

Chapter No. 9

Centring and Shuttering

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.1		Shuttering for faces of concrete foundations and foundation beam & plinth beam (vertical or battering)										
		Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8 sqm.	1	sqm								
		Taking Output	10.80	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost hence uses factor is (100+10%) (-) 25% = 110-25 = 85.00										
		Wall plate size 900x500mm Angle iron 40x40x5mm=24x[2(0.90+0.50)+0.50]=79.20 m @3kg per m = 237.60 kg+5% wastage = 11.88 Total = 249.48 kg or 2.50 qtl			qtl	2.50	3796.00	9490.00				
		1.6mm thick MS sheet = 24x0.90x0.50=10.80 sqm. @12.55kg per sqm. =135.54 + 5% wastage = 6.78kg , Total 142.32 kg			qtl	1.42	4368.00	6202.56				
		Corner angle (1.5m long) 50x50x6mm 4 Nos. x 1.50 m = 6 m @4.50 kg per m=27 kg or 0.27 qtl			qtl	0.27	3796.00	1024.92				
		100mm channel shoulders 2.7m long x8 = 21.60 m @9.20 kg per m = Total 198.72 kg or 1.99 qtl			qtl	1.99	3796.00	7554.04				
		Double clip (bridge clip) 16 Nos.			each	16	95.00	1520.00				
		Single clip 8 Nos.			each	8	76.00	608.00				
		MS tube 40mm - 4x2.7m = 10.8m @3.51kg per m = 37.90 kg + 5% wastage = 39.79 or 40.00 kg			kg	40	42.00	1680.00				
		Labour for making of plate										

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					Rate	Cost	Total	Rate	Cost	Total
1	2	3	4	5	6	7	8	9	10	11
		Fitter, Turner and Pipe Fitter (Ist Class) 0.50x3.92 = 1.96 (area is 3.92)	each	1.96	223.36	437.79				
		Blacksmith second class 0.75x3.92 = 2.94	each	2.94	190.00	558.60				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.92 = 3.92	each	3.92	136.69	535.82				
						29611.73				
		Add 2% charges for welding rods & hire charges of weldig set etc.				592.23				
						30203.96				
		Cost of using for once				641.83				
		Labour								
(i)		Fitter, Turner and Pipe Fitter (Ist Class)	day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)	day	1.35	149.97	202.46				
						1011.81				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1011.81				20.24				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1032.05				221.89				
		Labour cess on cost of labour @ 1% i.e. on Rs. 1253.94				12.54				
						1266.48	1266.48			1266.48
		Add Submountainous Region @ 10% i.e. on Rs. 1266.48								126.65
		Rate for 10.80 sqm					1266.48			1393.13
		Rate for 1 sqm					117.27			128.99

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.2		Centring and shuttering for faces of walls, partitions, retaining walls and the like (vertical or bartering including attached pillasters buttersses etc										
		Detail cost for 8.00m long and 1 m High wall area of contact 2x8.00x1=16.00 sqm.	1	sqm								
		Taking Output	16.00	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25%										
		Wall plate size 1000x500mm Angle iron 40x40x5mm=32x[2(1.00+0.50)+0.50]=112.00 m @3kg per m = 336 kg+5% wastage = 16.80 Total = 352.80 kg or 3.53 qtl			qtl	3.53	3796.00	13399.88				
		1.6mm thick MS sheet = 32x1.00x0.50=16 sqm. @12.55kg per sqm. =200.80 + 5% wastage = 10.04g , Total 210.84 kg			qtl	2.11	4368.00	9216.48				
		100mm channel shoulders 2.5m long x8 = 20 m @9.20 kg per m = Total 184 kg or 1.84 qtl			qtl	1.84	3796.00	6984.64				
		Double clip (bridge clip) 24 Nos.			each	24	95.00	2280.00				
		Single clip 12 Nos.			each	12	76.00	912.00				
		MS tube 40mm 2x2x8m = 32m @3.51kg per m = 112.00 kg + 5% wastage = 117.60 or 118.00 kg			kg	118	42.00	4956.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x5.64 = 2.82			each	2.82	223.36	629.88				
		Blacksmith second class 0.75x5.64 = 4.23			each	4.23	190.00	803.70				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x5.64 =5.64			each	5.64	136.69	770.93				
								39953.51				
		Add 2% charges for welding rods etc.						799.07				

