C14-C-503

4614

BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DCE-FIFTH SEMESTER EXAMINATION

QUANTITY SURVEYING-II

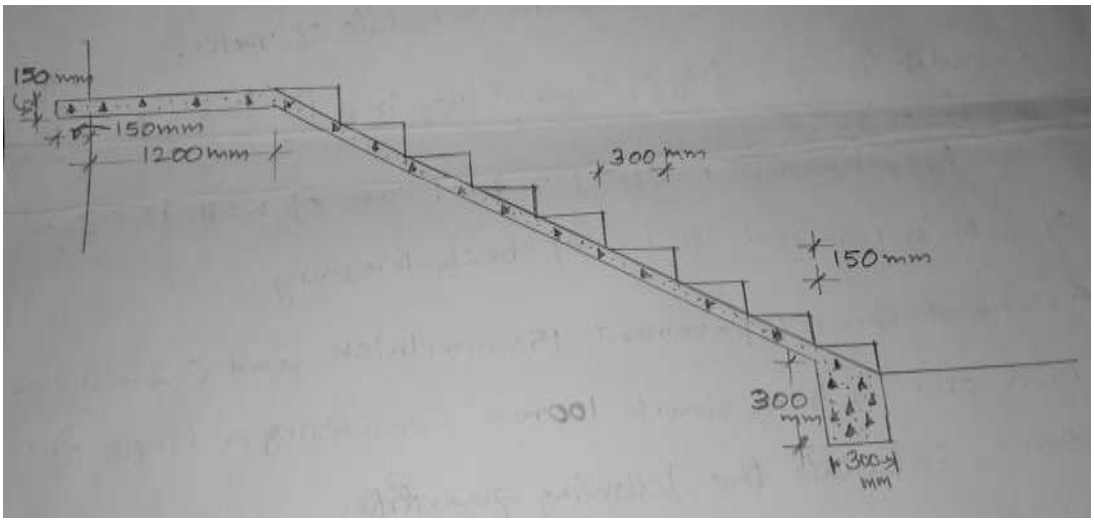
Time : 3 Hours] [Total Marks: 80

PART-A

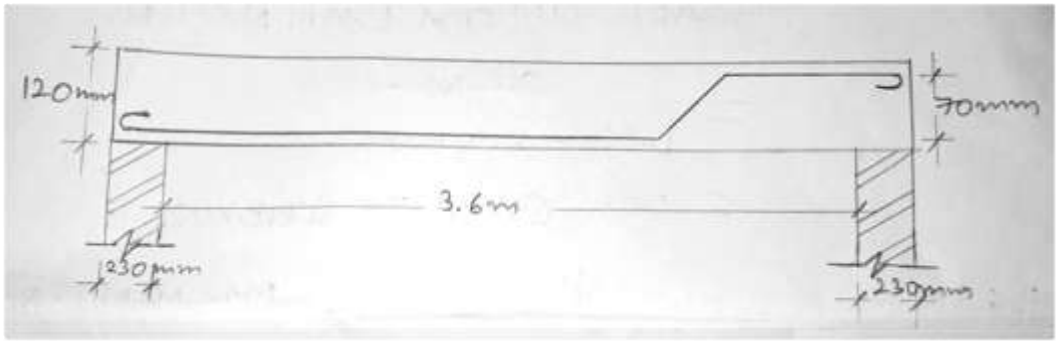
3X10=30

Instructions :
1. Answer **All** questions.
2. Each question carries THREE marks
3. Answer should be brief and straight to the point

1. For the given stair case of width 1200 mm, find the quantity of R.C.C M20 Grade of waist slab including landing slab and toe.



2. Calculate the length of a steel rod of 12mm dia used in one way slab, given the clear span of slab is 3.6m, width of supports is 230mm, thickness of slab is 120mm and the rod is cranked on one side only. Take the end cover as 20mm.



3. (a) What are the top and bottom covers for slabs and beams?

   (b) What is standard length for hook and additional length for bent up bars if the height of cranks is ‘d’?

