

# **Estimating & Costing -1**

Slide Making By : **Nur Nahar Akter Santa**

Jr .Instructor

Civil Technology

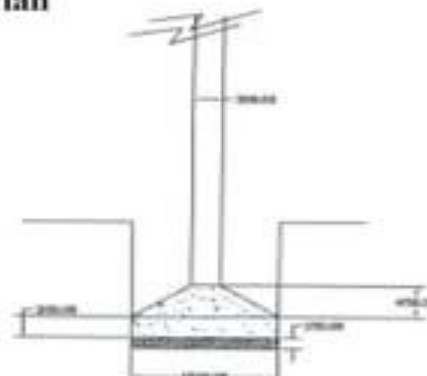
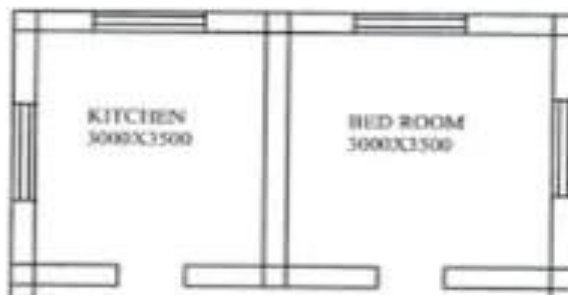
Daffodil Institute of IT,Chittagong

*Estimation and Costing*

**Example 5 :-** From the given figure below calculate the details and abstract estimate for the two storeyed residential building with no.of rooms (Framed Structured type) by Centre Line Method



**Ground Floor Plan**



*Detail & Abstract Estimates of Buildings*

S.No.	Particulars of Items	No.	L	B	H	Q	Explanation
	The quantities of various items of the building for the Ground floor is same as previous problem. Here the quantities of various items of the building for the First floor is mentioned here.						
	<u>First Floor</u>						
1	R.C.C. (1:1.5:3) for						
	a) Columns	8	0.3	0.30	3.0	2.16	
	b) Slabs	1	7.40	8.4	0.15	9.324	
	c) beams	1	40.7	0.3	0.3	3.663	
	d) lintels over doors	1	1.2	0.3	0.1	0.036	
	windows	6	1.4	0.3	0.1	0.252	
					Total	<u>15.435</u>	m <sup>3</sup>
2.	B.M. with CM(1:8) in the first floor	1	28.6	0.3	3.0	25.74	
	Parapet wall	1	30.4	0.3	0.6	5.47	
	Deductions for openings						
	Doors	1	1.0	0.3	2.0	-0.6	
	Windows	6	1.2	0.3	1.5	-3.24	
	<b>Net BM</b>	=	25.74+5.47	-0.6-3.24	=	<u>27.372</u>	m <sup>3</sup>
3.	Plastering with CM(1:4)						
	for walls	1x2	30.4	--	3.0	182.4	
	for parapet wall sides	1x2	30.4	--	0.6	36.48	
	Parapet wall Top	1	30.4	0.3	--	9.12	
	Deductions						
	Doors	1	1.0	---	2.0	-2.0	

### *Estimation and Costing*

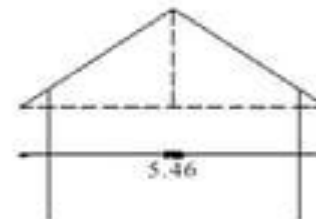
**Example 6:** - Estimate the Quantities of the pictured roof shown in figure

- a) Size of common rafter = 80x40mm
- b) Size of ridge piece = 120x 200mm
- c) Size of eaves board = 20 x 300mm

230mm thick brick wall  
Common rafters at 450mm c/c



Rise = 1/3Span



$$\text{a) Length of Common rafter} = \left( \frac{\text{length}}{2} \right)^2 + \left( \frac{\text{Span}}{3} \right)^2 = \sqrt{2.73^2 + \left( \frac{5.46}{3} \right)^2}$$

