



C16-C-403

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BOARD DIPLOMA EXAMINATION, (C-16)

MARCH / APRIL — 2021

DCE — FOURTH SEMESTER EXAMINATION

QUANTITY SURVEYING

Time : Three Hours]

[Maximum Marks : 80

PART-A

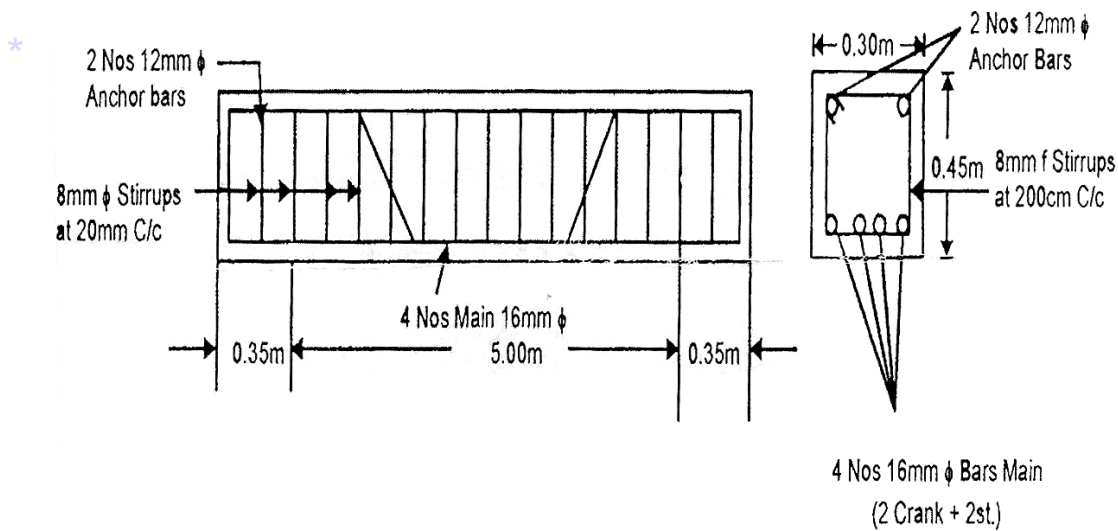
3×10=30

- Instructions :**
- (i) Answer **all** questions.
 - (ii) Each question carries **three** marks.
 - (iii) Any missing data may be assumed suitably.

1. List the duties of quantity surveyor.
2. What is meant by specification ? State its necessity.
3. Explain briefly long and short wall method of estimating a building.
4. A room has 6.0 M × 4.0 M internal dimensions with 30 Cms wall thickness. The basement has a cross section of 40 Cms width and 60 Cms height. Calculate (a) Plinth area (b) Brick work in C.M. (1:8) in basement.
5. What is the quantity of cement required in bags for 10 Cum of R.C.C. (1:2:4) ?

6. Calculate the quantity of anchor bars required for a beam as shown in fig.

Note : Use tar steel: Hooks are not necessary



Note : Use Tone Steel : Hooks are not Necessary

7. Define the terms 'lead' and 'lift' for the formation of roads, railways etc., and give values of initial lead and initial lift.

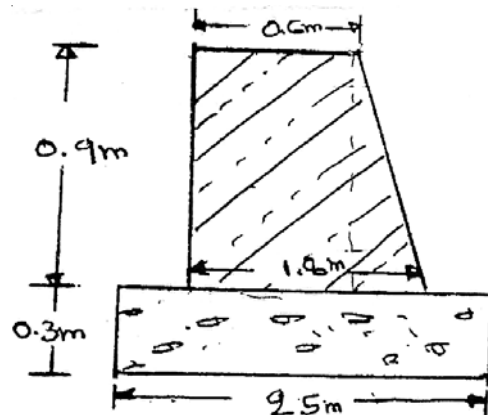
8. Explain the following terms :

- (a) Scrap value
- (b) Salvage value
- (c) Market value
- (d) Book value

9. A building costing Rs. 8,00,000 has been constructed on a free hold land measuring 100m². Prevailing rate of land in the neighborhood is Rs. 1,5000 per Sq.m. Determine the net rent of the property if (i) The expenditure on outgoing including sinking fund is Rs. 30,000 per annum, and (ii) The owner expects 6% return on the cost of construction and 5% on the cost of land.

