1.4 ESTIMATION OF QUANTITIES FOR BUILDINGS

1.4.1 APPROXIMATE ESTIMATES

The cost of each item of work is worked out from the quantities that already computed in the details measurement form at workable rate. But the total cost is worked out in the prescribed form is known as abstract of estimated form. 4%of estimated Cost is allowed for Petty Supervision, contingencies items.

ABSTRACT OF ESTIMATE FORM

Item No	Description/Particular	Quantity	Unit	Rate	Amount

1.4.2 DETAILED ESTIMATE

The complete work is divided into various items of work such as earth work concreting, brick work, R.C.C. Plastering etc., The details of measurements are taken from drawings and entered in respective columns of prescribed preformed. The quantities are calculated by multiplying the values that are in numbers column to Depth column as shown below

DETAIL ESTIMATE FORM

S.NO	Description Of item	NO	Length (L) m	Breath (B) m	Depth/Height (D/H) m	Quality	Explanatory Notes

Example 1. Estimate the quantities of the following items of a two roomed building from the given plan and section (Fig.1.5.1) :-

(1) Earthwork in excavation in foundation,

(2) Lime concrete in foundation,

(3) Ist class brickwork in cement mortar 1 : 6 in foundation and plinth,

(4) 2.5 cm c.c. damp proof course, and
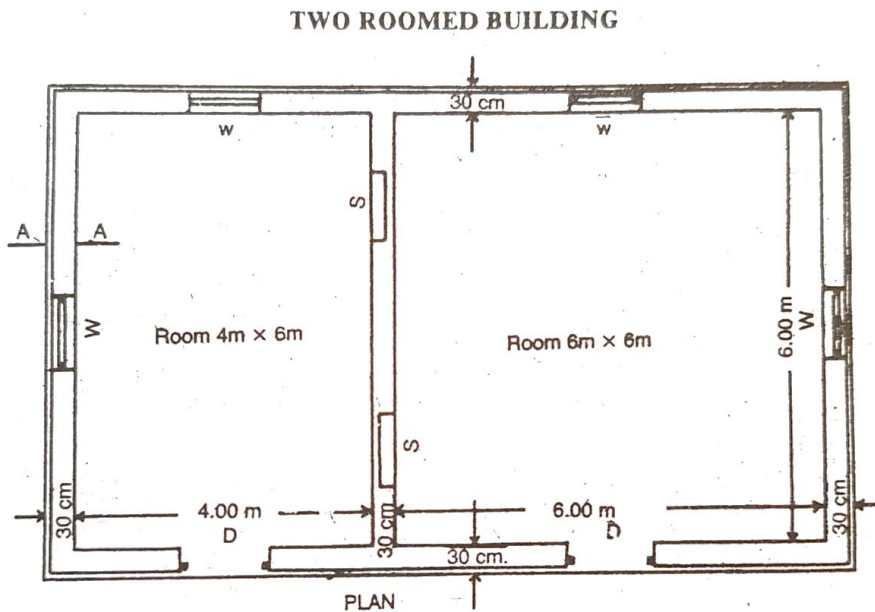
(5) 1st class brickwork in lime mortar in superstructure.

Figure 1.5.1 Two Room Building Plan

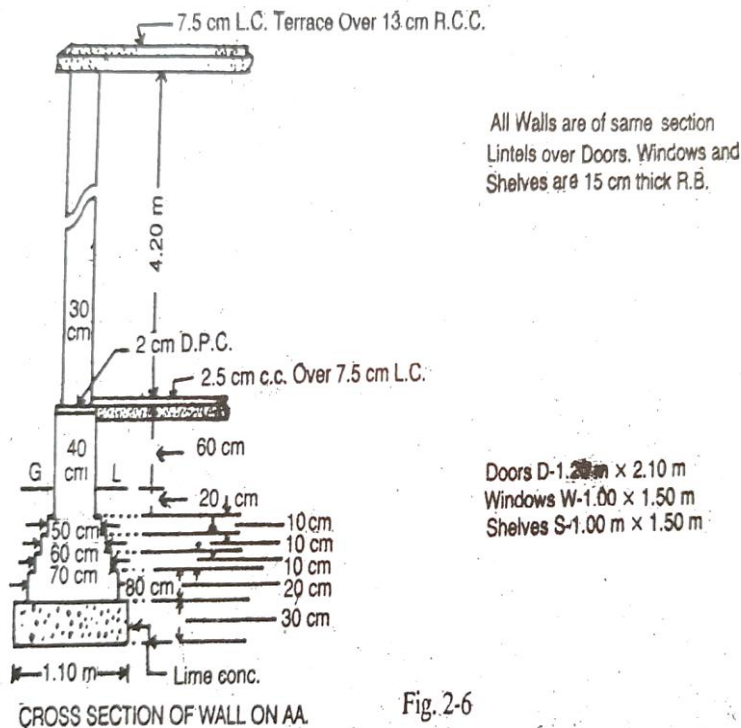*[Source: "Estimation and Costing in civil Engineering" by B N Dutta, Page: 35]*