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							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								40752.58				
		Cost of using for once						865.99				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	3.50	223.36	781.76				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	6.00	149.97	899.82				
								2547.57				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 2547.57						50.95				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 2508.52						558.68				
		Labour cess on cost of labour @ 1% i.e. on Rs. 3157.2						31.57				
								3188.77	3188.77			3188.77
		Add Submountainous Region @ 10% i.e. on Rs. 3188.77										318.88
		Rate for 16.00 sqm							3188.77			3507.65
		Rate for 1 sqm							199.30			219.23

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.3		Centring and shuttering for faces of walls, partitions, retaining walls and the like (vertical or battering) including attached pillasters, buttersses etc when curved.										
		Detail cost for 8m long and 1 m High wall area of contact 2x8x1=16sqm	1	sqm								
		Taking Output	16.00	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 1000x500mm Angle iron 40x40x5mm=32x[2(1+0.50)+0.50]=112.00 m ' @3kg per m = 336kg+5% wastage = 16.80 ' Total = 352.80 kg or 3.53 qtl			qtl	3.53	3796.00	13399.88				
		1.6mm thick MS sheet = 32x1.25x0.50=16 sqm. @12.55kg per sqm. =200.80 + 5% wastage = 10.04q , Total 210.84 kg			qtl	2.11	4368.00	9216.48				
		100mm channel shoulders 2.5m long x8 = 20 m @9.20 kg per m = Total 184 kg or 1.84 qtl			qtl	1.84	3796.00	6984.64				
		Double clip (bridge clip) 24 Nos.			each	24	95.00	2280.00				
		Single clip 12 Nos.			each	12	76.00	912.00				
		MS tube 40mm 2x2x8m = 32m @3.51kg per m = 112.32 kg + 5% wastage = 117.60 or 118.00 kg			kg	118	42.00	4956.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x5.64 = 2.82			each	2.82	223.36	629.88				
		Blacksmith second class 0.75x5.64 = 4.23			each	4.23	190.00	803.70				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x5.64 =5.64			each	5.64	136.69	770.93				
								39953.51				
		Add 2% charges for welding rods etc.						799.07				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								40752.58				
		Add 20% extra for curved surface						8150.52				
								48903.09				
		Cost of using for once						1039.19				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	3.50	223.36	781.76				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	6.00	149.97	899.82				
								2720.77				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 2720.77						54.42				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 2775.19						596.67				
		Labour cess on cost of labour @ 1% i.e. on Rs. 3371.86						33.72				
								3405.58	3405.58			3405.58
		Add Submountainous Region @ 10% i.e. on Rs. 3405.58										340.56
			Rate for	16.00	sqm				3405.58			3746.14
			Rate for	1	sqm				212.85			234.13

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							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.4		Centring and shuttering for columns (Square or rectangular or poly gonal in plain)										
		Details of cost of size of column 450x450 & 2.50m high area of contact = 4x0.45x25 = 4.50 m	1	sqm								
		Taking Output	4.50	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 1250x450mm Angle iron 40x40x5mm=8x[2(1.25+0.45)+0.45]=30.80 m @3kg per m = 92.40 kg+5% wastage = 4.62 Total = 97.02 kg or 0.97 qtl			qtl	0.97	3796.00	3682.12				
		1.6mm thick MS sheet = 8x1.25x0.45=4.5 sqm. @12.55kg per sqm. =56.48 + 5% wastage = 2.82kg , Total 59.30 kg			qtl	0.59	4368.00	2577.12				
		Corner angle (2.5m long) 50x50x6mm 4 Nos. x 2.50 m = 10 m Angle climp 5x4x0.60 = 12.00 m = 22 m X 4.50kg per m = 99 kg +5% wastage = 4.95 kg, Total 103.95kg or 104.00 kg or 1.04 qtl			qtl	1.04	3796.00	3947.84				
		MS tube 40mm - 4x3m = 12m @3.51kg per m = 42.12 kg + 5% wastage = 44.22 kg or 44.00 kg			kg	44	42.00	1848.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x1.56 = 0.78			each	0.78	223.36	174.22				
		Blacksmith second class 0.75x1.56 = 1.17			each	1.17	190.00	222.30				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x1.56= 1.56			each	1.56	136.69	213.24				
								12664.84				
		Add 2% charges for welding rods etc.						253.30				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								12918.13				
		Cost of using for once						274.51				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								644.49				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 644.49						12.89				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 657.38						141.34				
		Labour cess on cost of labour @ 1% i.e. on Rs. 798.72						7.99				
								806.71	806.71			806.71
		Add Submountainous Region @ 10% i.e. on Rs. 806.71										80.67
		Rate for	4.50	sqm					806.71			887.38
		Rate for	1	sqm					179.27			197.20

