C16-C-**403**

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BOARD DIPLOMA EXAMINATION, (C-16)
OCTOBER/NOVEMBER-2018
DCE - FOURTH SEMESTER EXAMINATION

QUANTITY SURVEYING - I

Time : 3 Hours]   [Total Marks: 80
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PART-A

3X10=30

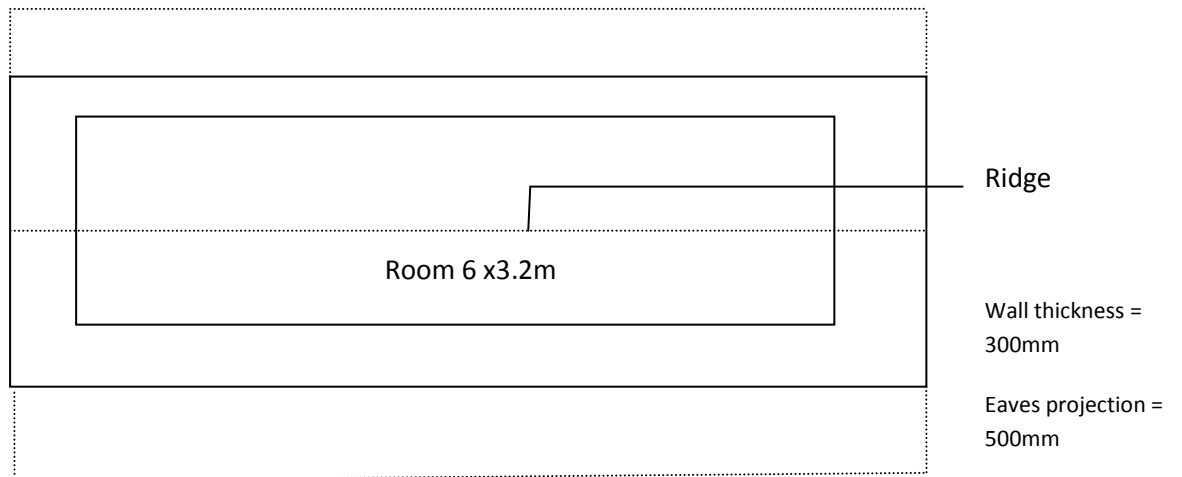*Instructions   :*   1. Answer **All** questions.

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 quantity surveying and state any two objectives of preparing quantity surveying.

2. State the units for the following items of work.

(a) Brick masonry   (b) Plastering (c) Steel reinforcement in R.C.C.

3. List any three duties of quantity surveyor.

4. Define the terms lead and list and mention the initial values.

5. Define the terms (a) Embankment   (b) Cutting   (c) Volume of earth work

6. Distinguish between approximate estimate and detailed estimate

7. Prepare the total cost of the building by plinth area method with the following data:

i.   Plinth area of the building = 220m^2

ii.   Plinth area rate = Rs. 11,000 /- per m^2

iii.   25% of building cost is allowed for different provisions of water supply, sanitary, electrical installations, architectural features, P.S. & contingencies etc, put together.

8. The internal dimensions of a room are 5m x 3m. Find the quantity of sand filling in the basement, if the height and thickness of basement are 0.80m and 0.45m respectively. The thickness of wall is 0.30m.

9. Calculate the length of members AB, DF, and EG, of north light roof truss shown in the accompanying figure
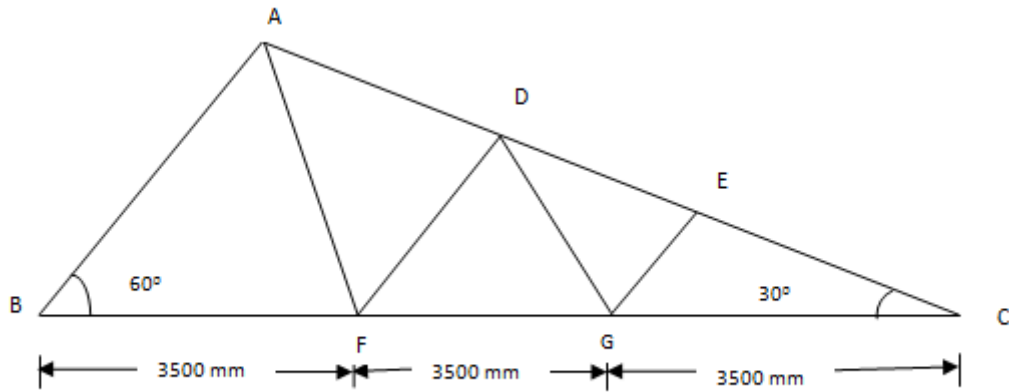
10. The plan showing gabled end is shown in figure. Calculate:

      (a) Length of ridge piece

   (b) No. of common rafter spaced @ 500mm C/C

PART-B

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. Define specifications. Explain the necessity and types of specifications.