10. The cross section of abutment is shown in fig. Calculate the quantities of following items for the length of 15 m :

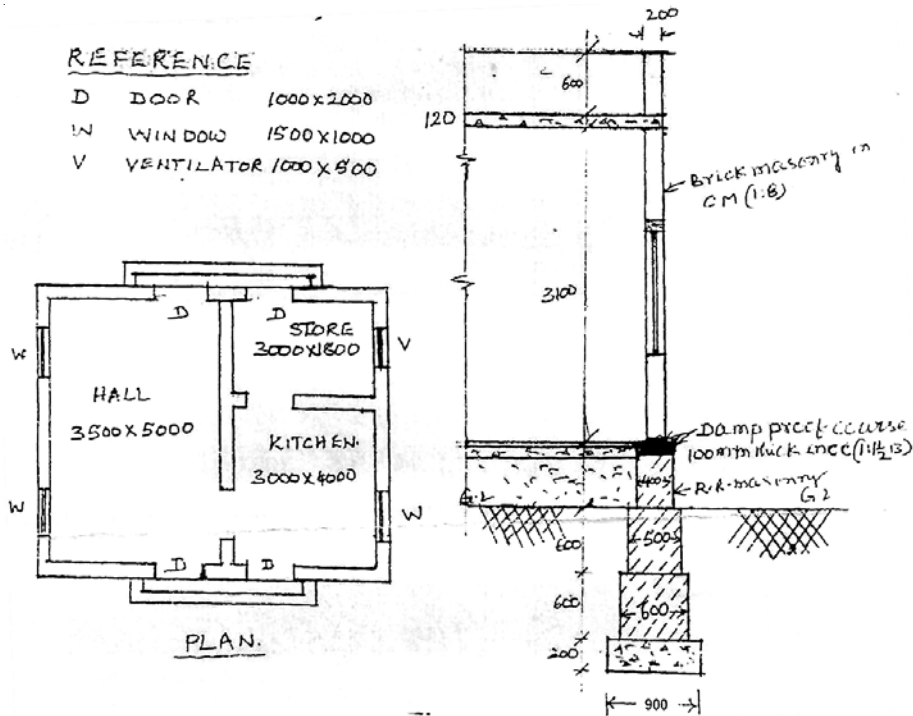
- (a) C.C. (1:3:6) for foundation
- (b) R.R. masonry in CM (1:6)



- Instructions :** (i) Answer any **five** questions.
 * (ii) Each question carries **ten** marks.
 (iii) Any missing data may be assumed suitably.

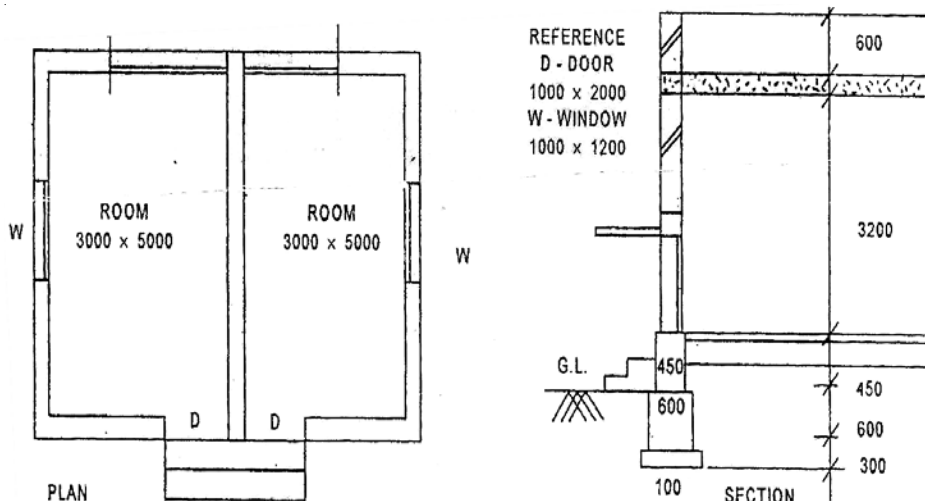
11. Prepare the detailed estimate for the following items of work shown in drawing :

- (a) Cement concrete (1:4:8) in foundation bed
- (b) R R masonry
- (c) 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 by centre line method.



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

(a) Brick Masonry in C.M. (1:6) – 1 cu.m.

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(b) C.C. (1:3:6) using 40 mm HBG metal – 1 cu.m.