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.5		Centring and shuttering for columns (circular or curved in plain)										
		Details of cost of size of column 450x450 & 2.50m high area of contact = 4x0.45x2.50 = 4.50 m	1	sqm								
		Taking Output	4.50	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 1250x450mm Angle iron 40x40x5mm=8x[2(1.25+0.45)+0.45]=30.80 m ' @3kg per m = 92.40 kg+5% wastage = 4.62 ' Total = 97.02 kg or 0.97 qtl			qtl	0.97	3796.00	3682.12				
		1.6mm thick MS sheet = 8x1.25x0.45=4.5 sqm. @12.55kg per sqm. =56.48 + 5% wastage = 2.82kg , Total 59.30 kg			qtl	0.59	4368.00	2577.12				
		Corner angle (2.5m long) 50x50x6mm 4 Nos. x 2.50 m = 10 m Angle climp 5x4x0.60 = 12.00 m = 22 m X 4.50kg per m = 99 kg +5% wastage = 4.95 kg, Total 103.95kg or 104.00 kg or 1.04 qtl			qtl	1.04	3796.00	3947.84				
		MS tube 40mm - 4x3m = 12m @3.51kg per m = 42.12 kg + 5% wastage = 44.22 kg or 44.00 kg			kg	44	42.00	1848.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x1.56 = 0.78			each	0.78	223.36	174.22				
		Blacksmith second class 0.75x1.56 = 1.17			each	1.17	190.00	222.30				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x1.56 = 1.56			each	1.56	136.69	213.24				
								12664.84				
		Add 2% charges for welding rods etc.						253.30				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								12918.13				
		Add 20% extra for circular coloumn						2583.63				
								15501.76				
		Cost of using for once						329.41				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								699.39				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 699.39						13.99				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 713.38						153.38				
		Labour cess on cost of labour @ 1% i.e. on Rs. 866.76						8.67				
								875.43	875.43			875.43
		Add Submountainous Region @ 10% i.e. on Rs. 875.43										87.54
			Rate for	4.50	sqm				875.43			962.97
			Rate for	1	sqm				194.54			213.99

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					Rate	Cost	Total	Rate	Cost	Total
1	2	3	4	5	6	7	8	9	10	11
9.6		Centring and shuttering for sides and soffits of beam, beams launchings girders bressumers, lintels								
		Consider a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor Cubical contents 1x6.00x0.3 = 1.80 cum "" 2x6.60x0.50 = 6.60 sqm " . Total = 8.40 sqm.	1	sqm						
		Taking Output	8.40	sqm						
		Hire charges of Materials								
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost								
		Wall plate size 1200x300mm & 600mm X 500mm = 22x2(0.60+0.50)= 48.40 m Angle iron 40x40x5mm=5x[2(1.20+0.30)+0.30]=16.50 m . Total = 64.90 m . @3kg per m = 194.70 kg+5% wastage = 9.74 . Total = 204.44 kg or 2.05 qtl		qtl	2.05	3796.00	7781.80			
		1.6mm thick MS sheet = 5x1.20x0.30=1.80 sqm. = 22x0.60x0.50 = 6.60 . Total = 8.40 @12.55kg per sqm. =105.42 + 5% wastage = 6.27kg , Total 110.69 kg		qtl	1.11	4368.00	4848.48			
		100mm channel shoulders 6m long x2 = 12 m @9.20 kg per m = Total 110.40 kg or 1.10 qtl		qtl	1.10	3796.00	4175.60			
		Single clip 12 Nos.		each	12	76.00	912.00			
		MS tube 50mm = 12x3m = 36m @4.57 kg per m = 164.52 kg + 5% wastage 8.23 = 172.75 or 173.00 kg		kg	173	42.00	7266.00			
		Labour for making of plate								
		Fitter,Turner and Pipe Fitter 0.50x3.15 = 1.58		each	1.58	223.36	352.91			
		Blacksmith second class 0.75x3.15 = 2.36		each	2.36	190.00	448.40			
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.15 = 3.15		each	3.15	136.69	430.57			

