

Estimating & Costing -1

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Estimation and Costing

Example 7:- Prepare a data sheet & calculate the cost of the following items of works:

- a) Plastering with cement mortar (1:4), 20 mm thick unit-10m²
0.21m³ C.M. (1:4)
0.66 Nos. Brick layer I class
1.54 Nos. Brick layer II Class
0.5 No.s Men Mazdoors
3.2 Nos. Women mazdoors
L.S. Sundries.
- b) R.R. Masonry in C.M. (1:6) -1m³
1.1 m³ Rough stones
0.34 m³ C.M. (1:6)
0.54 No.s Mason I Class
1.26 Nos. Mason II Class
1.40 Nos. Men mazdoors
1.40 Nos. Women mazdoors
L.S. Sundries.

Lead Statement of materials:

S.No.	Materials	Cost at Source Rs. -- Ps.	Per	Lead in Km	Conveyance Charges per km
1	Rough stone	260=00	m ³	18	5=00/m ³
2	Sand	12=00	m ³	25	4=00/m ³
3	Cement	2100=00	10kn		

Analysis of Rates

Lead Statement :

S.No.	Material	Cost at Source	Per	Lead in KM	Conveyance Charge Rs.	Total conveyance Charge Rs.	Total cost Rs.
1	Rough Stone	260.00	m ³	18	500/m ³	90.00	350.00
2	sand	12.00	m ³	25	4.00/m ³	100.00	112.00
3	Cement	2100	10KN or 1tonne	Local	---	---	2100/tonne

a) Plaster with CM (1:4), 20mm thick, unit-10m²

Cost of CM (1:4) for 0.21m³

$$\text{cost of Cement} = \left(\frac{1}{4} \times 0.21 \times 1.44 \right) \times 2100 = 158.76$$

$$\text{Cost of Sand} = \left(\frac{4}{4} \times 0.21 \right) \times 112 = 23.52$$

Total Cost Rs. 182.28

S.No.	Description	Quantity	Unit	Rate	per	Amount
1	CM(1:4)	0.21	m ³	182.28	0.21m ³	182.28
2	Brick layer I class	0.66	Nos	100	day	66.00
3	Brick layer II Class	1.54	Nos	80	day	123.20
4	Men mazdoors	0.5	Nos	60	day	30.00
5	Women mazdoors	3.2	Nos	60	day	192.00
6	Mixing Charges	0.21	m ³	16	m ³	28.16

Estimation and Costing

S.No.	Description	Quantity	Unit	Rate	per	Amount
1	Rough Stone	1.1	m ³	350	m ³	385.00
2	CM(1:6)	0.34	m ³	209.44	0.34m ³	209.44
3	Mason I Class	0.54	Nos	100.00	day	54.00
4	Mason II Class	1.26	Nos	8.00	day	10.08
5	Men Mazdoors	1.40	Nos	60.00	day	84.00
6	Women Mazdoors	1.40	Nos	60.00	day	84.00
7	Mixing Charges	0.34	m ³	16.00	m ³	5.44
8	Sundries	L.S.				18.04

Total Rs. 850.00/m³

Example 8:-Prepare a data sheet and calculate the cost of the items given below:

- a) Brick masonry in C.M. (1:6) with country bricks-unit 1cum.
600Nos. country bricks.
0.38m³C.M.(1:6)
1.40Nos. Mason
0.7 Nos. Man Mazdoor
2.1 Nos. Woman Mazdoor
L.S. Sundries.
- b) C.C.(1:5:10) using 40mm HBG metal unit 1cum.
0.92m³..... 40mm size HBG metal
0.46m³..... Sand
0.092m³..... Cement
0.2 Nos Mason
1.8 Nos Man Mazdoor
1.4 Nos Woman Mazdoor

Analysis of Rates

Labour charges:

- i) Mason- Rs. 90 per day.
- ii) Man Mazdoor - Rs. 70 per day
- iii) Woman Mazdoor - Rs. 70 per day.
- iv) Mixing Charges of C.M. Rs. 20=00 per m³.

Lead Statement :

Sl. No.	Material	Cost at Source	Per	Lead in KM	Conveyance Charge Rs.	Total conveyance Charge Rs.	Total cost Rs.
1	40mm HBG metal	210.00	m ³	16	Rs.6/m ³	96.00	306.00
2	sand	16.00	m ³	18	Rs.3/m ³	54.00	70.00
3	Country bricks	780.00	1000nos	at Site	---	---	780.00
4	Cement	2600	10kn or 1tonne	At site	---	---	2600/t

- a) B.M. CM(1:6) with country bricks - 1m³
CM (1:6) - 0.38m³

$$\text{Cost of Cement} = \left(\frac{1}{6} \times 0.38 \times 1.44 \right) \times 2600 = 237.12$$

$$\text{Cost of Sand} = \left(\frac{6}{6} \times 0.38 \right) \times 70 = 26.60$$

Total Cost Rs. 263.72

S.No.	Description	Quantity	Unit	Rate	per	Amount
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Analysis of Rates

as per 2004-05-"S.S.R.

Unit	Lead in Km	Initial cost of material	Deduct Stacking charges	Convey- ance Charge	Blasting Charges	Seinorage Charges	Crushing charges	Total Cost
Mt	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	2700.00
Cum	34KM	71.00	-3.70	181.50	0.00	36.00	0.00	284.80
Cum	28km	28.00	-3.70	16.90	0.00	36.00	0.00	224.20
Cum	12km	38.50	-3.70	110.20	0.00	20.00	0.00	165.00
Cum	11km	269.00	-6.10	119.60	53.00	45.00	67.25	547.75
Cum	11km	469.00	-6.10	119.60	53.00	45.00	117.25	797.75
Cum	11km	375.00	-6.10	119.60	53.00	45.00	93.75	680.25
Cum	11km	313.00	-6.10	119.60	53.00	45.00	78.25	602.75
Cum	11km	237.00	-6.10	119.60	53.00	45.00	59.25	507.75
Mt	---	275.00	---	--	---	--	---	275.00
1000	48km	1250.00	-5.90	424.70	---	---	--	1668.80
Cums	11km	107.00	-6.10	119.60	51.50	45.00	---	317.00

Estimation and Costing

b) CC (1:5:10) using 40mm HBG metal -1m³

S.No.	Description	Quantity	Unit	Rate	per	Amount
1	40mm HBG metal	0.92	m ³	306	m ³	281.52
2	Sand	0.46	m ³	70	m ³	32.20
3	Cement	0.092	m ³	2600	t	344.45
4	Mason	0.2	Nos	90	Nos	18.00
5	Man mazdoor	1.80	Nos	70	Nos	126.00
6	women Mazdoor	1.4	Nos	70	Nos	98.00
7	Mixing charges	1.0	m ³	20	m ³	20.00
8	Sun dries	L.S				4.83

Total Rs. 925.00 /m³