

# **Estimating & Costing -1**

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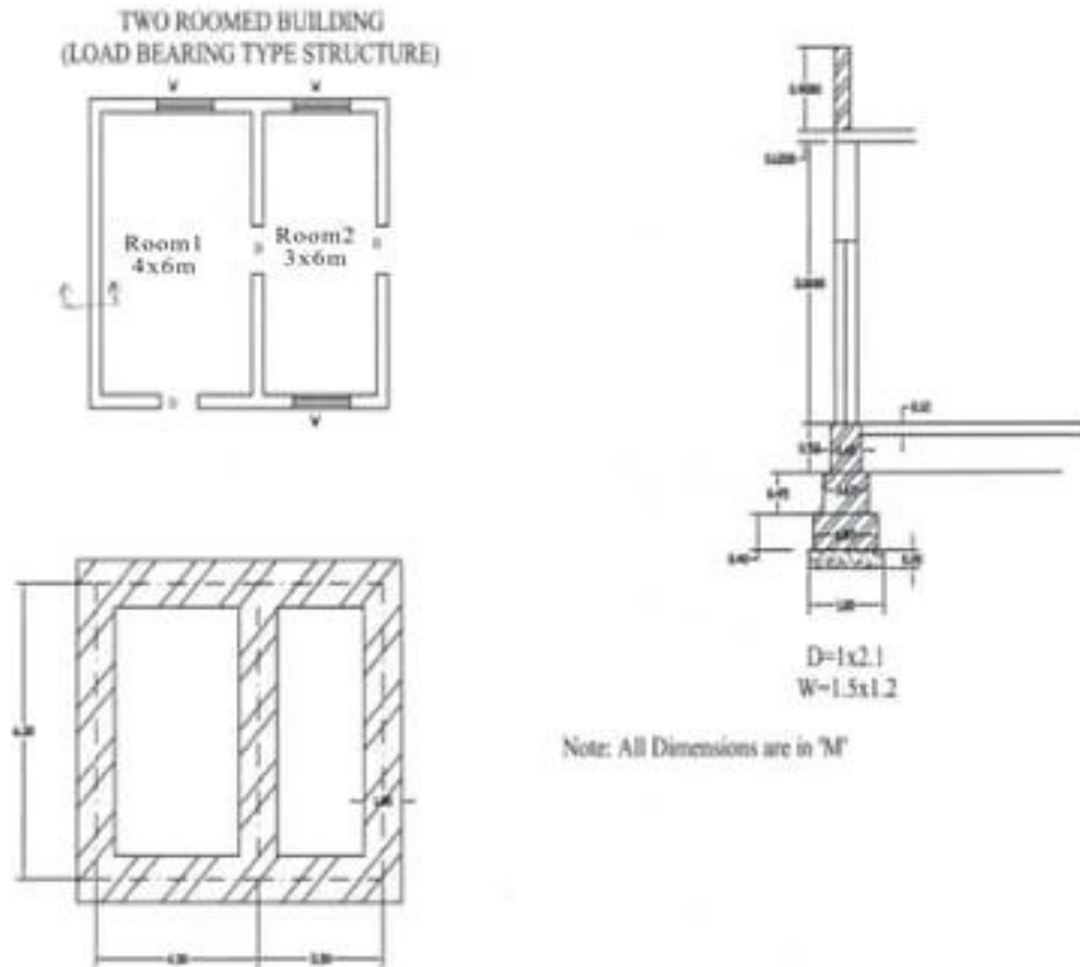
Daffodil Institute of IT,Chittagong

*Estimation and Costing***Abstract estimate of single roomed building (load bearing structure)**