Materials and Labour required:

C.C. (1:3:6) Brick		Masonry in C.M. (1:6)	
0.92 Cum	HBG metal	512 Nos.	Bricks
—	Sand	0.20 Cum.	C.M. (1:6)
Cement	1.4 Nos.	Masons	
0.2 Nos.	Masons	0.70 Nos.	Man Mazdoors
1.8 Nos.	Men Mazdoors	2.1 Nos.	Women Mazdoors
1.4 Nos.	Women Mazdoors	1.0 Cum	Scaffolding
LS	Sundries	LS	Sundries

Lead Statement for Materials

SI.No.	Materials	Rate	Per	Lead	Conveyance charges
1	40mm HBG Metal	956.70	1 Cum	15 km	Rs. 8.00 per 1 km
2	Sand	756.00	1 Cum.	09 km	Rs.5.00 per 1 km
3	Cement	6400.00	1 MT	Local	—
4.	Bricks	5200	1000Nos.	12 km	Rs. 5.00 per km per 1000 Nos.

Labour Charges:

Masons	=	Rs.450.00	per day
Men Mazdoors	=	Rs. 350.00	per day
Women Mazdoors	=	Rs. 300.00	per day
Scaffolding charges	=	Rs.95/-	per 1 cu.m.
Mixing charges	=	Rs.60.00	per cu.m.

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14. Calculate the quantity of material required for the items of work shown below :

(a) Plastering in C.M. two coats 20 mm thick, first coat in cement mortar (1:5) 16 mm thick and 2nd coat in cement mortar (1:4) 4 mm thick and sponge finishing complete for 150 sq.m.

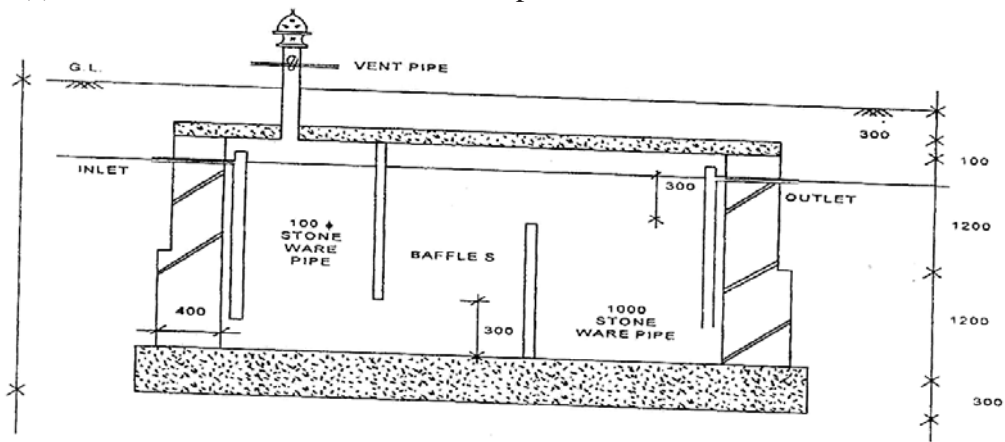
(b) Cement concrete 1:4:8 in footing for 20 cu.m. with 20mm HBG metal.

15. The contour areas of a reservoir are given below. Calculate the Gross and effective capacity of reservoir by trapezoidal and Prismoidal formula:

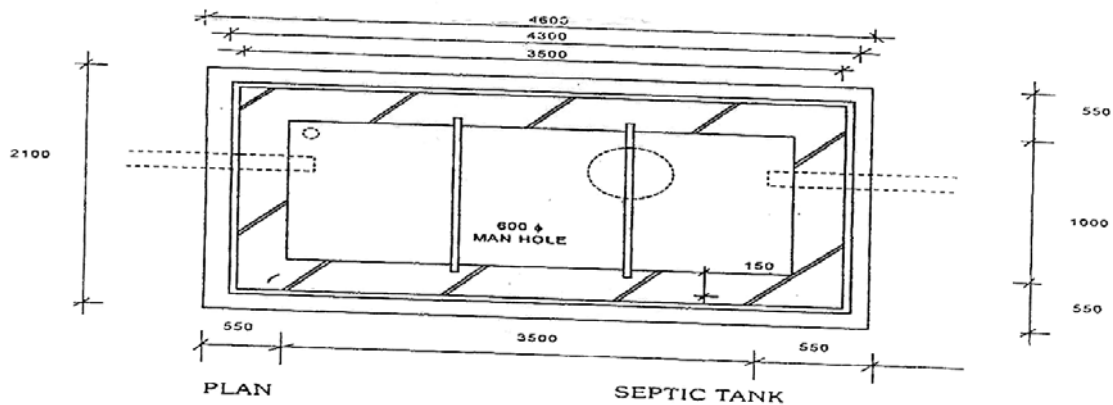
Levels in m	Areas in sqm	Particulars
* 10.00	10500	bed level
11.0	13200	
12.0	20600	
13.0	35000	
14.0	40200	sill level
I 15.0	60700	
16.0	72400	
17.0	90300	
18.0	99300	

