

4426

**BOARD DIPLOMA EXAMINATION, (C-14)  
MARCH /APRIL-2019  
DCE - FOURTH SEMESTER EXAMINATION**

**QUANTITY SURVEYING – I**

Time: 3 Hours

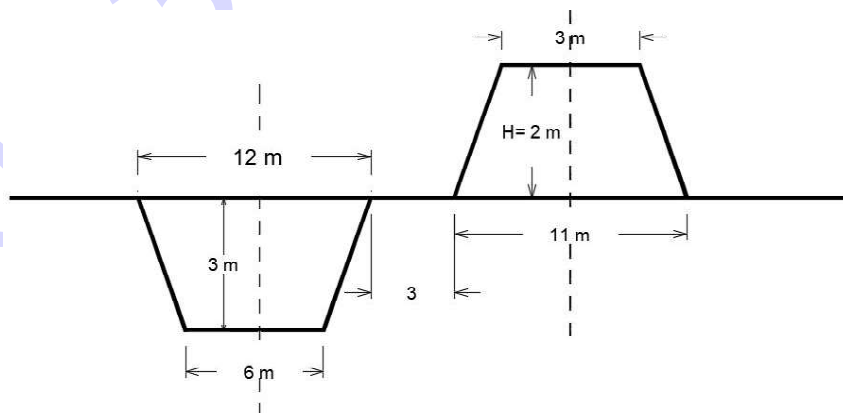
Max.Marks: 80

**PART-A**

**10x3=30M**

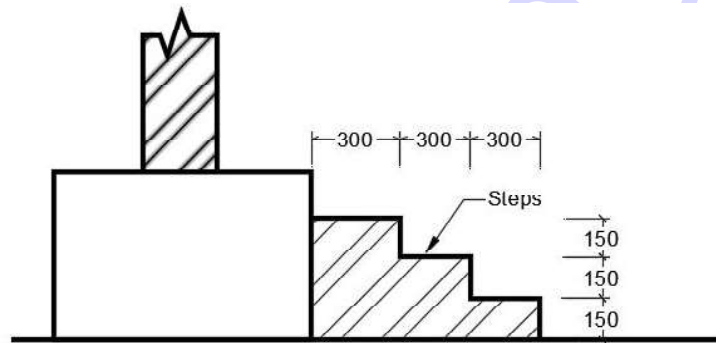
- Instructions :** 1) Answer all questions  
2) Each question carries three marks

- 1) Define: a) Quantity surveying b) Estimation .
- 2) State the units of the following items:  
a) Earthwork excavation b) Brick masonry c) VRCC for columns
- 3) A canal is proposed to be formed as shown in fig. below. Calculate lead and lift.