4. Calculate the quantities of materials of $3m^3$ of CC (1:2:4).

5. Write short note on standard schedule of rates.

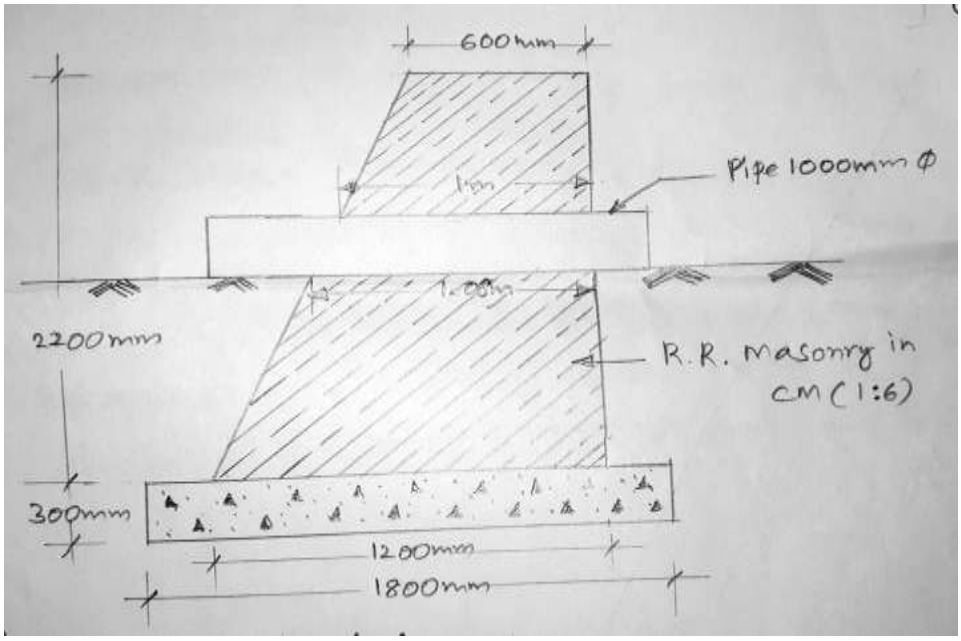
6. Calculate the quantity of cement required in bags for brick masonry in CM(1:5) for 15 cum of work if $0.34m^3$ of CM is required for $1m^3$ of brick masonry.

7. A cement concrete parement 150mm thick and 6.2m wide is laid over a base course 10mm considering a length of 2000m. Calculate the following quantities.

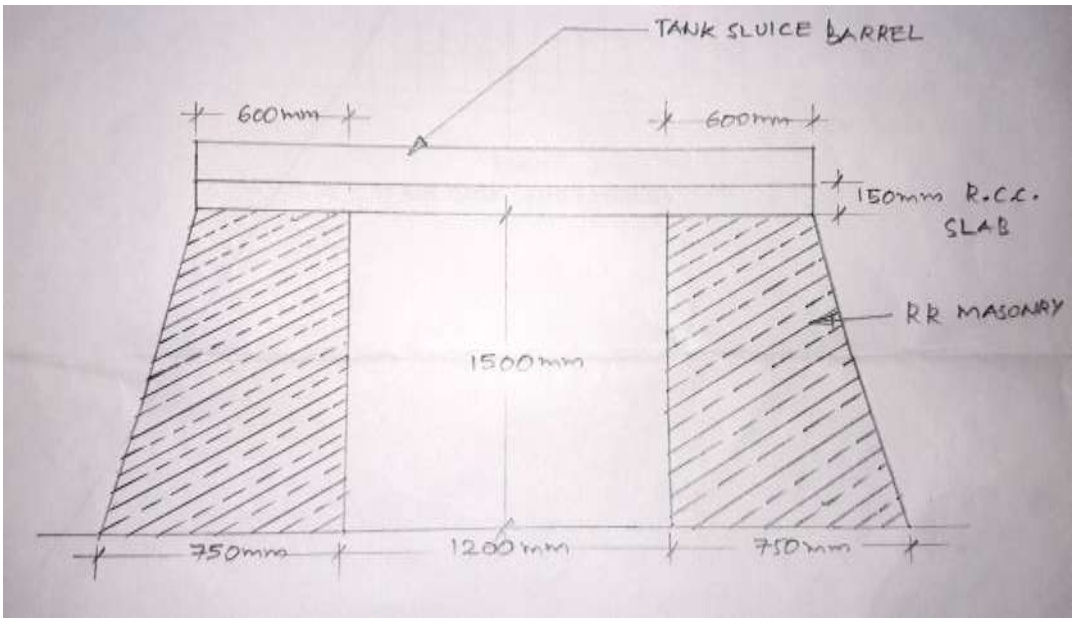
   (a) CC required for parement.

