ESTIMATE OF SDO cum RANGE OFFICE

(Total Area = 1931 sq. ft.)

1. C/C length of walls in office = 53.25 x 3 + 35 x 4 + 12.75 x 2 + 11.5 x 3 + 6.75 x 2 running feet
   = 373.25 running feet
   = 113.77 running meter
2. No. of columns in office = 32
3. Size of each column = 9 inches x 9 inches
4. Plinth = 0.5 meter above ground level
5. Beam at plinth level = 9 inches x 9 inches
6. Beam at door level = 9 inches x 6 inches
7. Beam at slab level = 9 inches x 9 inches
8. Thickness of slab = 4 inches

Estimate of different works

1. Excavation:

(i) For columns = 32 x 1.0 x 1.0 x 1.2 meter
= 38.400 cubic meter

(ii) For walls = (113.77 - 82 x 0.5) x 0.3 x 0.5
= 10.916 cubic meter

(iii) Total excavation = 49.316 cubic meter

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

(i) For columns = 32 x 1.0 x 1.0 x 0.1
= 3.200 cubic meter

(ii) For walls = 113.77 x 0.3 x 0.1
= 3.413 cubic meter

(iii) For flooring in rooms = 16.46 x 10.90 x 0.1
= 17.941 cubic meter

(iv) Total CC = 24.554 cubic meter

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

(i)	Columns footing	= 32 x (1 x 1 + 0.22 x 0.22)/2 x 0.3 = 5.032 cubic meter
(ii)	Columns up to plinth level	= 32 x 1.2 x 0.22 x 0.22 = 1.858 cubic meter
(iii)	Column up to roof level	= 32 x 0.22 x 0.22 x 3.1 = 4.801 cubic meter
(iv)	Beam at plinth level	= 113.77 x 0.22 x 0.22 = 5.506 cubic meter
(v)	Beam at door level	= 113.77 x 0.22 x 0.15 = 3.754 cubic meter
(vi)	Beam at slab level	= 113.77 x 0.22 x 0.22 = 5.506
(vii)	Chajjas	= 6 x 0.6 x 1.5 x 0.1 = 0.540 cubic meter
(viii)	Slab	= 16.46 x 10.90 x 0.1 = 17.941 cubic meter
(ix)	Total RCC	= 44.938 cubic meter

4. **Steel required in RCC** = 1.25 % of volume of RCC
   = 4410 kg
5. **Masonary in foundation/plinth** = (113.77 – 32 x 0.22) x 0.22 x 0.9
   = 21.132 cubic meter

6. **Masonary in superstructure**:

(i)	In main building	= 113.77 x 0.22 x 2.85 = 71.333 cubic meter
(ii)	Deduction for doors/windows	= (8 x 1.07 x 2.1 + 8 x 0.838 x 2.1 + 5 x 1.5 x 1.35 + 9 x 1.2 x 1.35 + 8 x 0.6 x 0.45) x 0.22 = 12.962 cubic meter
(iii)	Total Masonary	= 58.405 cubic meter

7. **Plaster in 1:6 cement mortar**

(i) In main building = 2 x 113.77 x 3.2
= 728.128 square meter

(ii) In roof = 16.46 x 10.90
= 179.414 square meter

(iii) Deduction for doors/windows =2 x (8 x 1.07 x 2.1 + 8 x 0.838 x 2.1 +
5 x 1.5 x 1.35 + 9 x 1.2 x 1.35 +
8 x 0.6 x 0.45)
= 117.838 square meter

(iv)Total plaster = 789.704 square meter

8. **Centering and shuttering**:

(i) For Columns in main building = 32 x 4 x 0.22 x 4.6

= 129.536 square meter

(ii) For beam at plinth level = 113.77 x 0.3

= 34.131 square meter

(iii) For beam at door level = 113.77 x 0.525

= 59.729 square meter

(iv) For beam at roof level = 113.77 x 0.66
= 75.088 square meter

(v) For chajjas = 6 x 0.6 x 1.5
= 5.400 square meter

(vi) For slab = 16.46 x 10.90
= 179.414 square meter

(vii) Total shuttering =483.298 square meter

9. **Filling foundation with moorum** = 16.46 x 10.90 x 0.5
= 89.707 cubic meter

10. **Wood required for frames** = 0.0635 x 0.127 x (8 x 5.334 + 8 x 5.105 + 5 x 8.534 + 9 x 5.4 + 8 x 2.1)

= 1.54 cubic meter

11. Frame work for doors/window = (8 x 1.07 x 2.1 + 8 x 0.838 x 2.1 + 5 x 1.5 x 1.35 + 9 x 1.2 x 1.35 + 8 x 0.6 x 0.45)

= 58.919 square meter

12 **Flooring** = 16.46 x 10.90

= 179.414 square meter