

Assignment

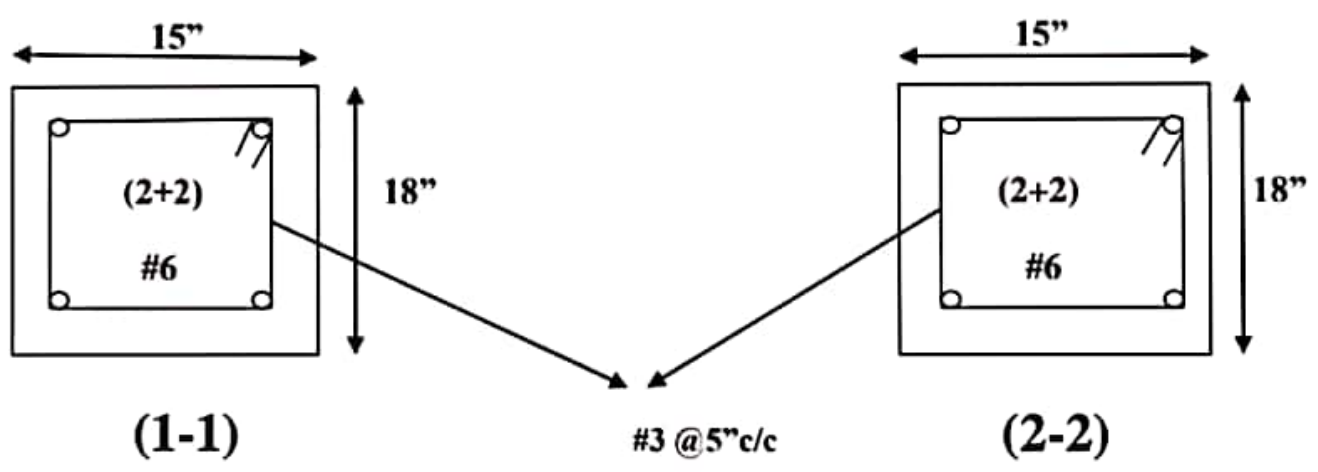
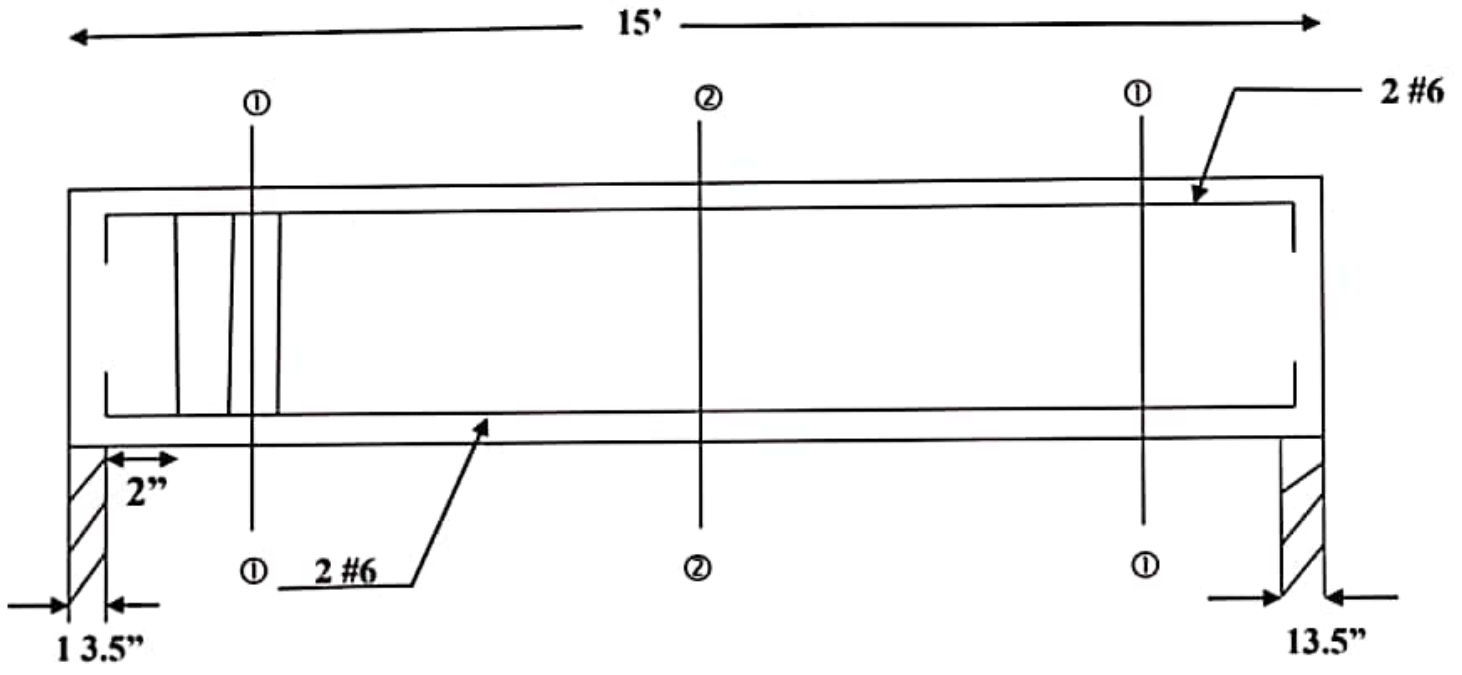
Name : Shah Saud Roshan

