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C14–C–**503**

4620

BOARD DIPLOMA EXAMINATION, (C–14)

JUNE—2019

DCE—FIFTH SEMESTER EXAMINATION

QUANTITY SURVEYING—II

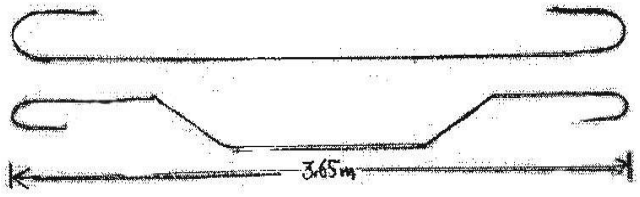
Time : 3 hours] [*Total Marks* : 80

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.
(4) Any data missing may be assumed suitably.

1. State the three types of half-turn staircases with sketch.

2. Calculate the length of cranked bar showin in figure below of 14 mm dia.



3. Write the expression to calculate length of a straight bar with hooks in a simply supported beam.

4. Explain the cost of material at source and cost of material at site.

5. For a certain work, the lead for HBG metal of 20 mm size is 6 km metalled road and 2 km cart track. The lead statement provides

the following rates of conveyance as per SSR for HBG metal on metalled road :

6 km—< 18·05

7 km—< 18·70

8 km—< 19·35

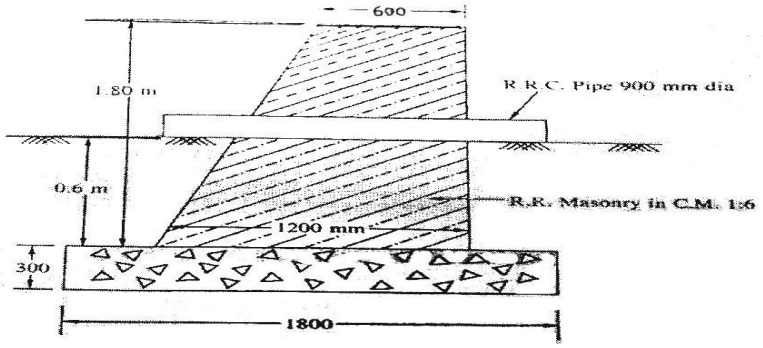
9 km—< 20·50

If the cost of HBG metal at quarry is <150 per m^3, calculate the cost of 1 m^3 of metal at site of work.

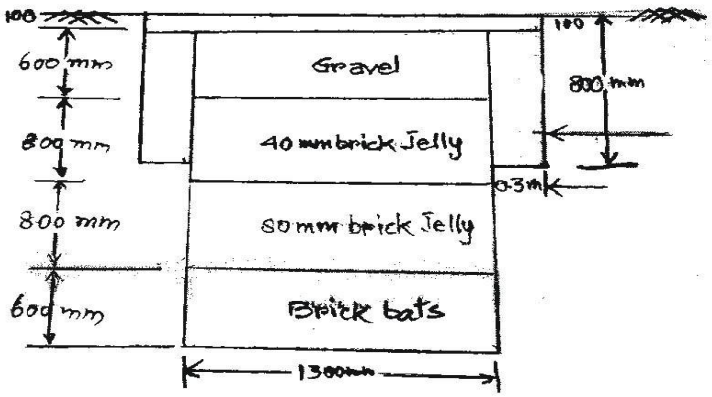
6. Calculate the quantities of 2 cu. m of CC (1 : 2 : 4).

7. Prepare an estimate for a WBM road of length 200 m for spreading 40 mm HBG metal for wearing course of width 8 m.

8. The cross-section of head of pipe culvert shown in figure below. Calculate the quantity of RR masonry in CM (1 : 6) if the length of head is 6·50 m size of pipe is 0·90 m diameter.