12. The ground level along the ridge of proposed canal area as shown in figure. The bed of the canal is 4m wide and sloped at 1 in 100 downwards in longitudinal direction. The side slopes are 1 ½ :1. R. L. of formation level at 0m chainage is 250.00m

A	B	C	D	E	F	G
252m	252.15m	251.70m	251.75m	251.95m	251.85m	252.0m
0m	30m	60m	90m	120m	150m	180m
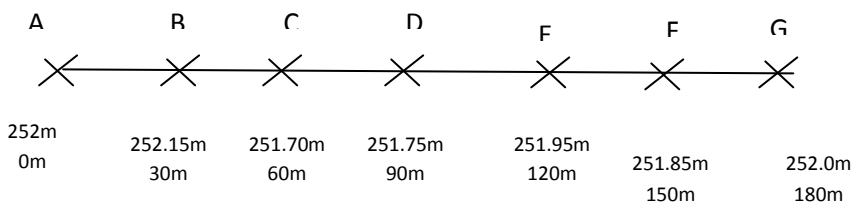
Determine the volume of earthwork in cutting by

(i) Trapezoidal formula

(ii) Prismoidal formula

13. The ground level are taken along centre line of the road are given below:

Chainage in m	0	30	60	90	120
R.L. of ground m	96.5	97	98	98.5	99

The road is formed in embankment at the formation level of o100m 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

(i) Trapezoidal formula

(ii) Prismoidal formula

14. Prepare a preliminary estimate of a proposed building having plinth area 300 m^2

    i.   Plinth area rate Rs. 1400/- per m^2

    ii.   Add for water supply and sanitary fittings @ 12 ½ % of building cost

    iii.   Add for electrification @ 7 ½ % of building cost

    iv.   Add for architectural treatment @ 1% of building cost.

    v.   Add for unforeseen items @ 3% of cost of building.

    vi.   Add for fluctuation of rates @ 4% of cost of building.

    vii. Add for petty supervision charges @ 3% of cost of building.

15. Prepare a rough estimate for a proposed commercial complex for a municipal corporation for the following data:

Plinth area	=	Rs. 400/- per m^2 / floor
Height of each floor	=	3m
No. of stories	=	Ground floor +2
Cubical content rate	=	Rs. 3000/- per m^3

Provide the following provisions as percentage of building cost:

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

    ii.   Electrification = 6% of building cost

    iii.   Fluctuation of rates = 5% of building cost

    iv.   Contractors profit = 10% of total cost

    v.   Pretty supervision and contingencies = 35 of total cost.