Figure 1.5.2 Two Room Building Cross Section

[Source: "Estimation and Costing in civil Engineering" by B N Dutta, Page: 35]

Item No	Particulars of Items	No.	Length	Breadth	Height or Depth	Quantity	Explanatory note
1	Earthwork in excavation in foundation Long walls…	2	11.70 m	1.10 m	1.00 m	25.74	L=10.60+1.10 = 11.70 m
	Short walls ...	3	5.20 m	1.10 m	1.00 m	17.16	L=6.30-1.10 = 5.20 m
					Total	42.90 cu m	
2	Lime concrete in foundation – Long walls	2	11.70 m	1.10 m	0.30 m	7.72	Length same for excavation
	Short walls	3	5.20 m	1.10 m	0.30 m	5.15	
					Total	12.87 cu m	
3	1st class brick work in 1:6 cement mortar in foundation and plinth Long wall						
	1st footing…	2	11.40 m	0.80 m	0.20 m	3.65	L=10.60+0.80=11.40 m
	2nd footing…	2	11.30 m	0.70 m	0.10 m	1.58	L= 10.60+0.70=11.30 m
	3rd footing…	2	11.20 m	0.60 m	0.10 m	1.34	L=10.60+0.60=11.20 m
	4th footing…	2	11.10 m	0.50 m	0.10 m	1.11	L=10.60+0.50=11.10 m
	Plinth and above footing...	2	11.00 m	0.40 m	0.80 m	7.04	L=10.60+0.40=11.00 m
	Short wall 1st footing…	3	5.50 m	0.80 m	0.20 m	2.64	L=6.30-0.80=5.50 m
	2nd footing…	3	5.60 m	0.70 m	0.10 m	1.18	L=6.30-0.70=5.60 m
	3rd footing…	3	5.70 m	0.60 m	0.10 m	1.03	L=6.30-0.60=5.70 m
	4th footing…	3	5.80 m	0.50 m	0.10 m	0.87	L=6.30-0.50=5.80 m
	Plinth and above footing...	3	5.90 m	0.40 m	0.80 m	5.66	L=6.30-0.40=5.90 m
					Total	26.10 cu m	

4	Dampproof course 2.5 cm thick c.c --					
	Long walls…	2	11.00 m	0.40 m	-	8.8	Length same as for plinth wall
	Short walls ...	3	5.90 m	0.40 m	-	7.08	
					Total	15.88 sq m	
	Deduct Door sils	2	1.20 m	0.40 m	-	0.96	
					Net Total	14.92 sq m	
5	1st class brick work in lime mortar in superstructure						
	Long walls…	2	10.90 m	0.30 m	4.20 m	27.47	L=10.60+0.30=10.90 m
	Short walls ...	3	6.00 m	0.30 m	4.20 m	22.68	L=6.30-0.30=6.00 m
					Total	50.15 cu m	
	Deduct						
	Door openings	2	1.20 m	0.30 m	2.10 m	1.51	
		4	1.00 m	0.30 m	1.50 m	1.8	
	windows opening shelves	2	1.00 m	0.20 m	1.50 m	0.6	back of shelves 10 cm thick wall
		2	1.50 m	0.30 m	0.15 m	0.14	Bearing 15 cm
	Lintel over doors						
		4	1.30 m	0.30 m	0.15 m	0.23	Bearing 15 cm
	Lintel over windows						
		2	1.30 m	0.30 m	0.15 m	0.12	Bearing 15 cm
	Lintel over shelves						
				Total Deduction		4.40 cu m	
				Net Total		45.75 cu m	