

## 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 9 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 =  $(176.02 + 42.98) \times 0.22 \times 0.22$   
= 10.599 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 = 67.514 cubic meter

4. **Steel required in RCC** = 1.25 % of volume of RCC  
= 6625 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 =  $28.88 \times 9$   
= 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 =  $176.02 \times 0.525$   
= 92.410 square meter
- (v) For beam at roof level =  $176.02 \times 0.66$   
= 116.173 square meter
- (vi) For chajjas =  $8 \times 0.6 \times 1.5$   
= 7.200 square meter
- (vii) For slab =  $28.88 \times 9$   
= 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

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