MP POLYTECHNIC GORAKHPUR

AA-2nd YEAR DIPLOMA

Estimation

Online Tutorial Notes.

Name of Student: …… SEM:___ __ Submission made through (mention email

Single storied residential building with number of rooms (framed structure type)

Number of columns in a framed structure = 9

Size of the columns = 230 mmx230 mm

Length of R.R. masonry, Brickwork, lintels, plinth beam and beams under slab = (6+6)x3+(5+4)x3=63 m.

Length of sunshades and external plastering = (12.9+9.9)x2= 45.6 m.

Length of slab with 1 m. extension on both sides = 1.0+1.0=2.0 m.

External Plastering : Area of external plastering = Length x Height

Length of Plastering = 2x(12.9+9.9)=45.6 m.

Height of external plastering = 3.0+0.12, where 3.0m is the height of the room and 0.12 m. is the thickness of the slab.

Internal plastering : Area of internal plastering = Length x Height

Length of plastering = 2(L+B) , Where L and B are the length and breadth of the room respectively.

For 6mx5m room, length = 2(6+5)=22m. Similarly for 5mx4m room, length =2(5+4)=18 m.

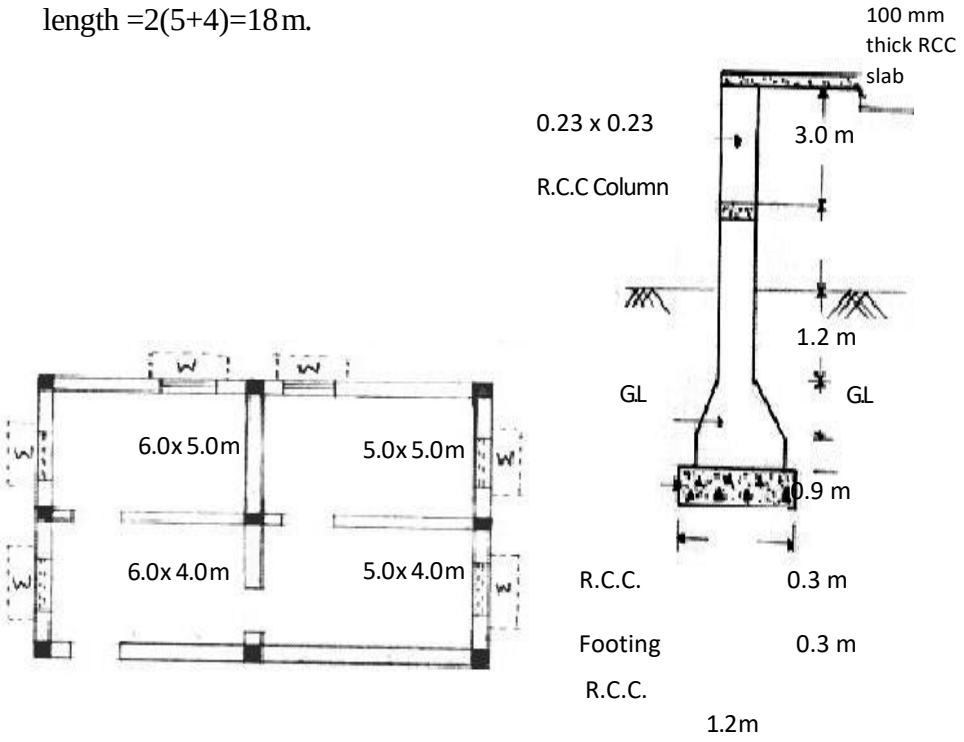

Fig 4.4 Residential Building Framed Structure

S. No.	Description of work	No.	L	B	H	Quantity	Remarks
1	Earthwork in excavation		m	m	m	m3	
	Columns	9	1.2	1.2	1.8	23.33	
	In between columns	1	63	0.9	0.9	51.03	L=12x3+ 9x3=63
	Deduct for columns	9	0.6	0.6	0.9	-2.92	
						71.44	
2	C.C. bed in foundation						
	Columns	9	1.2	1.2	0.3	3.89	
	In between columns	1	63	0.9	0.3	17.01	
	Deduct for columns	9	0.6	0.6	0.3	-0.972	
						19.93	
3	R.R. masonry in foundation						
	First footing	1	63	0.7	0.6	26.46	
	Second footing	1	63	0.45	1.2	34.02	
						60.48	
4	Brickwork in superstructure	1	63	0.23	3	43.47	
	Deductions Doors	6	1	0.23	2	-2.76	
	Windows	8	1.2	0.23	1.2	-2.65	
		Net Brickwork in super structure				38.06	
5	R.C.C. column footing	9	1.2	1.2	0.3	3.89	
		9					
	Trapezoidal section	(1.44+4x0.985+0.053)/6			0.3	2.44	
	Stem	9	0.23	0.23	5.1	2.43	H=0.9+1.2+ 3.0=5.1
						8.76	

6	R.C.C. Plinth beam	1	63	0.23	0.3	4.35	
7	R.C.C. in lintels&sunshades						
	Lintels	1	63	0.23	0.1	1.45	
	Sunshades	1	45.6	0.7	0.07	2.23	L=2(12.9+9.9)=45.6
						3.68	
8	R.C.C. slab and beams						
	Beams under slab	1	63	0.23	0.3	4.35	
	1m. Projection from slab	9	1	0.23	0.3	0.62	
	R.C.C. Slab.	1	14.9	11.9	0.12	21.28	L=12.9+1.0+1.0=14.9
						26.25	B=9.9+1.0+1.0=11.9
9	External plastering 20 mm						L=2(12.9+9.9)=45.6
	Thick	1	45.6		3.12	142.27	H=3.0+0.12
	Deductions						
	Doors	6	1		2	-12	
	Windows	8	1.2		1.2	-11.52	
		Net External plastering area				118.75	
10	Internal Plastering 12 mm thick						
	Rooms 6mx5m	2	22		3	132	L=2(6+5)=22
	Rooms5mx4m	2	18		3	108	L=2(5+4)=18
						240	
11	Sand filling in rooms						
	Rooms 6mx5m	2	6	5	1.2	72	

	Rooms 5mx4m	2	5	4	1.2	48	
						120	
12	C.C. bed in rooms						
	Rooms 6mx5m	2	6	5	0.1	6	
	Rooms5mx4m	2	5	4	0.1	4	
						10	
13	Flooring in rooms						
	Rooms 6mx5m	2	6	5		60	
	Rooms5mx4m	2	5	4		40	
						100	
14	Fabrication & placement of steel	(8.76+4.35+3.68+26.25)x1.25x87.5/100x1000				78.5x100/100x1000 tonnes 4.22 t	