16. From the figure show the specifications of a septic tank. Determine the quantities of the following items of work.

- Cement concrete (1:5:10) for floor and foundation.
- 2nd class brick work in C.M.(1:6)
- Earth work excavation for the septic tank



CROSS SECTION

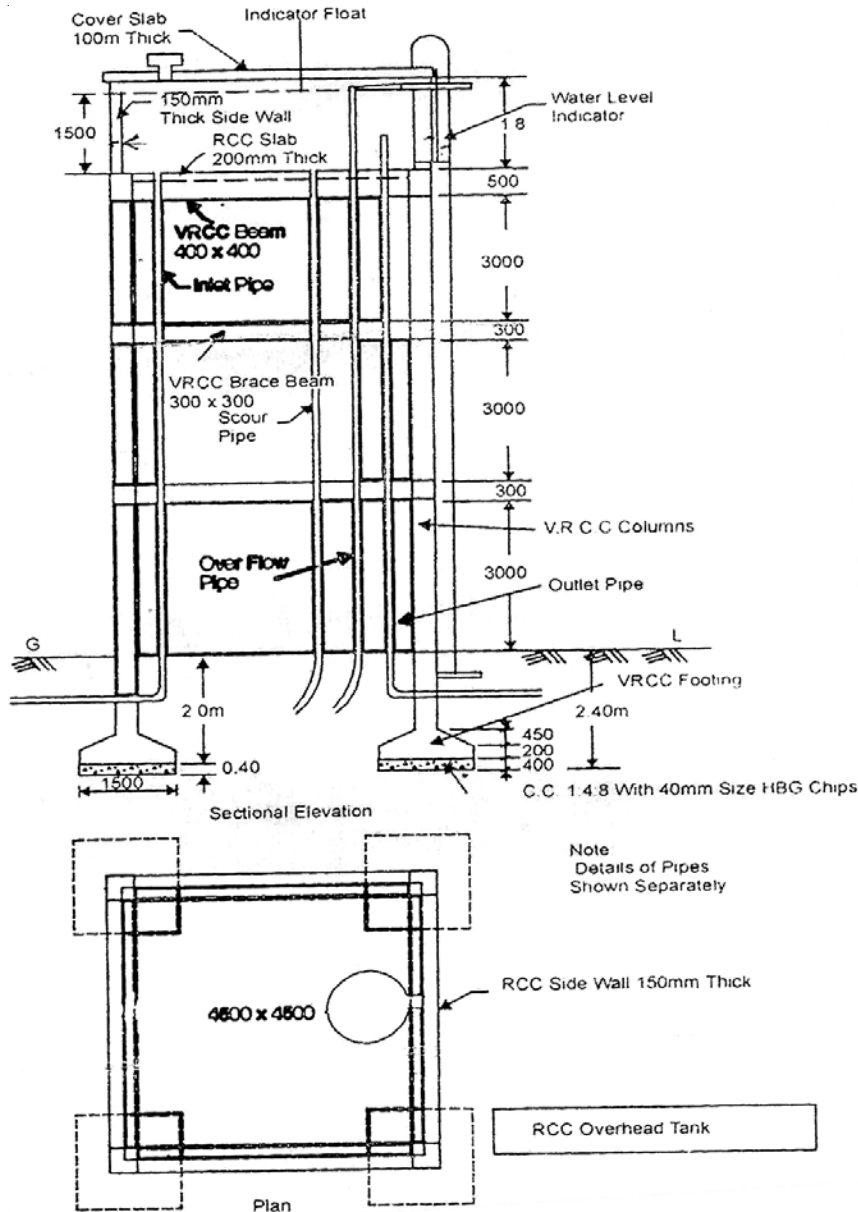


PLAN

SEPTIC TANK

17. The drawing shows the plan and section of over head tank. Calculate the following quantities of V.R.C.C. items :

- (a) Column and column footings
- * (b) Brace and ring beams
- (c) Side walls and top slab



18. A residential building of 220 sq.m. plinth areas is situated on a plot measuring 450 m². The building is let out for a rent of Rs. 1,100 per month. The cost is Rs. 95 per m². The following data pertain to the outgoings :

- (a) Municipal tax's 20% of gross rent
 - (b) Repair, maintenance 10% of gross rent and insurance expenses
 - (c) Sinking fund is to be 4% compound provide for at interest.
- Fix the gross rent of the building.
