ESTIMATE OF REST HOUSE

(Total Area = 1962 sq. ft. + Courtyard 278 sq.ft)

1. C/C length of walls = 55.25 x 1 + 39.75 x 1 + 46.50 x 1 + 31.00 x 1 + 6.75 x 3 + 39.25 x 2 + 14.75 x 5 running feet
   = 345 running feet
   = 105.16 running meter
2. C/C length of court yard wall = 26.75 x 1 + 8.75 x 1
   = 35.50 running feet
   = 10.82 running meter
3. No. of columns = 34
4. Size of each column = 22 nos. of size 12 inches x 9 inches
   = 12 nos. of size 9 inches x 9 inches
5. Plinth = 0.5 meter above ground level
6. Beam at plinth level = 9 inches x 9 inches
7. Beam at door level = 9 inches x 6 inches
8. Beam at slab level = 9 inches x 12 inches
9. Thickness of slab = 4 inches

Estimate of different works

1. Excavation:

(i) For columns = 34 x 1.0 x 1.0 x 1.2 meter
= 40.800 cubic meter

(ii) For walls = (105.16 + 10.82 - 64 x 0.5) x 0.3 x 0.5
= 12.597 cubic meter

(iii) Total excavation = 53.397 cubic meter

2. **Filling foundation with 1:3:6 (M-10) cement concrete**:

(i)	For columns	= 34 x 1.0 x 1.0 x 0.1
		= 3.400 cubic meter
(ii)	For walls	= (105.16 + 10.82) x 0.3 x 0.1
		= 3.479 cubic meter
(iii)	For flooring in rooms	= 182.51 x 0.1
		= 18.251 cubic meter
(iv)	Total CC	= 25.13 cubic meter

3. R.C.C. work in 1:1.5:3 (M-20) in columns, beams,chajjas & slab:

(i)	Columns footing	= 34 x (1 x 1 + 0.22 x 0.22)/2 x 0.3
		= 5.346 cubic meter
(ii)	Columns up to plinth level	= 34 x 1.2 x 0.22 x 0.22
		= 1.974 cubic meter
(iii)	Column up to roof level	= 34 x 0.22 x 0.22 x 3.1
		= 5.101 cubic meter
(iv)	Beam at plinth level	= (105.16 + 10.82) x 0.22 x 0.22
		= 5.612 cubic meter
(v)	Beam at door level	= 105.16 x 0.22 x 0.15
		= 3.470 cubic meter
(vi)	Beam at slab level	= 105.16 x 0.22 x 0.30
		= 6.940
(vii)	Chajjas	= 6 x 0.6 x 1.5 x 0.1
		= 0.540 cubic meter
(viii)	Slab	= 182.51 x 0.1
		= 18.251 cubic meter
(ix)	Total RCC	= 47.234 cubic meter

4. **Steel required in RCC** = 2.00 % of volume of RCC
= 7415 kg

5. **Masonary in foundation/plinth** = (105.16 + 10.82– 34 x 0.22) x 0.22 x 0.9
= 21.483 cubic meter

6. **Masonary in superstructure**:

(i) In main building = (105.16 + 10.82) x 0.22 x 2.90
= 73.995 cubic meter

(ii) Deduction for doors/windows = (4 x 1.07 x 2.1 + 7 x 0.838 x 2.1 +
3 x 1.5 x 1.35 + 9 x 1.2 x 1.35 +
4 x 0.6 x 0.45) x 0.22
= 9.663 cubic meter

(iii) Deduction for masonary in verandah = (19.812 x 2.1 x 0.22)
= 9.153

(iv) Total Masonary = 55.179 cubic meter

7. Plaster in 1:6 cement mortar

(i) In main building = 2 x (105.16 + 10.82) x 3.4
= 788.664 square meter

(ii) In roof = 182.51 sq. m

(iii) Deduction for doors/windows =2 x (4 x 1.07 x 2.1 + 7 x 0.838 x 2.1 +
3 x 1.5 x 1.35 + 9 x 1.2 x 1.35 +
4 x 0.6 x 0.45)
= 87.845 square meter

(iv)Total plaster = 883.329 square meter

8. **Centering and shuttering**:

(i) For Columns in main building = 34 x 4 x 0.22 x 4.6

= 137.632 square meter

(ii) For beam at plinth level = (105.16 + 10.82) x 0.3

= 34.794 square meter

(iii) For beam at door level = 105.16 x 0.525

= 55.209 square meter

(iii) For beam at roof level = 105.16 x 0.96

= 100.954 square meter

(iv) For chajjas = 6 x 0.6 x 1.5

= 5.400 square meter

(v) For slab = 182.51 sq. m

(vi) Total shuttering = 516.499 square meter

9. **Filling foundation with moorum** = 182.51 x 0.5

= 91.26 cubic meter

10. **Wood required for frames** = 0.0635 x 0.127 x (4 x 5.334 + 7 x 5.105 + 3 x 8.534 + 9 x 5.4 + 4 x 2.1)

= 1.126 cubic meter

11. Frame work for doors/window = (4 x 1.07 x 2.1 + 7 x 0.838 x 2.1 + 3 x 1.5 x 1.35 + 9 x 1.2 x 1.35 + 4 x 0.6 x 0.45)

= 43.922 square meter

12 **Flooring** = 182.51 square meter