   (b) CC required for base course.

8. The cross section of head wall of pipe culvert is shown in the following figure. Determine the quantity of R.R. masonry in CM(1:6) if the length of head wall is 9m and size of the pipe is 1000mm, with deduction of the pipe.



9. The size of a over head tank is 4.6m x4.6m with side walls 200mm thick. Calculate the quantity of R.C.C. base slab if the thickness is 110mm.
10. The cross section across a barrel tank sluice is shown in the following figure. The length of the barrel is 11m. calculate the quantities of (a) R.C.C. cover slab (b) RR Masonry for side walls.



PART-B

10X5=50

Instructions :

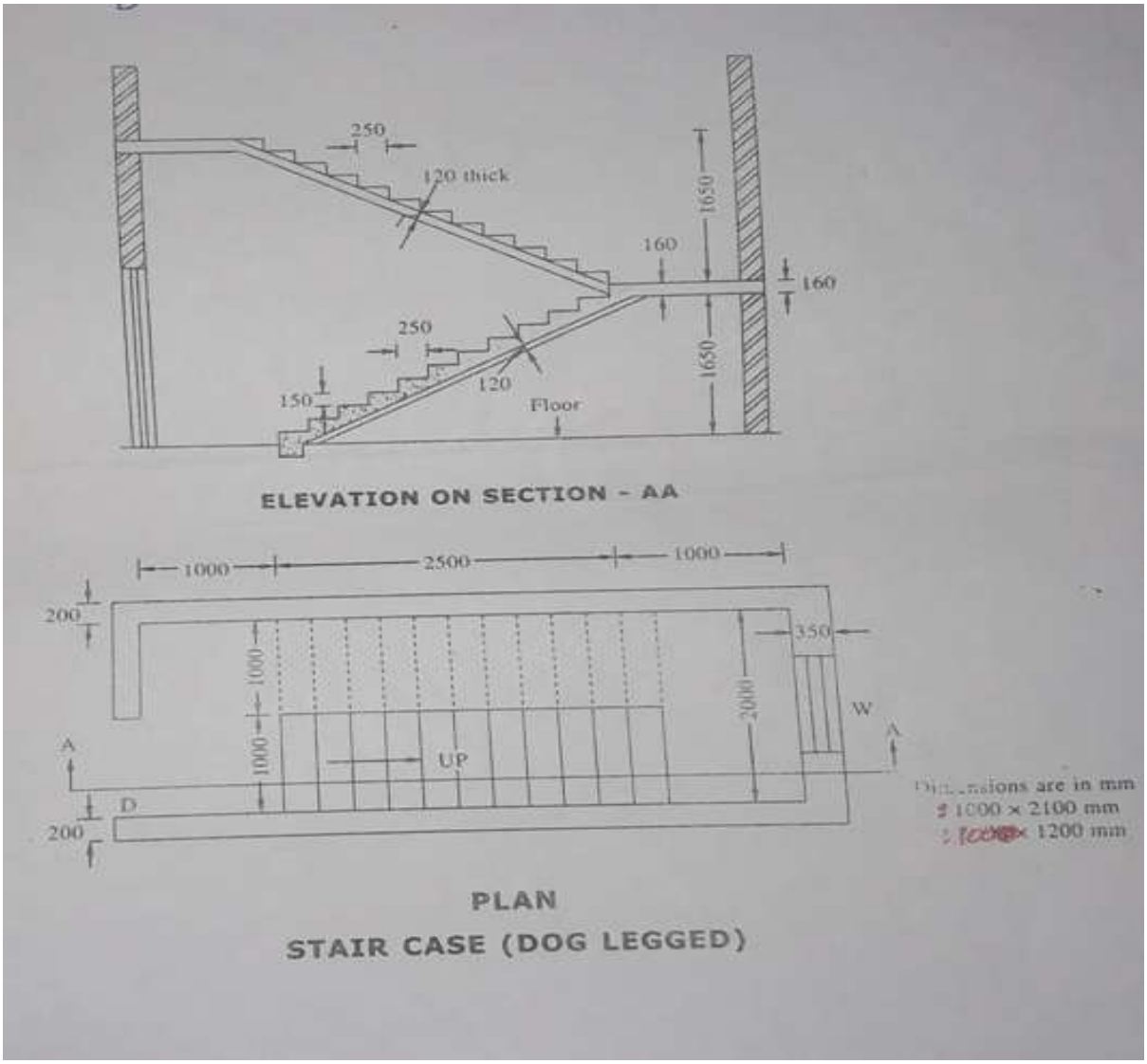
1. Answer any **five** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Calculate the quantities of the following items of work for a stair case as shown in the figure.