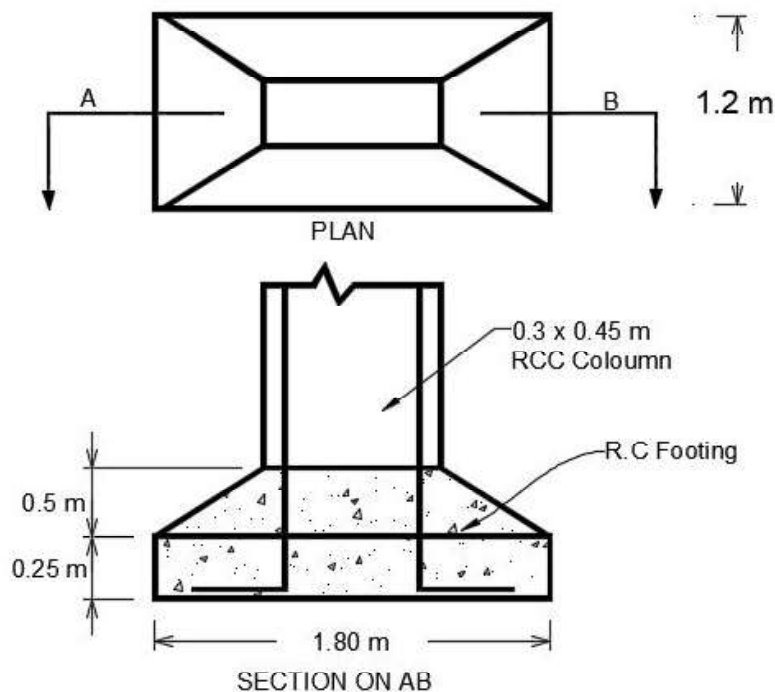


- 4) Explain the terms: a) Embankment b) Cutting.
- 5) The depth at two ends of an embankment of road of length 80.0m are 2.5m and 3.40m. The formation width and side slopes are 12.0m and 2:1 respectively. Estimate the quantity of earthwork by using Prismoidal formula

- 6) What is an approximate estimate? How it is prepared?
- \* 7) Prepare the total cost of the building by plinth area method with the following data:
- (i) Plinth area of the building =  $20\text{m}^2$
  - (ii) Plinth area rate = Rs10,000 per  $\text{m}^2$
  - (iii) 25% of the building cost is allowed for different provisions of water supply, sanitary, electrical installations, architectural features, P.S. and contingencies ect. put together.
- 8) The section of setp in front of a building is given in fig. below. Calculate the volume of brickwork for all the steps, if the length of the step is 2 m:



- 9) What are the factors to be considered while preparing detailed estimate.
- 10) Here are plan and elevation of isolated rectangular footing given below. Calculate the quantity of R.C.C work in footing only.