9. Calculate the quantity of 80 mm brick jelly of a circular soak pit of 1·50 m dia shown in figure below.



10. Estimate the plastering area for a Baffle wall in aspectic tank dimensions are 1·0 m × 0·75 m × 0·10 m.

PART—B

10×5=50

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

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

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

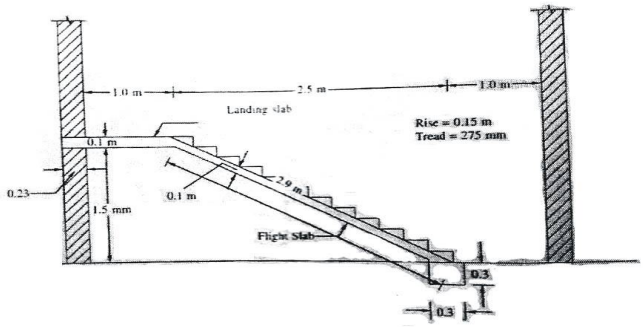
(4) Any data missing may be assumed suitably.

11. Find the quantities of the following items for a staircase with two flights of room 4·5 m × 2·0 m :

(a) RCC for waist slab

(b) Landing slab (RCC 1 : 2 : 4)

(c) Beam supporting waist slab (RCC 1 : 2 : 4)

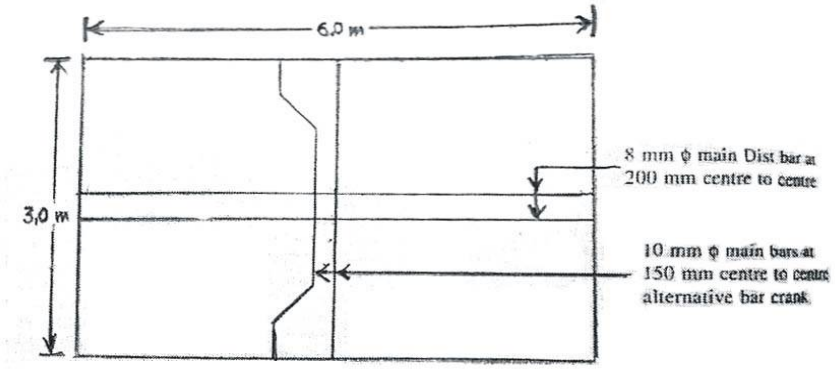


12. Prepare the bar bending schedule of one way simply supported slab of dimensions shown in figure below and find the total quantity of steel required. Reinforcement :

(a) Main rods 10 mm ϕ at 150 mm c/c

(b) Distribution 8 mm ϕ at 200 mm c/c

The slab is to be rested over the entire width of wall of thickness 0·35 m on four sides and depth of slab is 100 mm



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

(a) Brick Masonry in CM (1 : 6)—1 m^3

(b) CC (1 : 3 : 6) using 40 mm HBG metal—1 cu.m

Materials and Labour required for —1 m^3

CC (1 : 3 : 6)	Brick Masonry in CM (1 : 6)
0·92 m^3 HBG metal 40 mm size	512 Nos. Bricks
___ m^3 sand	0·20 m^3 CM (1 : 6)
___ m^3 cement	1·40 Nos. Masons
0·20 Nos. Masons	0·70 Nos. Man Mazdoors
1·40 Nos. Woman Mazdoors	2·10 Nos. Woman Mazdoors
LS Sundries	1·3 m^3 scaffolding charges
	LS Sundries

Lead statement of material :

Sl. no.	*Materials*	*Rate*	*Per*	*Lead*	*Conveyance Charges*
1.	40 mm size HBG metal	1360·70	1 m^3	15 km	< 4 per km
2.	Sand	775·00	1 m^3	9 km	< 3 per km
3.	Cement	6400·00	1 MT	Local	–
4.	Bricks	6000.00	1000 Nos	12 Km	< 3 per km/ 1000 Nos

Labour Charges per day :

Mason—< 466

Man Mazdoor—< 316

Woman Mazdoor—< 306

Scaffolding charges—< 120 per m^3

14. Prepare a data sheet and calculate the cost of the items for flooring with 25 mm thick polished Shahabad stone of 1st quality of size not exceeding 400 mm × 400 mm, laid over set in CM (1 : 10) 16 mm thick base coat for 10 sq. m.