16. Prepare an estimate for the following items of work of the residential building shown in figure
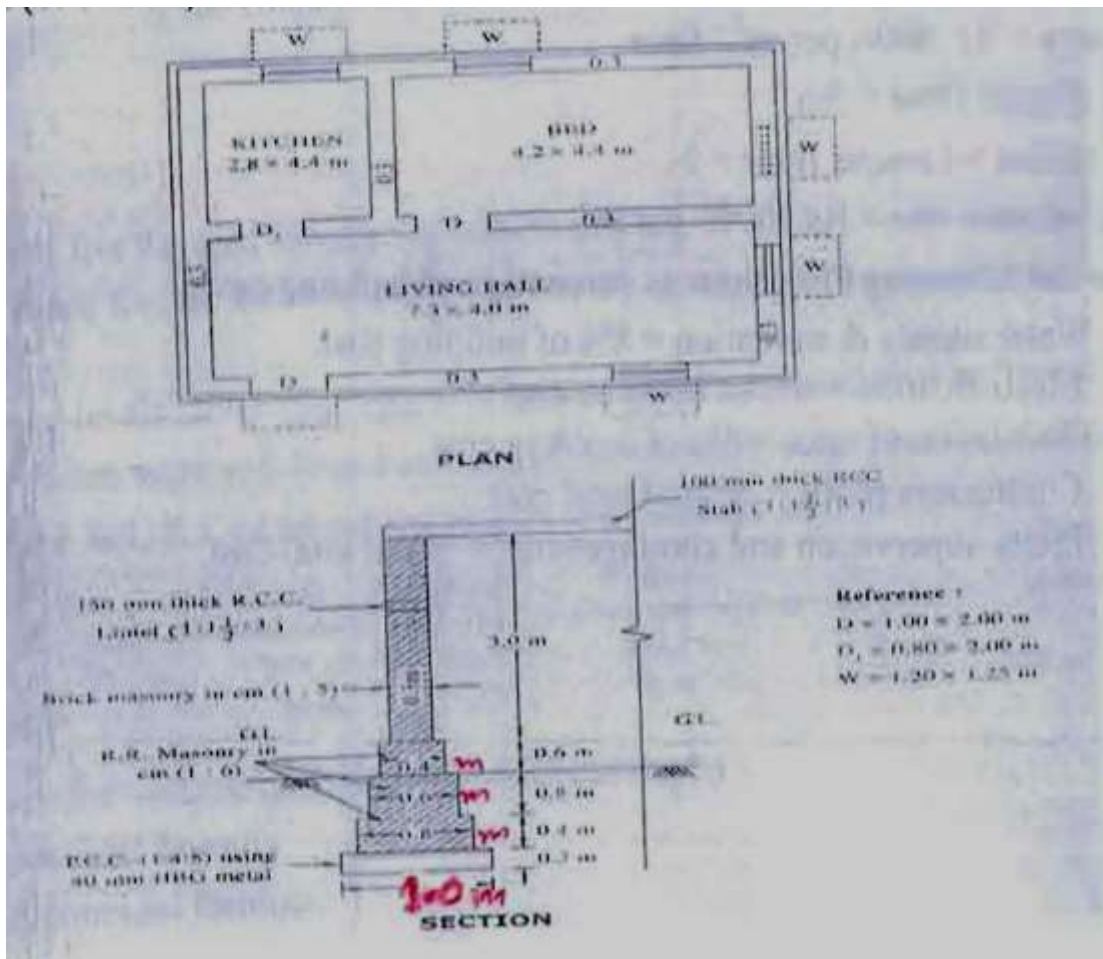
       (a) Earthwork excavation for foundation

       (b) Brick masonry for super structure without deductions.

       (c) R.C.C. 1:2:4 for roof slab

PLAN

Reference :