S.No	Description of item	Quantity	Unit	Rate	Per	Amount
1.	Earth work excaation	24.192	m <sup>3</sup>	465	10m <sup>3</sup>	1125.00
2.	Cement concrete(1:4:8)	5.184	m <sup>3</sup>	4545	1m <sup>3</sup>	8009.30
3.	RR.masonry in C.M.(1:5)	10.94	m <sup>3</sup>	1391	m <sup>3</sup>	15217.50
4.	Sand filling in basement	8.96	m <sup>3</sup>	195.20	10m <sup>3</sup>	175.00
5.	Brick masonry in country bricks of standard size in CM(1:8)	18.03	m <sup>3</sup>	2291	m <sup>3</sup>	41306.73
6.	R.C.C. (1:2:4) for lintels, beams etc.	1.984	m <sup>3</sup>	6030	m <sup>3</sup>	11963.52
7.	R.C.C.(1:2:4) for slabs,	3.09	m <sup>3</sup>	6030	m <sup>3</sup>	18633.00
8.	Cement concrete (1:5:10) for flooring	1.86	m <sup>3</sup>	1452	m <sup>3</sup>	2700.72
9.	Supplying and fixing of country wood for doors.	2.1	m <sup>2</sup>	1650	m <sup>2</sup>	3465.00
10.	Supplying and fixing of country wood for windows and ventilators.	5.4	m <sup>2</sup>	2300	m <sup>2</sup>	12420.00
11	Plastering to all exposed surfaces of brick work and basement with C.M (1:5)	151.18	m <sup>2</sup>	582	10m <sup>2</sup>	8798.70
12	White washing with best shell lime	151.18	m <sup>2</sup>	116	10m <sup>2</sup>	1753.68
13	Flooring with spartek tiles set in C.M (1:3)	20	m <sup>2</sup>	4230	10m <sup>2</sup>	8460.00
14	Painting with ready mixed enamel paint	16.875	m <sup>2</sup>	335	10m <sup>2</sup>	565.31
					<b>Total</b>	<b>134593.46</b>

*Detail & Abstract Estimates of Buildings*

**Example :2 :-**From the given figure below calculate the details and abstract estimate for the double roomed building (Load bearing type structure) by a) long wall & short wall method  
**(b) Centre Line Method**



*Estimation and Costing*


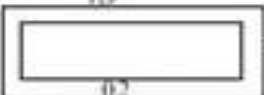
S.No.	Particulars of Items	No.	L	B	H	Q	Explanation
1.	<b>Earth Work excavation</b> for foundation						
	a) Long walls	2	8.6	1.0	1.05	18.05	$L=7.6+0.5+0.5=8.6$
	b) Short walls	3	5.3	1.0	11.05	16.70	$L=6.3-0.5-0.5=5.3$
					Total	<b>34.75</b>	<b>m<sup>3</sup></b>
2.	<b>C.C.(1:4:8) bed for</b> foundation						
	a) Long walls	2	8.6	1.0	0.2	3.44	
	b) Short walls	3	5.3	1.0	0.2	3.18	
					Total	<b>6.62</b>	<b>m<sup>3</sup></b>
3.	<b>Brick masonry for</b> footings with CM(1:4)						
	first footing						
	a) Long walls	2	8.45	0.85	0.4	5.746	$L=7.6+0.425+0.425=8.45$
	b) Short walls	3	5.45	0.85	0.4	5.560	$L=6.3-0.425-0.425=5.45$
	2nd footing						
	a) Long walls	2	8.20	0.6	0.45	4.428	$L=7.6+0.3+0.3=8.2$
	b) short walls	3	5.70	0.6	0.45	4.617	$L=6.3-0.3-0.3=5.7$
	ii) for base ment						
	long walls	2	8.00	0.4	0.4	2.560	$L=7.6+0.2+0.0=8.0$
	short walls	3	5.90	0.4	0.4	2.832	$L=6.3-0.2-0.2=5.9$
	iii) for super structure						
	long walls	2	7.90	0.3	3.0	14.22	$L=7.6+0.15+0.15=7.9$
	short walls	3	6.00	0.3	3.0	16.20	$L=6.3-0.15-0.15=6.0$
	iv) Parapet wall						

**Detail & Abstract Estimates of Buildings**

4	RCC(1:2:4)for						
	a) roof slab	1	7.9	6.6	0.12	6.256	
	b) for lintles over doors	3	1.2	0.3	0.1	0.108	
	Windows	3	1.7	0.3	0.1	0.153	
	c) beams	1	33.8	0.3	0.3	3.042	
					Total	<b>9.298</b>	<b>m<sup>3</sup></b>
5.	Plastering for walls	1	20.0	--	3.0	60.00	L=2(4.0+6.0)=20
	a) Inside room1	1	18.0	---	3.0	54.00	
	room2	1	29.0	---	3.0	87.00	L=2(7.9+6.6)=29
	b) out side	1×2	28.2	---	0.70	39.48	L=2(7.7+6.4)=28.2
	Parapet wall(Sides)	1×1	28.2	0.20	--	5.64	
					Total	<b>246.12</b>	<b>m<sup>2</sup></b>
	Deductions						
	a) doors	3×2	1.0	---	2.10	12.6	
	b) windows	3×2	1.5		1.20	10.8	
					Total	<b>23.4</b>	<b>m<sup>2</sup></b>
	<b>Net Plastering</b>		<b>= 246.12</b>	<b>- 23.4</b>	<b>=</b>	<b>222.72</b>	<b>m<sup>2</sup></b>
6.	flooring with cudadaph slab in cm (1:3)						
	Room1	1	4.0	6.0	---	24	
	Room2	1	3.0	6.0	---	18	
					Total	<b>42</b>	<b>m<sup>2</sup></b>
7	Plastering for ceiling =same as flooring					42	
8	White washing = same as plastering for walls & Ceiling						
						<b>=222.72+42=264.72</b>	<b>m<sup>2</sup></b>
9	Colour washing with two coats						
	Same as quantity of plastering for walls and ceiling					264.72	<b>m<sup>2</sup></b>