Materials and labor required for flooring with 25 mm thick polished Shahabad stone 10 sq. m :

10·10 sq. m polished stone

0·12 cu. m CM (1 : 10)

0·12 m^3 sand

0·012 m^3 cement

0·96 Nos. Mason I class

2·24 Nos. Mason II class

2·20 Nos. Men Mazdoors

1·10 Nos. Women Mazdoor

Lead statement :

Sl. No.	*Materials*	*Rate at source*	*Lead*	*Conveyance charges*
1.	Polished Stone	< 1,650 per 10 sq. m	8 km	< 10 per 10 sq. m
2.	Sand	< 250 per m^3	20 km	< 160 for 20 km/1 cu. m
3.	Cement	< 3,400/MT	4 km	< 3 per bag

Labour charges per day :

1st Class Mason = < 190·00

2nd Class Mason = < 180·00

Man Mazdoor = < 150

Woman Mazdoor = < 150

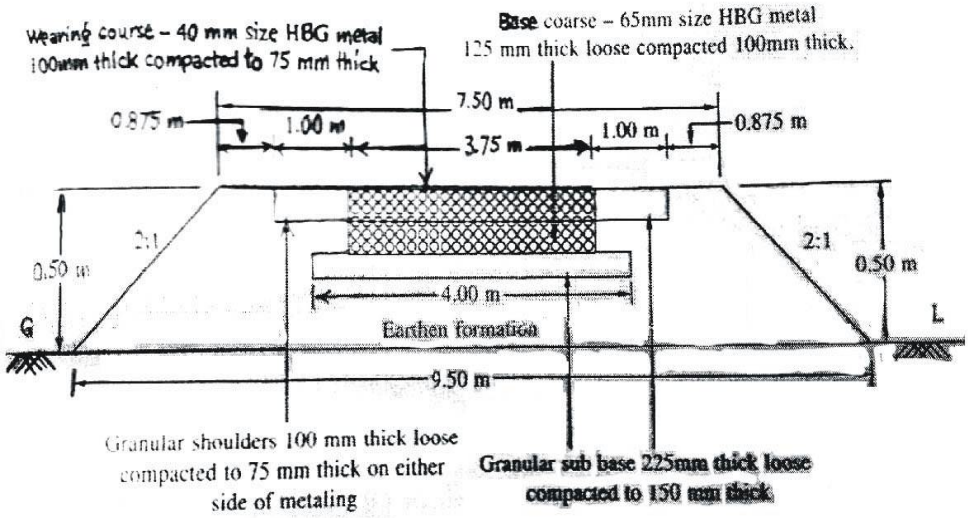
Mixing charges for CM = < 30·00/m^3

15. Prepare the detailed estimate for the water bound macadam (WBM) road of length 1·50 km with the details shown in figure below for the following items of work :

(a) Earth work for formation

(b) Granular subbase

(c) Base course with 65 mm size HBG metal

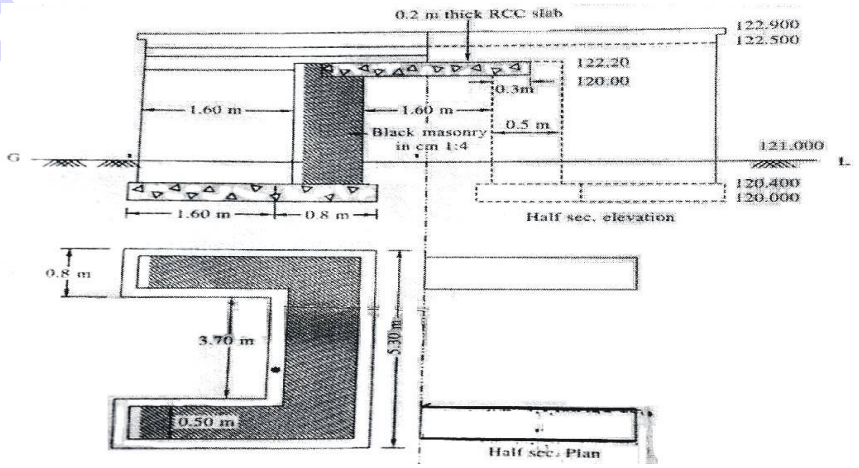


16. Prepare the detailed estimate for the following items of work from drawing of RCC slab culvert. Shown in figure below.

