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10CV/CT73

Seventh Semester B.E. Degree Examination, Dec.2017/Jan.2018
Estimation and Valuation

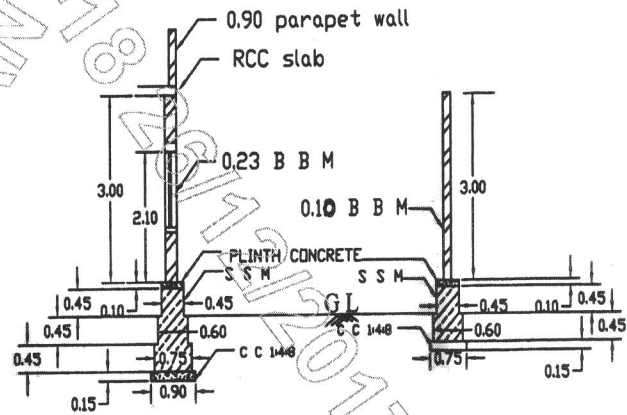
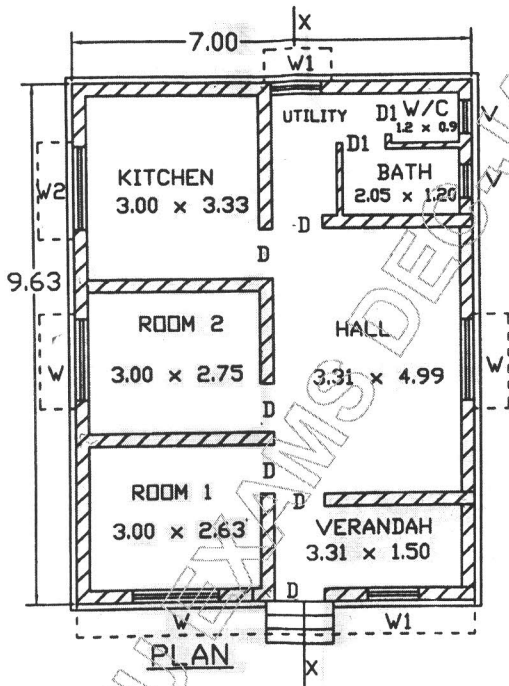
Time: 3 hrs.

Max. Marks:100

- Note:** 1. Part - A Q.No. 1 which is compulsory, Answer any FOUR questions by Selecting any TWO from part B and TWO from part C each.
 2. Missing data, if any, may be suitably assumed.

PART - A

- 1 The plan and cross section of walls of residential building are as shown in Fig. Q1. Work out the quantities and prepare the cost abstract of the following items of work by centre line method.
- Earth work excavation for foundation in ordinary soil @ Rs 115/m³.
 - Cement concrete Bed 1:4:8 @ Rs 2850/-M³
 - Size stone masonry in foundation and basement with CM1:6 @ Rs 2800/-m³ and Rs 3450/-m³ (Basement)
 - First class brick masonry for super structure is CM 1:6 @3800/-m³ (only for main wall)



FOUNDATION DETAILS

DETAILS OF OPENINGS

D 0.90 x 2.10	W 1.50 x 1.20
D1 0.75 x 2.10	W1 0.90 x 1.20
V 0.60 x 0.45	W2 1.50 x 0.90

Fig Q1

(40 Marks)

PART - B

- 2 a. List and explain briefly various types of estimate. (11 Marks)
 b. Write a note on cost of materials. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 3 The details of man hole is as shown in Fig. Q3. Estimate the quantities for the following item of work
- Earth work excavation in foundation
 - Cement concrete 1:3:6 floor and foundation
 - First class Brick work with C.M.1:4
 - 20mm thick cement plaster 1:3 in floor and channel.
- (15 Marks)