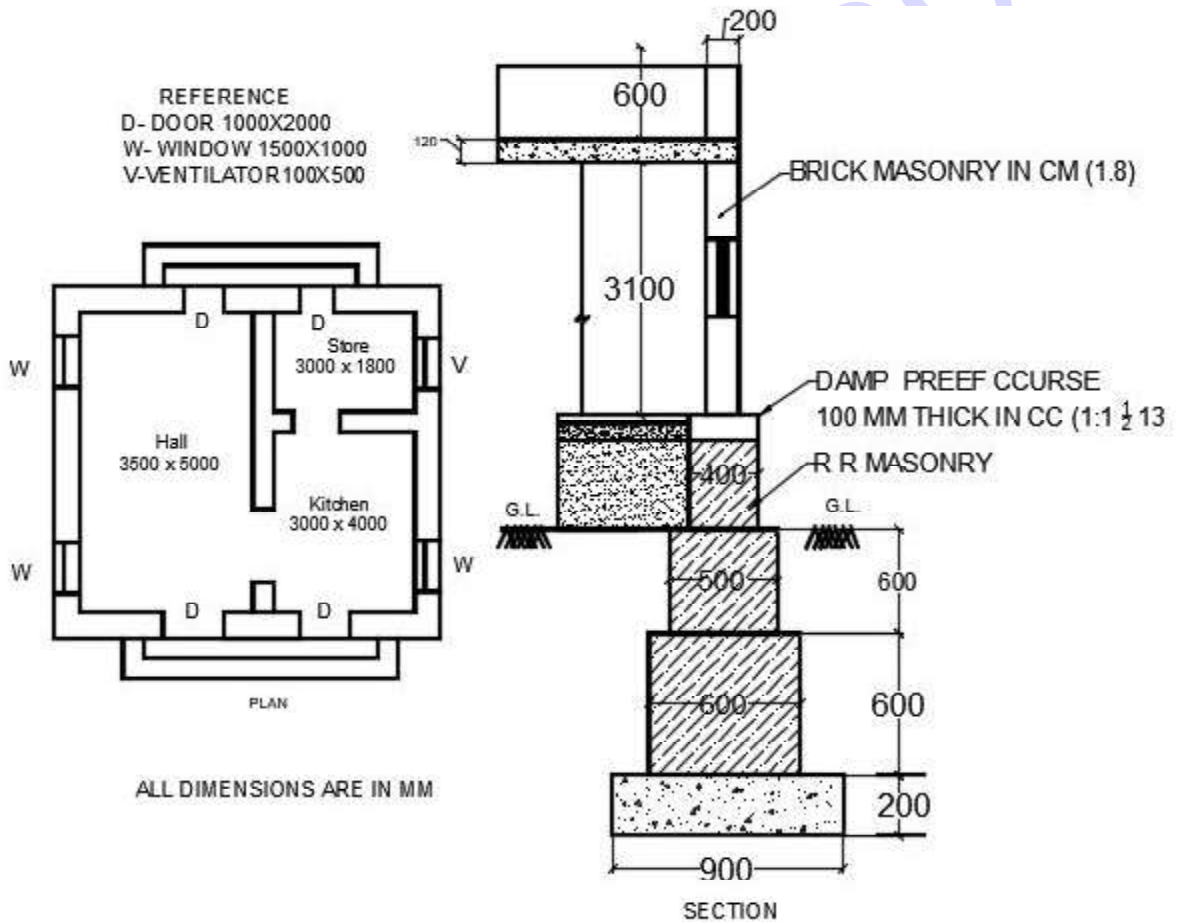


## PART-B

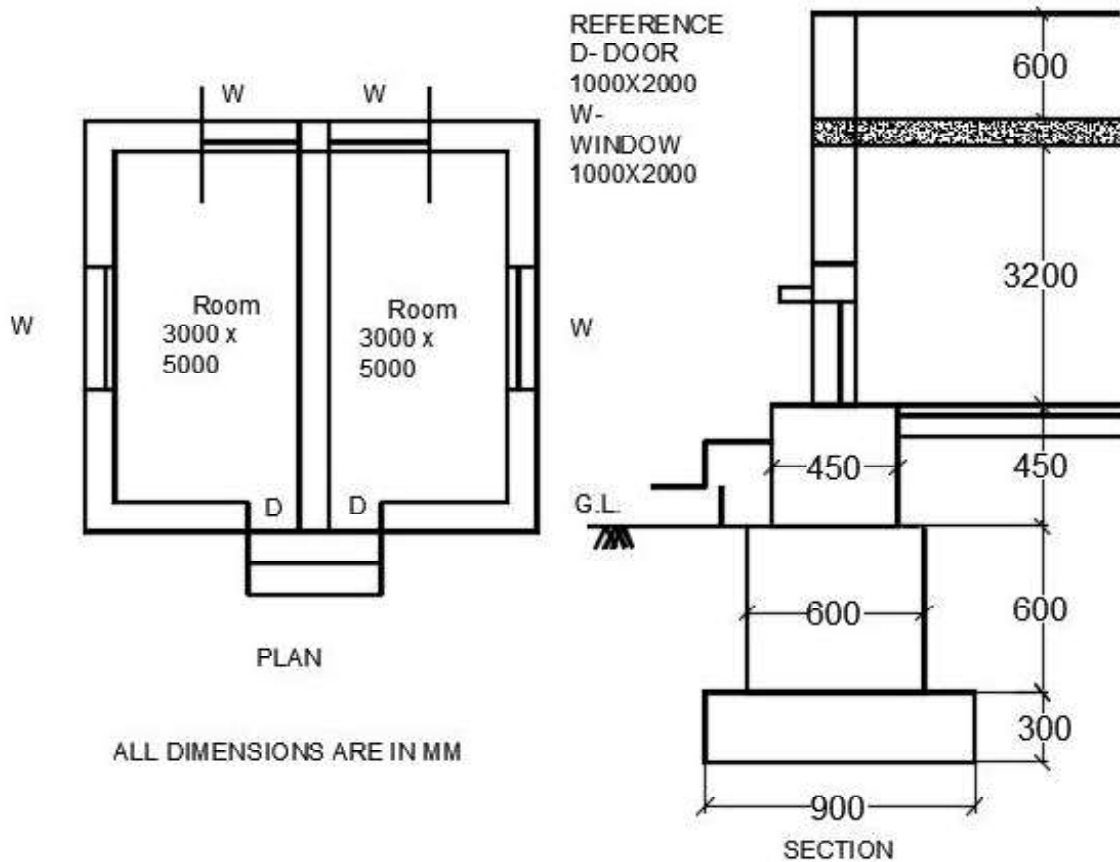
10x5=50M

- \* **Instructions :** 1) Answer any five questions  
2) Each question carries ten marks