(a) CC bed (1 : 4 : 8) for foundation under abutment and returns

(b) RR masonry for abutments and returns

(c) RCC (1 : 2 : 4) for deck slab for vent way

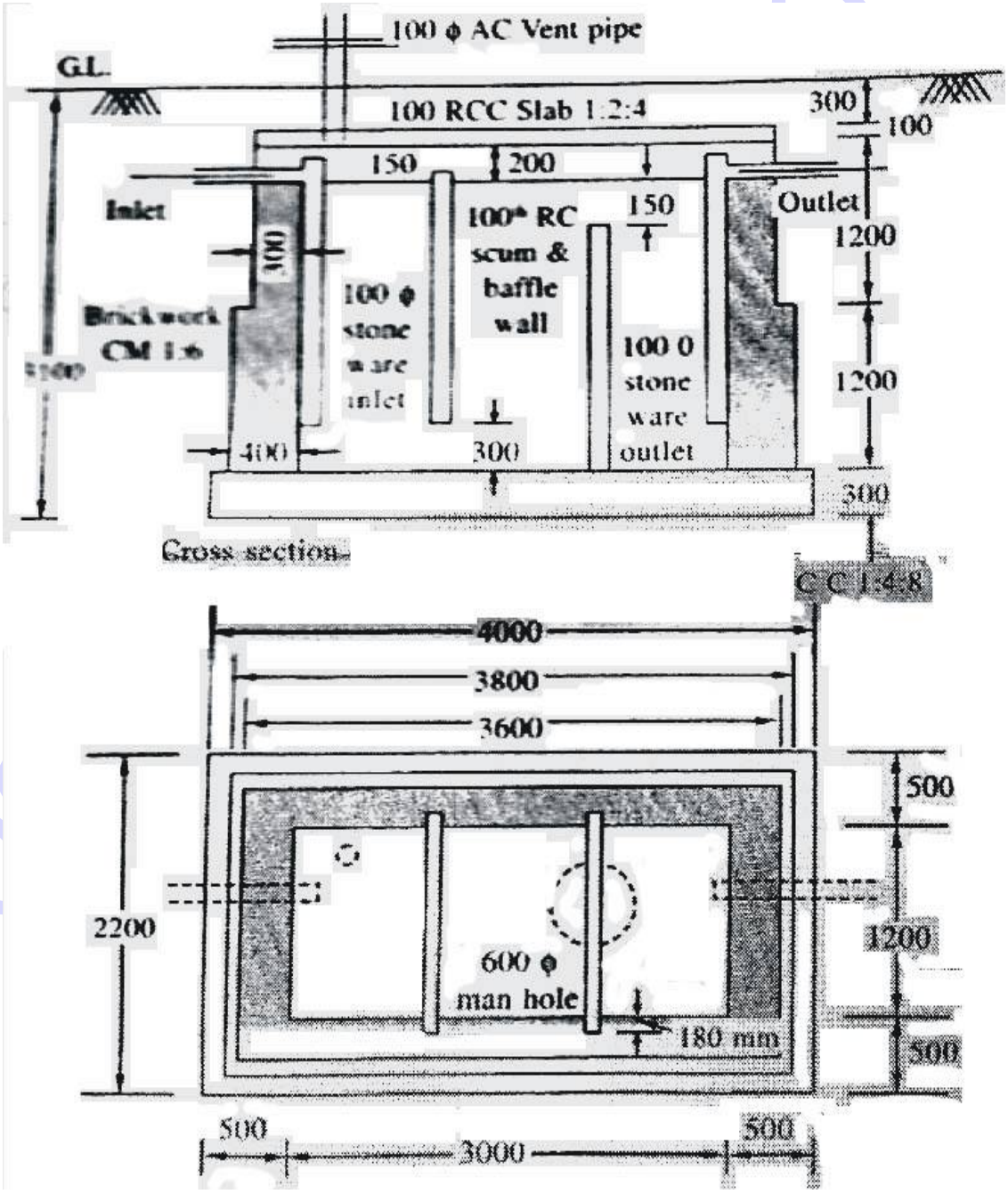


17. Calculate the following quantities of a septic tank shown in figure below :

(a) CC (1 : 4 : 8) under septic tank

(b) Brick masonry in CM (1 : 5) for side walls

(c) RCC work (1 : 2 : 4) for roof cover, scum board and baffle wall