(a) RCC (1:2:4) for waist slab for I & II flights and landing slab.

(b) Brick work in CM(1:6) for steps

(c) Plastering in CM (1:5) for steps and waist slab.



12. Work out the quantities of steel and prepare bar bending schedule of steel for R.C.C. one way slab simply supported over walls. Thickness of slab 100mm. take end cover as 25mm, bottom ant top cover is 15mm. main steel 12mm dia bars alternately bent up at 120mm c/c. distribution steel is 6mm dia at 160mm c/c at the bottom and 3 nos at the top at both ends of bent up main bars are bent at a distance of 1/7 from the face of wall. Weight of steel: 12mm-0.89kg/mm and 6mm-022kg/mm. take shorter span=2.5m, longer span = 6m, bearing of slab=230mm into the walls.

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

(i) R.R. Masonry in CM (1:6) = 1 cum

(ii) Plastering with CM (1:6) 20 mm thick = 10 sqm.

Materials and labour required.

1. RR Masonry in CM (1:6) – unit 1 cum

1.05 cum – Rough stone

0.05 cum – Bond stone

0.30 cum – CM (1:6)

0.54 Nos – Mason Ist class

1.26 Nos – Mason IInd class

1.40 Nos – Man Mazdoor

1.40 Nos – Women Mazdoor

L.S. – Sundries

2. Plastering with CM (1:6) 20mm thick – 10 sqm.

0.21 cum – CM (1:6)

0.33 Nos – Mason Ist class

0.77 Nos – Mason IInd class

0.10 Nos – Women Mazdoor

LS – Sundries.

Lead statement of Materials.

S.No	Materials	Rate	Per	Lead	Conveyance Charges
1	Rough Stone	Rs. 400/-	Cum	10kms	Rs. 20/- km/cum.
2	Bond Stone	Rs. 600/-	Cum	10kms	Rs. 25/- km/cum
3	Sand	Rs. 150/-	Cum	25kms	Rs. 15/- km/cum
4	Cement	Rs. 4000/-	1 M.T.	Local	-

Labour charges:

(i) Mason Ist Class : Rs. 400/- /Day

(ii) Mason IInd Class: Rs. 300/- /Day

(iii) Man Mazdoor : Rs. 250/-/Day

(iv) Women Mazdoor: Rs. 250/0 /Day

Mixing charges: Rs. 25/- Per 1 cum.

14. Prepare a data sheet and calculate the cost of items given below:

(a) Flooring with 25mm thick polished Shahabad stone of Ist quality of size not exceeding 400mm x 400mm, laid over set in CM (1:10) 16mm thick base coat-10sqm.