*Estimation and Costing*

**b) Centre Line Method**

S.No.	Particulars of Items	No.	L	B	H	Q	Explanation
	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> <span>4.3</span> <span>3.3</span> </div>  <p style="margin-left: 20px;">6.3</p> <p><b>Total centre line length</b>  <math>= (4.3 + 3.3) \times 2 + 6.3 \times 3 = 34.1 \text{ m}</math></p>						
1.	Earth work excavation	1	33.1	1.0	1.05	34.75	$L = 34.1 - 2 \times 1/2 = 33.1$
2.	C.C.(1:4:8) bed for foundation	1	33.1	1.0	0.20	6.62	$\text{m}^3$
3.	Brick masonry with CM(1:4)						
	a) for foundation						
	i) first footing	1	33.25	0.85	0.40	11.30	$L = 34.1 - 0.85 = 33.25$
	ii) 2nd footing	1	33.50	0.60	0.45	9.045	$L = 34.1 - 0.6 \times 2/2$
	b) for basement	1	33.7	0.40	0.40	5.392	$L = 34.1 - 0.4 \times 2/2$
	c) for super structure	1	33.80	0.30	3.0	30.42	$L = 34.1 - 0.3 \times 2/2$
	d) for parapet wall						
	<div style="display: flex; justify-content: space-around; margin-bottom: 5px;"> <span>7.9</span> <span>6.6</span> </div>  <p style="margin-left: 20px;">6.6</p> <p style="margin-left: 20px;">7.9</p> <p><b>Total centre line length</b>  <math>= 2(7.9 + 6.6) = 28.2</math></p>						
		1	28.2	0.2	0.70	3.948	
							<b>Total</b>
						<b>60.10</b>	$\text{m}^3$

**Detail & Abstract Estimates of Buildings**

Abstract estimate of two roomed building (Load bearing type structure)

S.No.	Description of item	Quantity	Unit	Rate	Per	Amount
1.	Earth work excavation	34.75	m <sup>3</sup>	465	10m <sup>3</sup>	1615.90
2.	Cement concrete(1:4:8)	6.62	m <sup>3</sup>	1545	1m <sup>3</sup>	10228.00
3.	Sand filling in basement	12.036	m <sup>3</sup>	195.20	10m <sup>3</sup>	235.00
4.	Brick masonry in country Bricks of standard size in CM(1:8)	56.34	m <sup>3</sup>	2291	m <sup>3</sup>	129075.00
5.	R.C.C. (1:2:4) for lintels, beams etc.	3.303	m <sup>3</sup>	6030	m <sup>3</sup>	19918.00
6.	R.C.C.(1:2:4) for slabs,	6.26	m <sup>3</sup>	6030	m <sup>3</sup>	37748.00
7.	Cement concrete (1:5:10) for flooring	4.2	m <sup>3</sup>	1452	m <sup>3</sup>	6098.40
8.	Supplying and fixing of country wood for doors.	6.3	m <sup>3</sup>	1650	m <sup>2</sup>	10395.00
9.	Supplying and fixing of country wood for windows and ventilators.	5.4	m <sup>2</sup>	2300	m <sup>2</sup>	12420.00
10.	Plastering to all exposed surfaces of brick work and basement with C.M (1:5)	222.72	m <sup>2</sup>	582	10m <sup>2</sup>	12962.30
11	White washing with best shell lime	264.72	m <sup>2</sup>	116	10m <sup>2</sup>	3070.75
12	Flooring with spartek tiles set in C.M (1:3)	42	m <sup>2</sup>	4230	10m <sup>2</sup>	17766.00
13	Painting with ready mixed enamel paint	25.305	m <sup>2</sup>	335	10m <sup>2</sup>	8477.17
						<b>128090.00</b>
14	Provision for water supply and sanitary arrangements					16011.25