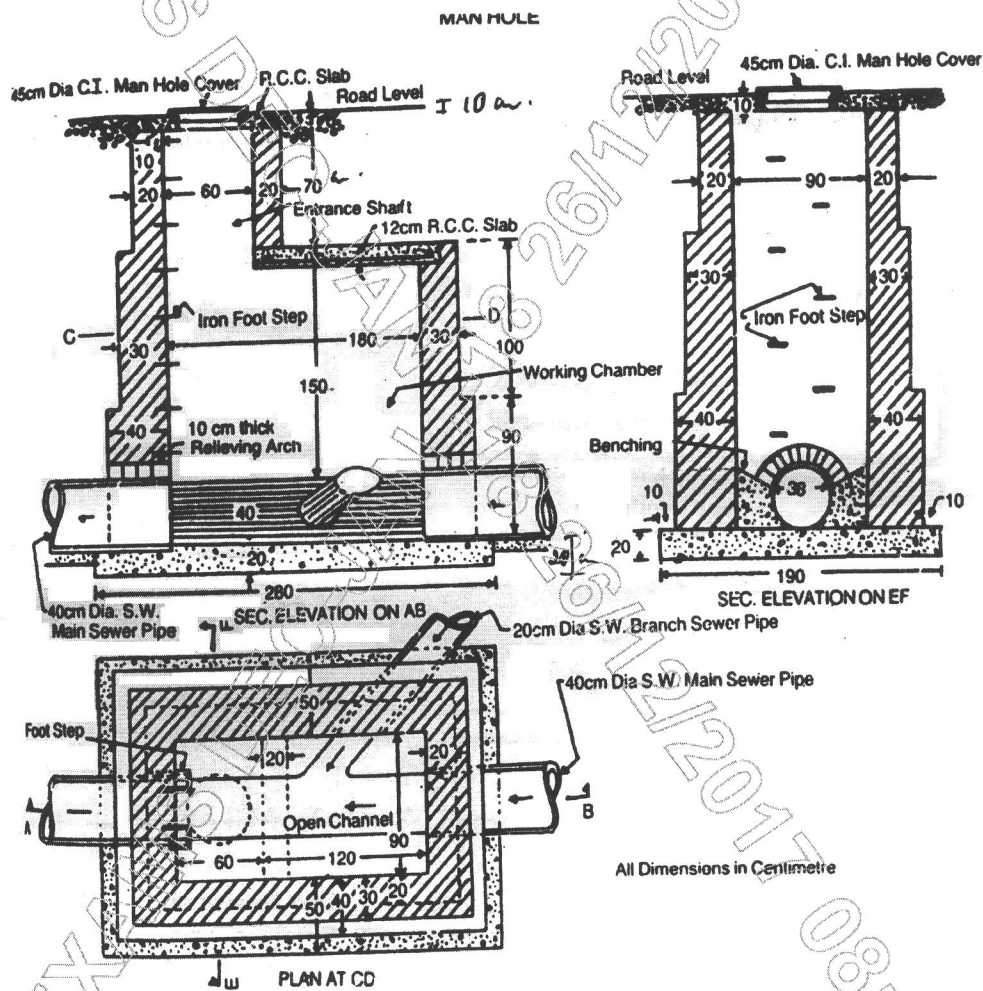


Fig Q3

- 4 Write specifications for any three of the following :
- Burnt Brick masonry in CM 1:6
 - Mosaic or Terrazzo Floor
 - Painting work
 - Earth work excavation.

(15 Marks)

PART - C

- 5 Carry out rate analysis for any three of the following :
- PCC (1:3:6) for foundations using 20mm and down size aggregates.
 - First class brick masonry for super structure is CM1:4
 - 12mm thick plastering for walls with CM1:6
 - 20mm thick DPC with CM1:5.

(15 Marks)

- 6 Estimate the quantity of earth work for a portion of road work from the following data, using mid sectional area method : Formation width = 4m ; side slope 2:1 is filling ; side slope 1.5:1 is cutting

Chainage m	0	40	80	120	160	200	240	280
RL of ground m	100.6	100.2	99.8	100.2	100.8	101.9	102.4	102.5
RL of formation level	101.00	Raising gradient 1 to 400 ----->						

(15 Marks)