ID : 14502

Subject : Quantity Surveying
and contract document

Question 1:

Estimate the quantities of RCC work for the given Beam. (50)



Measurement Sheet

Description	No	Length (m)	width (m)	Height (m)	Quantity
Reinforced concrete (1:2:4) L = 4.5m B = 0.38m H = 0.4m	1	4.5	0.38	0.4	0.684m ²
Form work for Beam					
Bottom	1	3.89	0.38	-	1.47m ²
Sides	2	4.5	-	0.4	(8) 1.8m ³
Ends	2	-	0.38	0.4	0.152m ²

Note :-

$$1' = 0.30m$$

$$15' = 4.5m$$

(Straight Bar)

$$\text{Total length of bar} = \text{straight } l + 2(9 \times d)$$

3	Weight of steel in kg					
A	20mm \emptyset straight bar $L = 4.5 + 2(9 \times 0.02)$ $- (2 \times 0.05) = 4.76$	2	4.76	2.5 kg/m	-	23.8 kg

Reference:

- A = 20mm \emptyset straight bar 3 Nos 2.5 kg/m
- B = 16mm \emptyset Bent 4P bar 2 Nos 1.6 kg/m
- C = 16mm \emptyset Bent 4P bar 2 Nos 1.6 kg/m
- D = 12mm \emptyset Anchor bar 2 Nos 0.89 kg/m

B)

16cm \varnothing Bent up bar

$$L = l = (2 \times 0.45x)$$

$$l = 7.6 + 2(9 \times 0.016) - (2 \times 0.025) = 7.79 \text{ m}$$

$$x = 0.5 - (2 \times 0.025)$$

$$- (2 \times 0.016) - 0.016$$

$$= 0.41 \text{ m}$$

$$= l = 7.79 = 2(0.45 \times 0.41)$$

$$= 0.16 \text{ m}$$

2

8.16

16 kg/m

-

26.11 kg

C)

16cm \varnothing Bent up bars

$$L = l = 2 \times 0.45x$$

$$l = 7.6 + 2(9 \times 0.16)$$

$$x = 0.5 - (2 \times 0.025)$$

$$- (2 \times 0.008) - 0.020$$

$$= 0.020 - 0.016 = 0.318 \text{ m}$$

$$= l = 7.79 = 2(0.45 \times 0.318)$$

$$= 8 \text{ cm}$$

2

8.13

16 kg/m

-

26.0 kg