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								26215.76				
		Add 2% charges for welding rods etc.						524.32				
								26740.08				
		Cost of using for once						568.23				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								938.21				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 938.21						18.76				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 956.97						205.75				
		Labour cess on cost of labour @ 1% i.e. on Rs. 1162.72						11.63				
								1174.35	1174.35			1174.35
		Add Submountainous Region @ 10% i.e. on Rs. 1174.35										117.44
			Rate for	8.40	sqm				1174.35			1291.79
			Rate for	1	sqm				139.80			153.78

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							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.7		Centring and shuttering for arches of varandah, door and windows openings.										
		Consider a beam of 6 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m from floor Cubical contents 1x6.00x0.3 = 1.80 cum "" 2x6.60x0.50 = 6.60 sqm " . Total = 8.40 sqm.	1	sqm								
		Taking Output	8.40	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 1200x300mm & 600mm X 500mm = 22x2(0.60+0.50)= 48.40 m Angle iron 40x40x5mm=5x[2(1.20+0.30)+0.30]=16.50 m . Total = 64.90 m . @3kg per m = 194.70 kg+5% wastage = 9.74 . Total = 204.44 kg or 2.05 qtl			qtl	2.05	3796.00	7781.80				
		1.6mm thick MS sheet = 5x1.20x0.30=1.80 sqm. . = 22x0.60x0.50 = 6.60 . Total = 8.40 @12.55kg per sqm. =105.42 + 5% wastage = 5.27kg , Total 110.69 kg			qtl	1.11	4368.00	4848.48				
		100mm channel shoulders 6m long x2 = 12 m @9.20 kg per m = Total 110.40 kg or 1.10 qtl			qtl	1.10	3796.00	4175.60				
		Single clip 12 Nos.			each	12	76.00	912.00				
		MS tube 50mm = 12x3m = 36m @4.57 kg per m = 164.52 kg + 5% wastage 8.23 = 172.75 or 173.00 kg			kg	173	42.00	7266.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x3.15 = 1.58			each	1.58	223.36	352.91				
		Blacksmith second class 0.75x3.15 = 2.36			each	2.36	190.00	448.40				

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1	2	3			4	5	6	7	8	9	10	11
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.15 = 3.15			each	3.15	136.69	430.57				
								26215.76				
		Add 2% charges for welding rods etc.						524.32				
								26740.08				
		Add 20% extra for curved arch.						5348.02				
								32088.09				
		Cost of using for once						681.87				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								1051.85				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1051.85						21.04				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1072.89						230.67				
		Labour cess on cost of labour @ 1% i.e. on Rs. 1303.56						13.04				
								1316.60	1316.60			1316.60
		Add Submountainous Region @ 10% i.e. on Rs. 1316.6										131.66
			Rate for	8.40	sqm				1316.60			1448.26
			Rate for	1	sqm				156.74			172.41