$$= 3.28\text{m}$$

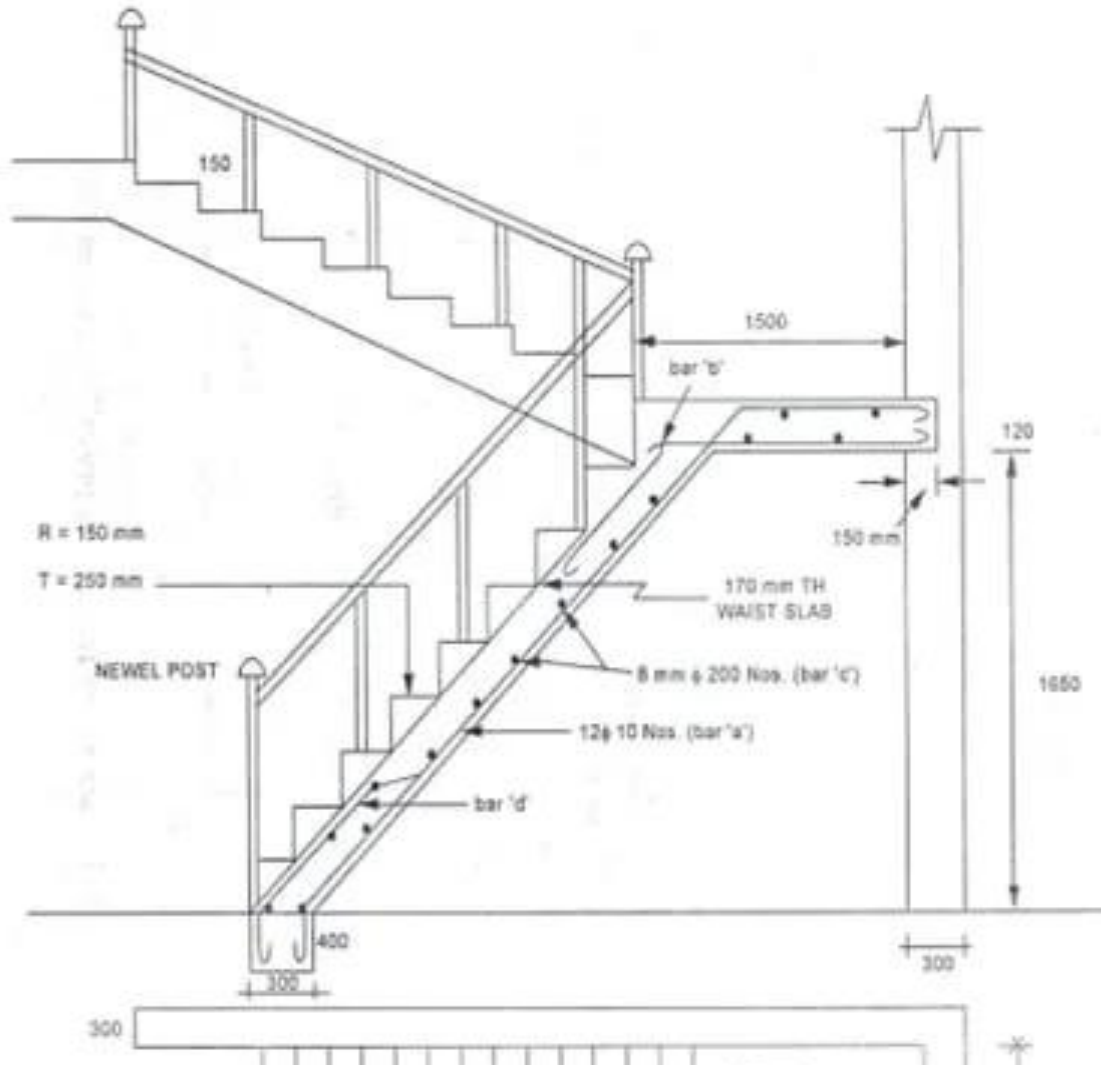
b) Length of ridge piece = 7.0 + 0.23x2 + 0.5x2 = 8.46 m

c) Length of Eaves board = 2( 8.46 + 5.46 ) = 27.84m

S.No	Description	No	L	B	H	Qty	Remarks
1	Ridge piece	1	8.46	0.12	0.20	0.20	Unit of eaves Board in m <sup>2</sup>
2	Eaves Board	1	27.84	—	0.30	8.35	
3	Common rafters	40	3.28	0.08	0.04	0.42	

*Detail & Abstract Estimates of Buildings*

**Example- 7: - Calculate the quantities of items of the stair case of the figure shown in below.**



*Estimation and Costing*

**R.C.C. Stair Case**

S.No.	Particulars of Items	No.	L	B	H	Q	Explanation
1	R.C.C. (1:2:4) excluding steel and its fabrication but including centering and shultering and binding wire.						
	a) Toe wall	1x1	3.15	0.3	0.4	0.38	$m^3$
	b) Waist slab for I and II flights	1x2	3.21	1.2	0.17	1.31	$L = (1.2 + 0.15 + 1.2 + 2 \times 0.3)$
	c) Landing Middle and first floor	1x2	2.85	1.65	0.17	1.60	$L = \sqrt{2.75^2 + 1.65^2} = 3.21m$ $L = (1.2 + 0.15 + 1.2 + 2 \times 0.15)$
					Total	<b>3.29</b>	$m^3$
2.	1st class brick work in C.M. (1:4) for steps	2x11	1.2	$\frac{1}{2} \times (0.25 + 1.5)$		0.495	
3.	20mm. thick cement plastering (1:5) for steps finished neat						
	a) Treads & Rises	2x11	1.2	$\frac{1}{2} \times (0.25 + 1.5)$		10.56	
	b) ends of steps	2x11		$\frac{1}{2} \times (0.25 + 1.5)$		0.41	
					Total	<b>10.97</b>	$m^2$
4.	2.5cm No sing in steps	2x12	1.2	--	--	28.8	$m^2$
5.	2.5cm. C.C. flooring finished neat cement floating in middle and first floor landing	1x2	2.55	1.2		6.12	$m^2$