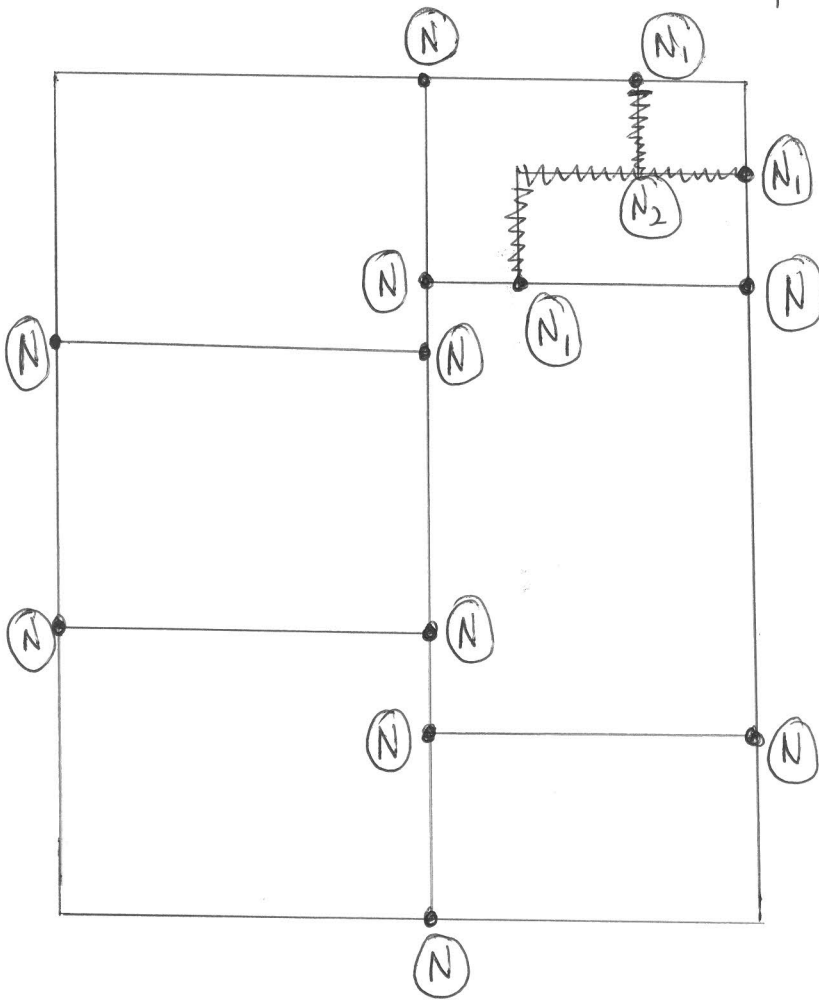
- 7 Write a note on any three of the following :
- EMD and security deposit
 - Technical sanction
 - Measurement books
 - Method of valuation.

(15 Marks)

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Scheme & Solution.

Q.N-1



\textcircled{N} = No of junctions of 23 cm to 23 cm Walls = 10

$\textcircled{N_1}$ = No of junctions of 23cm to 10cm Walls = 03

$\textcircled{N_2}$ = No of junctions of 10cm to 10cm Walls = 01

ϕ = Center line length of 23 cm to 23 cm Walls
 = $4(6.77) + 3(9.40) = 55.28\text{m}$.

ϕ_1 = Center line length of 23cm to 10cm Walls
 = 4.645m .

Step # 1 : Quantity estimate :

Sl No	Description of Work	No	L (m)	B (m)	D (m)	Qty	Unit	Total
1.	Earth Work excavation							
	(i) 23 cm Walls only	1	50.78	0.90	1.05	47.99	m ³	
	(ii) 10 cm Walls only	1	2.92	0.75	0.60	1.31	m ³	49.30
2.	C.C. 1:4:8 for bed.							
	(i) 23 cm Walls only	1	50.78	0.90	0.15	6.86	m ³	
	(ii) 10 cm Walls only	1	2.92	0.75	0.15	0.33	m ³	7.19
3.	S.S.M. 1:6 for fdn							
	(A) 23 cm Walls only							
	(i) Bottom Course	1	51.53	0.75	0.45	17.39	m ³	
	(ii) Middle Course	1	52.28	0.60	0.45	14.12	m ³	
	(B) 10 cm Walls only							
	(i) Bottom Course	1	3.445	0.60	0.45	0.93	m ³	32.44
4.	SSM. 1:6 for Basement							
	(A) 23 cm Wall only	1	53.03	0.45	0.45	10.74	m ³	
	(B) 10 cm Wall only	1	3.745	0.45	0.45	0.76	m ³	11.50
5.	first class Brick Work	1	54.13	0.23	3.00	37.35	m ³	
	<u>Deduction:</u> (i) Door (D)	6	0.90	0.23	2.10	⊖ 2.61	m ³	
	(ii) Door (D ₁)	2	0.75	0.23	2.10	⊖ 0.72	m ³	
	(iii) Window (W)	2	1.50	0.23	1.20	⊖ 0.83	m ³	
	(iv) Window (W ₁)	2	0.90	0.23	1.20	⊖ 0.50	m ³	
	(v) Window (W ₂)	1	1.50	0.23	0.90	⊖ 0.31	m ³	31.76

Abstract Estimate:

Sl No	Description of Work	Qty	Unit	Rate Per unit	Amount
1.	Earth Work excavation	49.30	m ³	Rs 115	Rs 5669.50
2.	C.C. 1:4:8 for bed	7.19	m ³	Rs 2850	Rs 20491.50
3	SSM 1:6 for fd ⁿ	32.44	m ³	Rs 2800	Rs 9082.00
4	SSM 1:6 for Basement	11.50	m ³	Rs 3450	Rs 39675.00
5	first class Brick work	31.76	m ³	Rs 3800	Rs 120688.00
Total					Rs 2,77,356
Add 3% for Water charges @ W/E					Rs 8320.70
Add 10% for Contractors' profit					Rs 27735.60
Grand Total					Rs 3,13,412.30

Project Cost = Rs 3,13,412.