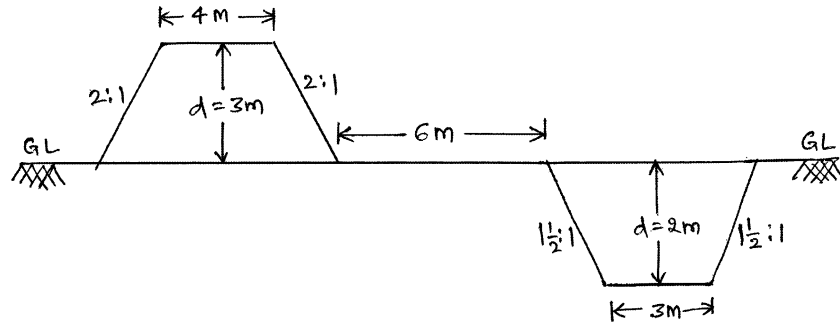
- 1 Define the terms : Detailed Estimate and Abstract Estimate. **1.5+1.5**
- 2 State the units of measurement for the following items of work: **3×1**
 - (a) Filling Basement with sand.
 - (b) Steel reinforcement in R.C.C
 - (c) Doors, windows.
- 3 Define the terms used in connection with capacity of reservoirs : **3×1**
 - (a) Sill level
 - (b) Full Tank Level
 - (c) Dead Storage

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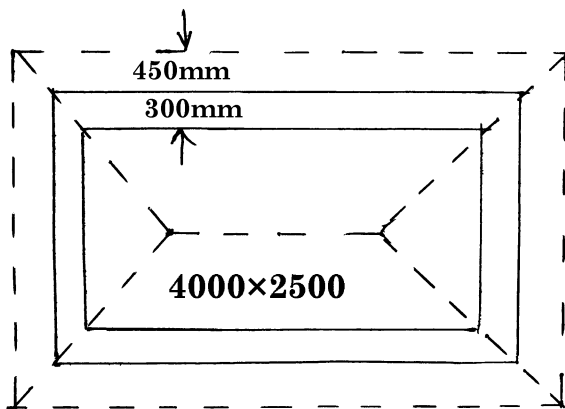
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- 4 Find the Lead and lift of the following : 1.5×2

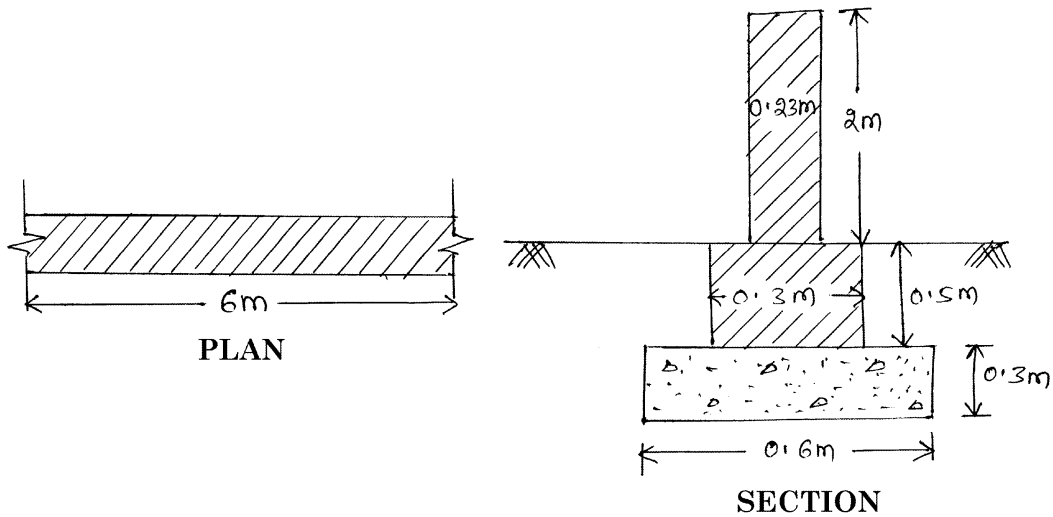


- 5 Compute the Volume of Earthwork involved in cutting open a 3
trench of the Following size : Length =500m, Side slope = 2 : 1,
Depth of trench=3m, Width of trench at bottom =1.5m
- 6 What is an Approximate Estimate? State Two purposes of an 1+2
Approximate estimate.
- 7 Prepare an Appoximate estimate of a Hospital building for 3
30 beds. The Cost of Construction altogether for each bed is
Rs. 70,000/- Determine the total cost of the Hospital buiding.
- 8 From the accompanying sketch of sloped roof, Calculate 1.5×2
(a) Length of common Rafter and
(b) No.of common rafters



SLOPE OF ROOF = $\frac{1}{3}$ SPAN
SPACING OF COMMON
RAFTERS = 400mm

- 9 Below figure shows plan and section of a part of a Compound wall calculate the quantity of Cement concrete required for foundations 3



- 10 A single room building is having 3.60 m × 6.00 m internal dimensions with 300 mm thick wall and height of room is 3.50 m. Calculate Plinth Area 3

PART - B

10×5=50

- Instructions :**
- (1) Answer any **FIVE** questions.
 - (2) Each question carries **TEN** marks.
 - (3) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11 (a) Write the General specification for Earthwork Excavation for Foundation 5+5
- (b) Give the Detailed specification for Plastering for a New wall surface.