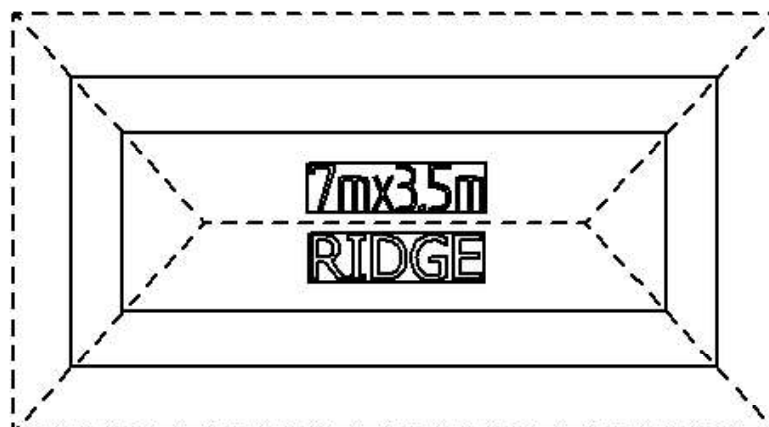
- 11) Prepare the detailed estimate for the following items of work shown in drawing.
- Cement concrete (1:4:8) in foundation bed.
  - R R masonry
  - Sand Filling



- 12) For a building drawing shown in figure. Calculate
- \* a) Brick work in C.M (1:6) in foundation footings.
  - b) 12 mm thick plastering with C.M. (1:6) for all superstructure walls



- 13) a) A room has 6x3.5 m internal dimensions with 30 cms wall thickness. The basement has a cross section of 40 cms width and 60 cms height . Calculate
- (i) Plinth area
  - (ii) Brick work in C.M. (1:8) in basement
- b) For a hipped roof shown in the sketch, calculate
- i) Length of hip rafter
  - ii) No.of common rafters spaced at 500 mm c/c.



Note :

- Wall thickness = 300 mm
- Eaves projection = 500 mm
- Rise of roof = 1700 mm

- 14) a) Mention any four duties of quantity surveyor.  
b) What is specification? Write the necessity of specification and explain its types.
- 15) The contour area of a reservoir are given below. Calculate the gross and effective capacity of reservoir by trapezoidal and prismoidal formula:

Level in m	Areas in sqm	Particulars
10.00	10500	bed level
11.00	13200	
12.00	20600	
13.00	35000	
14.00	40200	Sill level
15.00	60700	
16.00	72400	
17.00	90300	
18.00	99300	

- 16) The road has the following data:

Chainage (in m)	200	220	240	260	280	300	320	340	360	380	400	420	440
RL (in m)	149.50	149.30	150.0	149.70	149.95	149.55	150.6	150.9	151.40	150.7	151.15	151.00	150.60
RL of	150.0	Rising 1 in 200						Falling 1 in 400					

The top width is 10m and the side slope is 1.5:1. Assuming the transverse slope of the ground is level. Calculate the volume of earthwork by trapezoidal rule.

- \* 17) a) Give the different methods adopted for approximate estimation.  
b) A hostel building has to be constructed for 400 students. The standard area allowed per student is 18 sqm and the rate per sqm is Rs 3500/-.

Find the approximate cost of the building?

- 18) a) What is abstract estimate?  
b) Prepare a rough estimate for a proposed commercial complex for a municipal corporation for the following data:

Plinth area=Rs. 500 per sq m/floor

Height of each floor=3m

No.of stories= Ground floor+2

Cubical content rate=Rs1000/- per cum

Provisions are given below :

i) Water supply and sanitation=8% of building cost

ii) Electrification=6% of building cost

iii) Fluctuation of rates=5% of building cost

iv) Contractor's margin =10% of total cost

v) Petty supervision and contingencies= 3% of total cost.

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