(b) Painting with white cement paint 1st Quality two coats to walls after surface is thoroughly cleaned including cost and conveyance of materials to site etc. 10sqm.

(a) Materials and labour required for flooring with 25mm thick polished Shahabad stone-10sqm.

10.10sqm - polished stone

0.12 cum – CM (1:10)

0.12 cum - sand

0.12 cum – cement

0.96 Nos – Mason 1st class

2.24 Nos – Mason IInd class

2.20 Nos – Man Mazdoors

1.10 Nos – Women Mazdoors

(b) For painting with white cement – 10sqm.

3.5kg – White cement paint

0.15 Nos - mason Ist Class

0.35 Nos – Mason IInd Class

0.50 Nos - Man Mazdoors

1.00 Nos – Woman Mazdoors

S.No	Materials	Rate	Lead (km)	Conveyance Charges
1	Polished Stone	Rs. 1650/- per 10sqm	08	Rs. 10/- per 10sqm per km
2	Sand	Rs. 250/- per cum	20	Rs. 160 for 20 km/cum
3	Cement	Rs. 3400/- per MT	04	Rs. 3/- per bag
4	White cement paint	Rs. 15/- per kg	-	-

Labour charges:

(i) 1st class Mason : Rs. 160/-

(ii) IInd class Mason : Rs. 140/-

(iii) Man Mazdoor : Rs. 110/-

(iv) Woman Mazdoor: Rs. 110/-

(v) Mixing charges of CM: Rs. 20/- per cum

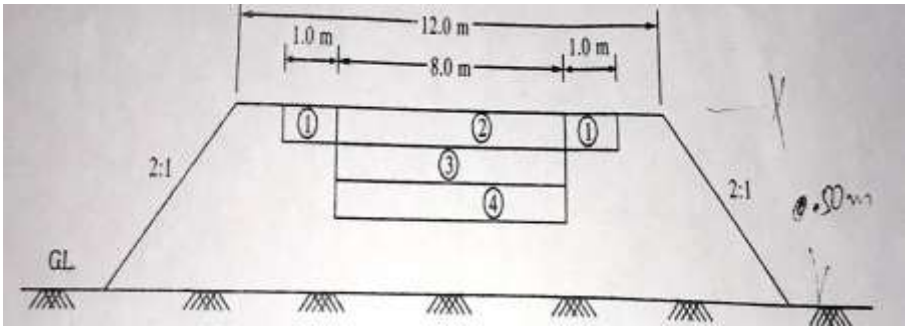
15. Prepare the detailed estimate for the following items of work for a WBM Road shown in the figure for a length of 2000m.

(a) Collection & Supply of gravel for shoulders.

(b) Collection & Supply of 65mm HBG metal for base.

(c) Spreading of 40mm HBG metal for wearing course.

(d) Spreading gravel for foundation course.