- 12 The ground level are taken along the center line of the road 5+5 are given below.

Chainage in m	0	30	60	90	120
R.L. of ground m	96	96.5	98	98.5	99

The road is formed in embankment at formation level of 100m throughout the length.

The width of the road is 12m and the side slopes are 2: 1, Calculate the quantity of earthwork required by using:

- (a) Trapezoidal rule
(b) Prismoidal rule.

Assume transverse slope are level.

- 13 Calculate the capacity of reservoir for the areas enclosed by the 5+5 contours of a reservoir given below by

- (a) Trapezoidal rule
(b) Prismoidal Rule.

Level in m	Area in m ²	Particulars
10.00	9,000	Sill level of sluice
10.50	20,000	
11.00	50,000	
11.50	85,000	
12.00	1,10,000	F.T.L

14 Prepare an Approximate estimate for a residential building with **10** the following data by using Plinth area method.

- (1) Plinth area = 200m^2
- (2) Plinth area rate of structure cost = Rs. 3500/- per m^2
- (3) Provide the following as a percentage on the structure cost.
 - (a) Water supply and Sanitation – $12\frac{1}{2}\%$
 - (b) Electrification – $7\frac{1}{2}\%$
 - (c) Architectural purpose – 1%
 - (d) Work charged establishment – 3%

15 Prepare a rough estimate for a proposed commercial complex **10** for a municipal corporation For the following data :

Plinth area = Rs. 500/- per m^2 / floor

Height of each floor = 3 m.

No of Stories = Ground floor +2.

Cubical content rate = Rs. 1000 per m^3 .

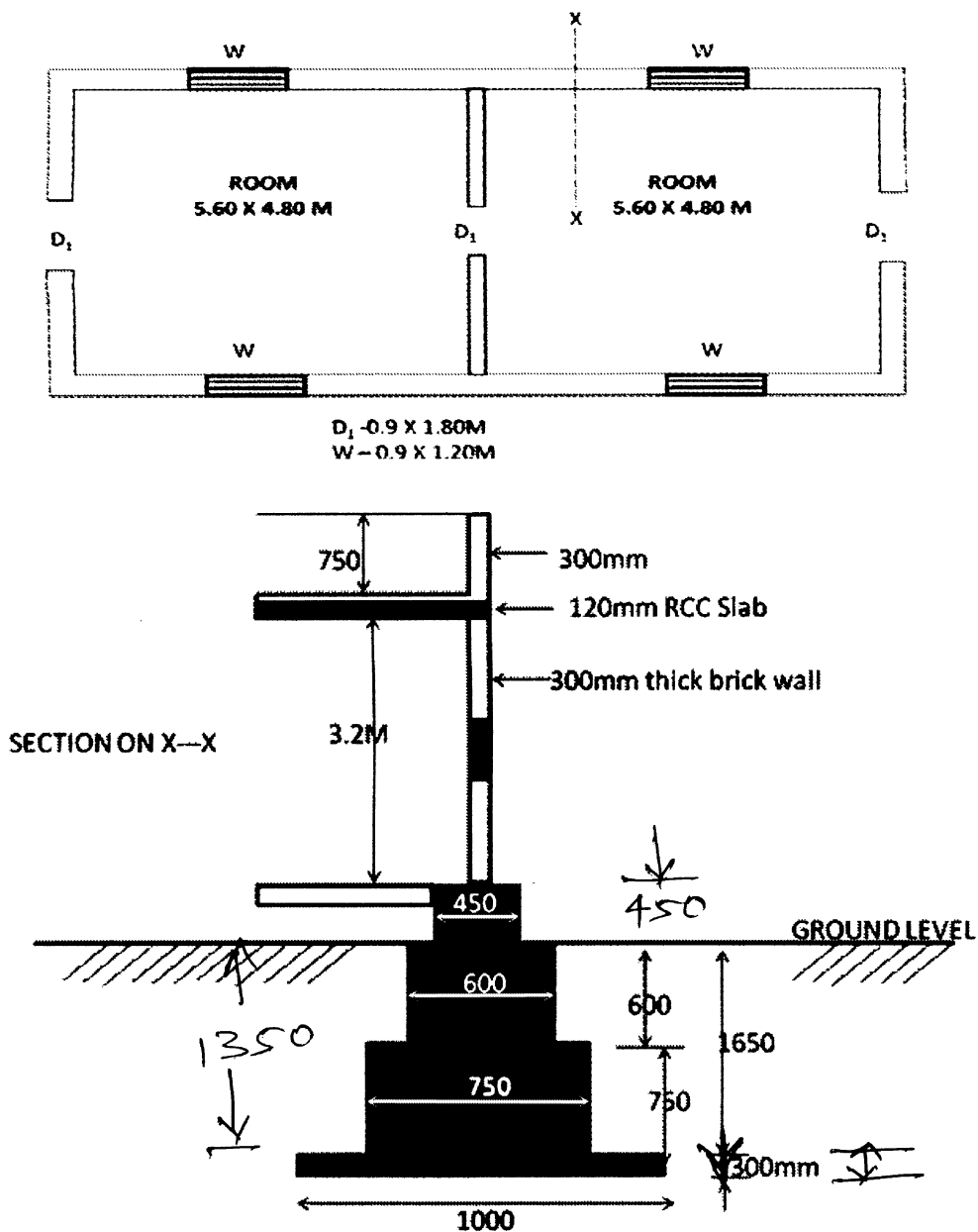
Provisions are given below:

- (a) Water supply and sanitation = 8% of building cost.
- (b) Electrification = 6% of building cost.
- (c) Fluctuation of rates 5% of building cost.
- (d) Contractor's margin = 10% of total cost.
- (e) Petty supervision and contingencies = 3% of Total cost.

16 Prepare the Detailed estimate for the following items of work 4+6 from the Plan and Section as shown in the below figure of a Residence :

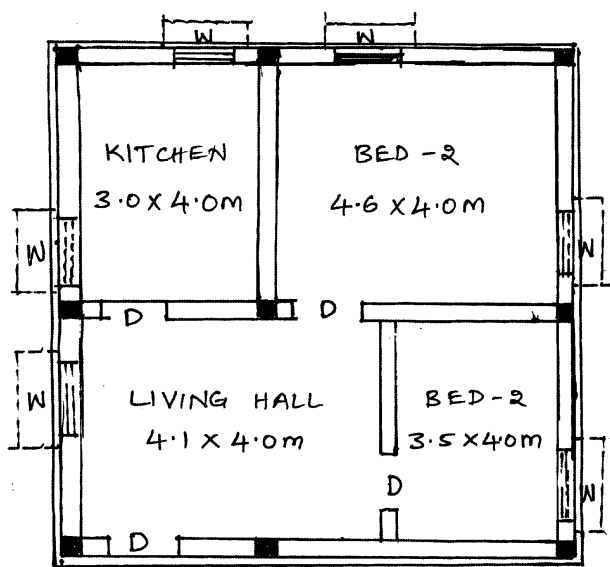
- (a) Earthwork excavation for foundation.
- (b) Internal plastering in C.M (1:6) with deductions for Openings.

FIGURE -1

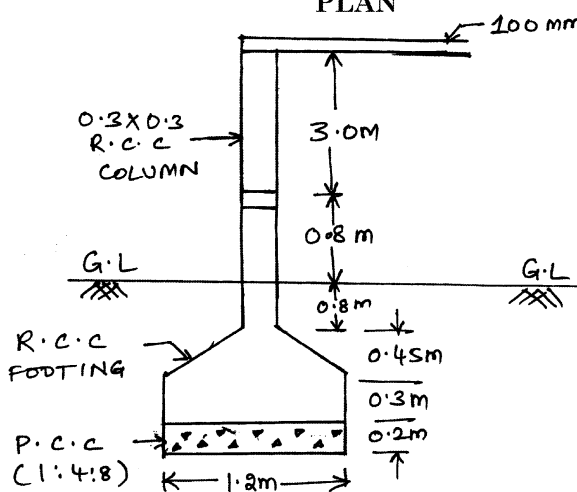


17 Prepare the Detailed estimate for the following items of work 5+5 from the figure below of a Residence:

- (a) R.C.C. (1: 1 1/2:3) for columns up to ground level.
- (b) Brick Masonry in C.M.(1:5) without deductions for openings.



PLAN



SECTION

100 mm THICK R.C.C SLAB

SKETCH FOR Q. 17

Reference :-

D - DOOR : 1.0 X 2.0 M

W - WINDOW : 1.2 X 1.2 M

18 Plan and section of Steps at the front of a Residential building shown in figure below. Calculate the following items of work :

- (i) C.C(1:4:8) bed in foundation.
- (ii) Brick masonry in CM(1:6) for Steps.
- (iii) Plastering in CM(1:4) with 20mm thickness for Steps.