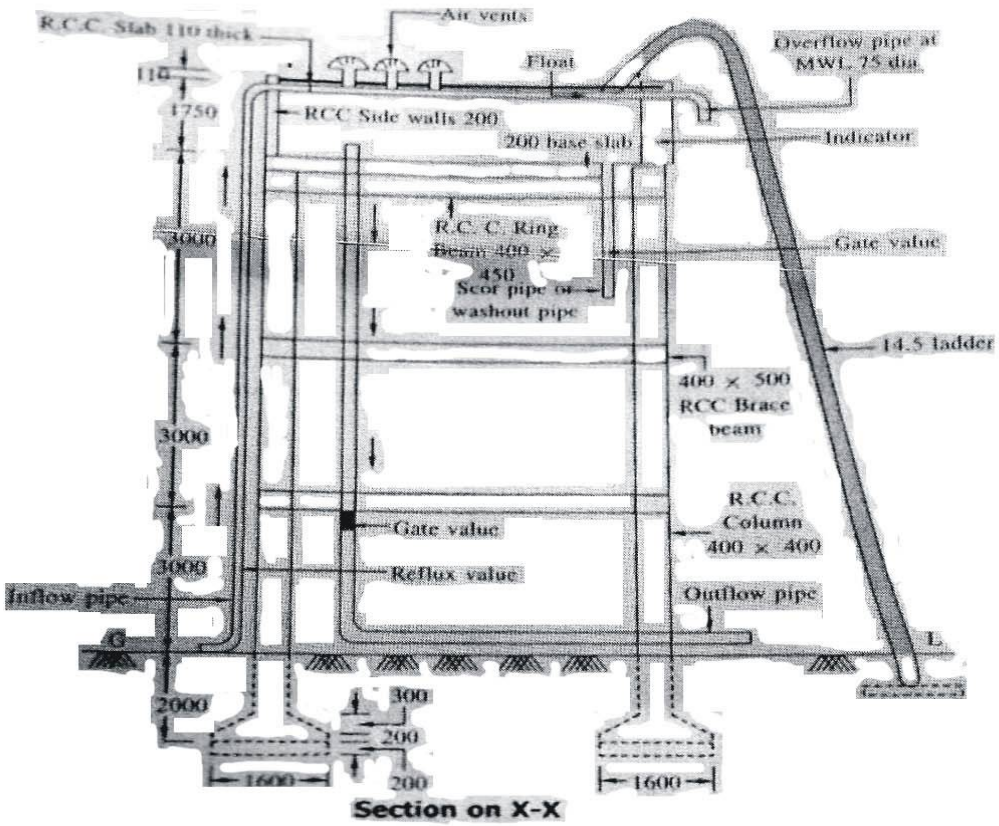


18. Calculate the quantities of the following items of work for overhead tank shown in figure below :

(a) Plan cement concrete (1 : 4 : 8) under column footings

(b) RCC (1 : 2 : 4) for footings columns and two brace beams.

(c) RCC (1 : 1½ : 3) for cover slab, base slab and side walls.



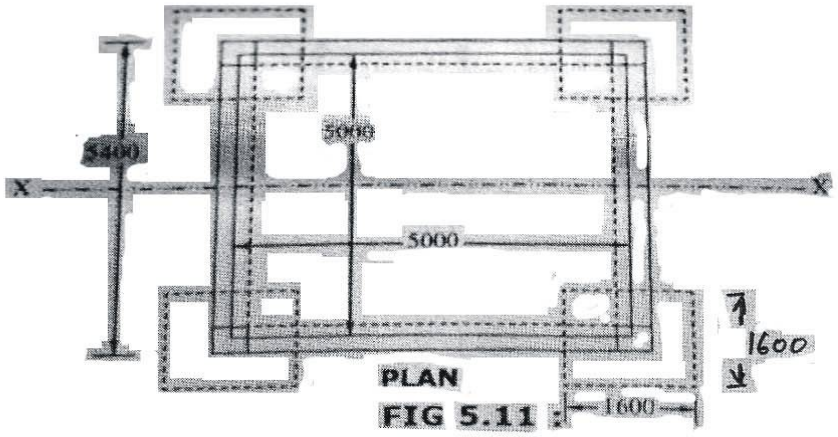


FIG 5.11

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