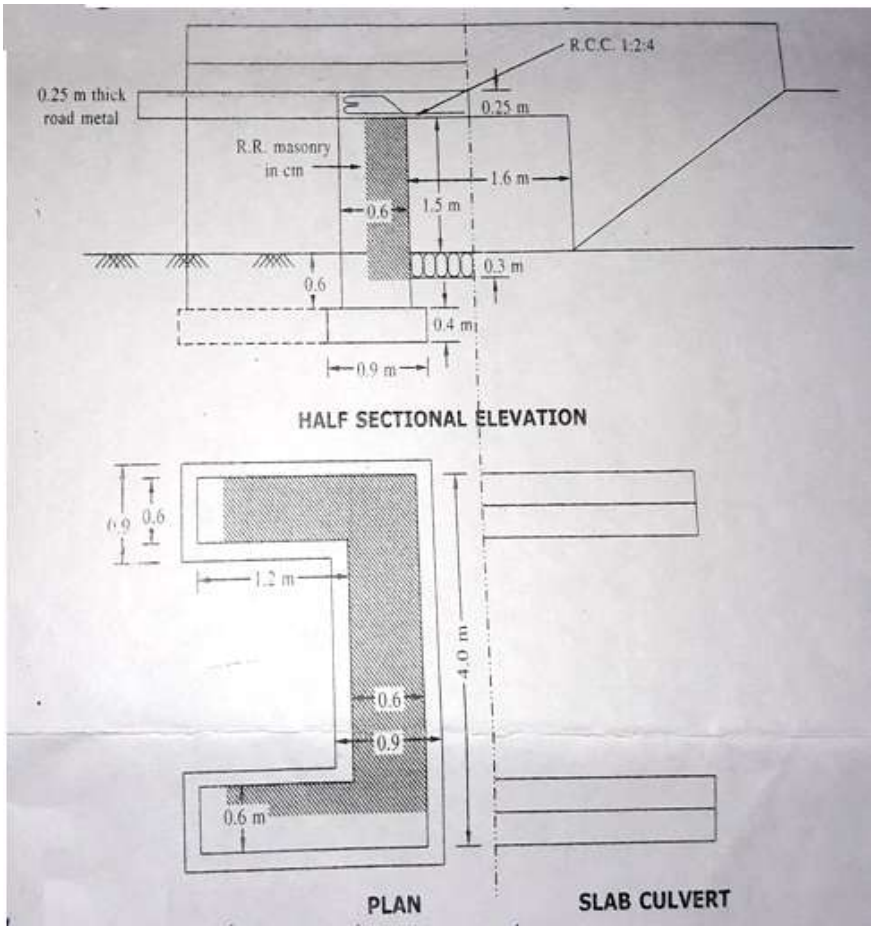
1) Gravel shoulders to a compacted thickness of 100mm (Loose thickness 150mm)

2) 40mm HBG metal to a compacted thickness of 100mm (Loose thickness 130mm)

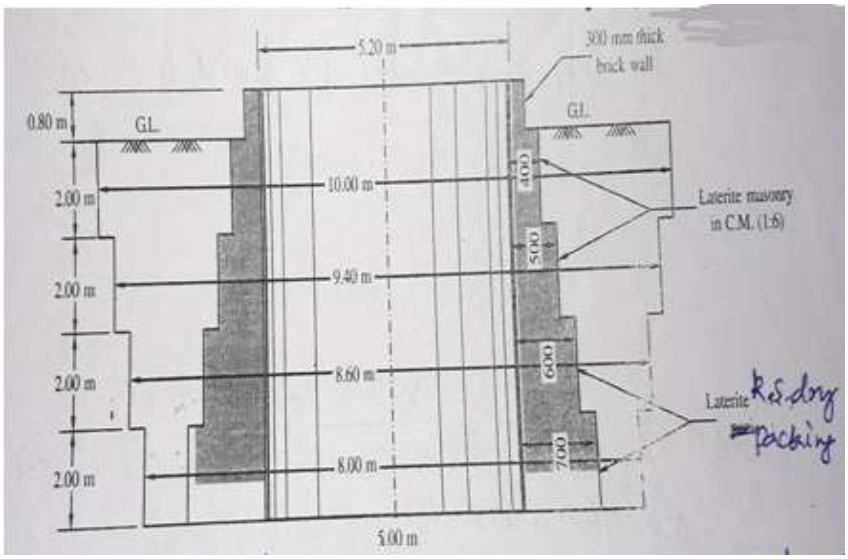
3) 65mm HBG metal to a compacted thickness of 120mm (Loose thickness 160mm)

4) Gravel Base to a compacted thickness of 150mm (Loose thickness 225mm)

16. For the given slab culvert, calculate (a) Earth work excavation for abutments & return walls. (b) Stone masonry in CM(1:6) upto bottom or deck slab.
(c) R.C.C (1:$1^{1/2}$:3) for deck slab.



17. Calculate the quantities for the following items of work for an open well as shown in the figure.(a) Earth work excavation for open well.
(b) Laterite masonry in CM(1:6).
(c) Refilling the excavated soil around the steining.