D - Door : 1000 × 2000
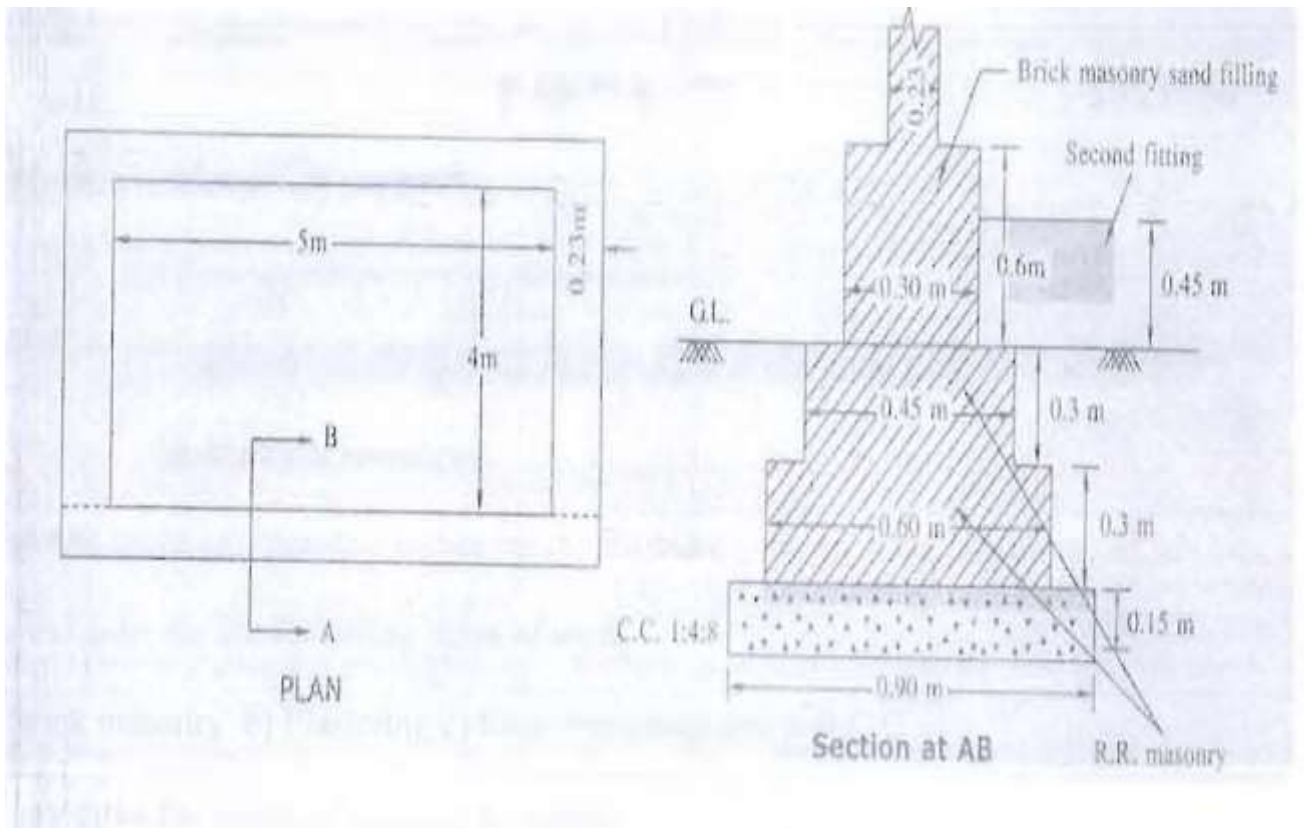
W - Window : 1000 × 1250
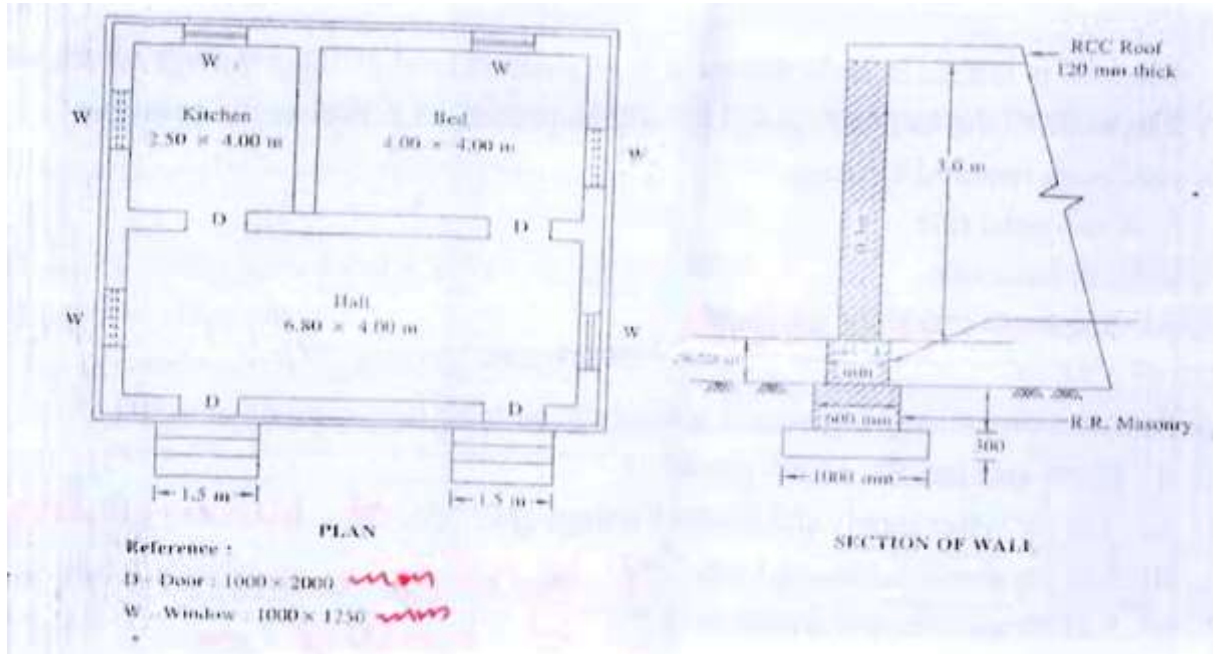
SECTION OF WALL

17. Prepare a detail estimate for the following items of work shown in figure

    a) P.C.C. (1:4:8) in C.M. HBG metal for foundation

    b) R.R. Masonry in C.M. (1:6) for foundation

    c) RCC (1: 1 ½ :3) for lintels and RCC slab.

PLAN

SECTION

18. The plan and section of a room is given below. Calculate the following quantities by center line method.

    a) Earthwork excavation

    b) Cement concrete (1:4:8)

    c) R.R. masonry first and second footings

    d) Brick masonry for basement

    e) Filling of basement with sand.

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