

ESTIMATE OF LINE QUARTER

(Total Area = 2843 sq. ft. + Court Yard 940 sq feet)

1. C/C length of walls = $94.75 \times 3 + 29.25 \times 9 + 7.5 \times 4$ running feet
= 577.5 running feet
= 176.02 running meter
2. C/C length of court yard walls = $94.75 \times 1 + 9.25 \times 5$ running feet
= 141 running feet
= 42.98 running meter
3. No. of columns in quarter = 36
4. No. of columns in courtyard = 9
5. Size of each column = 9 inches x 9 inches
6. Plinth = 0.5 meter above ground level
7. Beam at plinth level = 9 inches x 6 inches
8. Beam at door level = 9 inches x 6 inches
9. Beam at slab level = 9 inches x 9 inches
10. Thickness of slab = 4 inches

Estimate of different works

1. Excavation:

- (i) For columns = $(36 + 9) \times 1.0 \times 1.0 \times 1.2$ meter
= 54.000 cubic meter
- (ii) For walls = $[(176.02 + 42.98) - 120 \times 0.5] \times 0.3 \times 0.5$
= 23.850 cubic meter
- (iii) Total excavation = 77.85 cubic meter

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

- (i) For columns = $(36 + 9) \times 1.0 \times 1.0 \times 0.1$
= 4.500 cubic meter
- (ii) For walls = $(176.02 + 42.98) \times 0.3 \times 0.1$
= 6.570 cubic meter
- (iii) For flooring in rooms = $28.88 \times 9 \times 0.1$
= 25.992 cubic meter
- (iv) Total CC = 37.062 cubic meter

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

- (i) Columns footing = $45 \times (1 \times 1 + 0.22 \times 0.22) / 2 \times 0.3$
= 7.077 cubic meter
- (ii) Columns up to plinth level = $45 \times 1.2 \times 0.22 \times 0.22$
= 2.614 cubic meter
- (iii) Column up to roof level = $36 \times 0.22 \times 0.22 \times 3.1$
= 5.401 cubic meter
- (iv) Column in court yard = $9 \times 0.22 \times 0.22 \times 1.8$
= 0.783 cubic meter
- (v) Beam at plinth level = $(176.02 + 42.98) \times 0.22 \times 0.15$
= 7.227 cubic meter
- (vi) Beam at door level = $176.02 \times 0.22 \times 0.15$
= 5.809 cubic meter
- (vii) Beam at door level = $176.02 \times 0.22 \times 0.22$
= 8.519 cubic meter
- (vii) Chajjas = $8 \times 0.6 \times 1.5 \times 0.1$
= 0.72 cubic meter
- (viii) Slab = $(28.88 \times 9.00) \times 0.1$
= 25.992 cubic meter
- (ix) Total RCC = 64.142 cubic meter

4. **Steel required in RCC** = 1.25 % of volume of RCC
= 6295 kg
5. **Masonry in foundation/plinth** = $(176.02 + 42.98) \times 0.22 \times 0.9$
= 43.362 cubic meter
6. **Masonry in superstructure:**
- (i) In main building = $176.02 \times 0.22 \times 2.85$
= 110.364 cubic meter
 - (ii) In courtyard = $42.98 \times 0.22 \times 1.8$
= 17.020 cubic meter
 - (iii) In parapet = $75 \times 0.75 \times 0.22$
= 12.375 cubic meter
 - (iv) Deduction for doors/windows = $(12 \times 1.07 \times 2.1 + 16 \times 0.838 \times 2.1 + 4 \times 1.5 \times 1.35 + 8 \times 1.2 \times 1.35 + 8 \times 0.6 \times 0.45) \times 0.22$
= 17.235 cubic meter
 - (v) Total Masonary = 122.524 cubic meter

7. Plaster in 1:6 cement mortar

- (i) In main building = $2 \times 176.02 \times 3.0$
= 1056.12 square meter
- (ii) In courtyard = $2 \times 42.98 \times 1.8$
= 154.728 square meter
- (iii) In parapet wall = $2 \times 75 \times 0.75$
= 112.50 square meter
- (iv) In roof = 28.88×9
= 259.920 square meter
- (iv) Deduction for doors/windows = $2 \times (12 \times 1.07 \times 2.1 + 16 \times 0.838 \times 2.1 + 4 \times 1.5 \times 1.35 + 8 \times 1.2 \times 1.35 + 8 \times 0.6 \times 0.45)$
= 156.682 square meter
- (v) Total plaster = 1426.586 square meter

8. Centering and shuttering:

- (i) For Columns in main building = $36 \times 4 \times 0.22 \times 4.6$
= 145.728 square meter
- (ii) For columns in courtyard = $9 \times 4 \times 0.22 \times 3.3$
= 26.136 square meter
- (iii) For beam at plinth level = $(176.02 + 42.98) \times 0.3$
= 65.700 square meter
- (iv) For beam at door level = 176.02×0.525
= 92.410 square meter
- (v) For beam at roof level = 176.02×0.66
= 116.173 square meter
- (vi) For chajjas = $8 \times 0.6 \times 1.5$
= 7.200 square meter
- (vii) For slab = 28.88×9
= 259.92 square meter
- (viii) Total shuttering = 713.267 square meter

9. Filling foundation with moorum = $28.88 \times 9 \times 0.5$

$$= 129.96 \text{ cubic meter}$$

10. Wood required for frames

$$= 0.0635 \times 0.127 \times (12 \times 5.334 + 16 \times 5.105 + 4 \times 8.534 + 8 \times 5.4 + 8 \times 2.1)$$
$$= 1.934 \text{ cubic meter}$$

11. Frame work for doors/window

$$= (12 \times 1.07 \times 2.1 + 16 \times 0.838 \times 2.1 + 4 \times 1.5 \times 1.35 + 8 \times 1.2 \times 1.35 + 8 \times 0.6 \times 0.45)$$
$$= 78.340 \text{ square meter}$$

12 Flooring

$$= 28.88 \times 9$$
$$= 259.92 \text{ square meter}$$