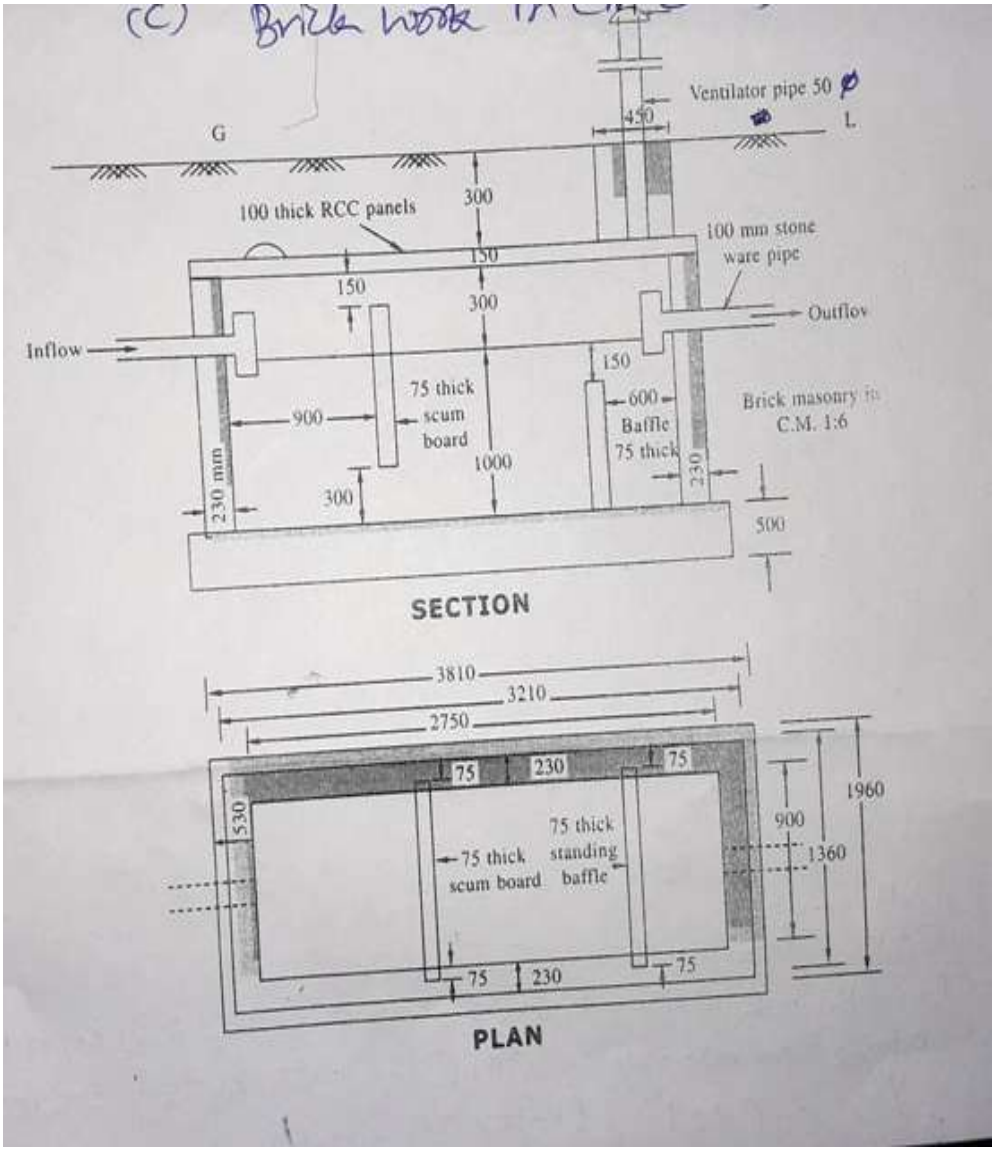


18. Prepare the detailed estimate for the following items of work for a septic tank

(a) Earth work excavation

(b) CC(1:4:8) for foundation.

(c) Brick work in CM (1:6).



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