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							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.8		Centring and shuttering for flat surfaces such as suspended floors, roofs, landings, chajjas, shelves etc.										
		Detail of cost for a room 4.50x3 = 13.50 sqm, height 3.5 m	1	sqm								
		Taking Output	13.50	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 750x600mm Angle iron 40x40x5mm=30x2(0.75+0.60)+0.60=99.00 m ' @3kg per m = 297 kg+5% wastage = 14.85 ' Total = 311.85 kg or 3.12 qtl			qtl	3.12	3796.00	11843.52				
		1.6mm thick MS sheet =30x0.75x0.60=13.50 sqm. @12.55kg per sqm. =169.42 + 5% wastage = 8.47kg , Total 177.90 kg			qtl	1.78	4368.00	7775.04				
		75mm channel shoulders4.50m long x6 = 27 m @6.8 kg per m = Total 183.60 kg or 1.83 qtl			qtl	1.83	3796.00	6946.68				
		Single clip 48 Nos.			each	48	76.00	3648.00				
		MS tube 40mm = 48x3.50m = 168m @3.51 kg per m = 589.68 kg + 5% wastage = 619.16 or 619.00 kg			kg	619	42.00	25998.00				
		Labour for making of plate										
		Fitter, Turner and Pipe Fitter 0.50x4.90 = 2.45			each	2.45	223.36	547.23				
		Blacksmith second class 0.75x4.90 = 3.68			each	3.68	190.00	699.20				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x4.90 = 4.90			each	4.90	136.69	669.78				
								58127.45				
		Add 2% charges for welding rods etc.						1162.55				
								59290.00				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Cost of using for once						1259.91				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								1629.89				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1629.89						32.60				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1662.49						357.44				
		Labour cess on cost of labour @ 1% i.e. on Rs. 2019.93						20.20				
								2040.13	2040.13			2040.13
		Add Submountainous Region @ 10% i.e. on Rs. 2040.13										204.01
			Rate for	13.50	sqm				2040.13			2244.14
			Rate for	1	sqm				151.12			166.23

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.9		Centring and shuttering for stair cases with sloping with soffits including risers and stringers.										
		Consider a stair of 1.8m wide with riser 0.18 m And tread 0.30 m Width and hight of floor 3.20 m Which gives to horizontal 5.10 m clear span, 0.50 m deep 0.30 m wide and height 3.5 m Slop slab 1x5.10x1.80 = 9.18 sqm. Side 1x5.10x0.10 = 0.51 sqm. Riser 18 Nos. x 0.20x1.8=6.48 sqm. Total = 16.17 sqm. say 16.00 sqm.	1	sqm								
		Taking Output	16.00	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 900x600mm Angle iron 40x40x5mm=17x[2(0.90+0.60)+0.60]=61.20 m Plate for riser =18x2x2(0.90+0.20)=79.20 m , Total=140.40 m @3kg per m = 421.20 kg+5% wastage = 21.06 Total = 441.26 kg or 4.41 qtl			qtl	4.41	3796.00	16740.36				
		1.6mm thick MS sheet = 17x0.90x0.60=9.18 sqm. for riser plat 18x2x0.90x0.20=6.48sqm. Total= 15.66 sqm. @12.55kg per sqm. =196.53+ 5% wastage = 9.825kg , Total 206.35 kg			qtl	2.06	4368.00	8998.08				
		100mm channel shoulders 5.20m long x4 = 20.80+2=22.80 m @9.20 kg per m = Total 209.76kg or 2.10 qtl			qtl	2.10	3796.00	7971.60				
		Single clip 31 Nos.			each	31	76.00	2356.00				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		MS tube 50mm = 31x2.5m = 77.50m for riser 18x3x0.35m avg. = 18.90 m, Total 96.40 m @4.57 kg per m = 440.55 kg + 5% wastage = 462.57 or 462.00 kg			kg	462	42.00	19404.00				
		Labour for making of plate										
		Fitter, Turner and Pipe Fitter 0.50x6.47 = 3.24			each	3.24	223.36	723.69				
		Blacksmith second class 0.75x6.47 = 4.85			each	4.85	190.00	921.50				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x6.47 = 6.47			each	6.47	136.69	884.38				
								57999.61				
		Add 2% charges for welding rods etc.						1159.99				
								59159.60				
		Cost of using for once						1257.14				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (Ist Class)			day	2.00	223.36	446.72				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	3.00	149.97	449.91				
								2153.77				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 2153.77						43.08				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 2196.85						472.32				
		Labour cess on cost of labour @ 1% i.e. on Rs. 2669.17						26.69				
								2695.86	2695.86			2695.86
		Add Submountainous Region @ 10% i.e. on Rs. 2695.86										269.59
			Rate for	16.00	sqm				2695.86			2965.45
			Rate for	1	sqm				168.49			185.34

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.10		Centring and shuttering for carbels, parapet, fascias and other similar items including edges.										
		Detail cost for 6m long and 0.90 m High parapit (Thin vertical section) of contact 2x6x0.90=10.80 sqm.	1	sqm								
		Taking Output	10.80	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 900x600mm Angle iron 40x40x5mm=20x[2(0.90+0.60)+0.60]=72.00 m ' @3kg per m = 216kg+5% wastage = 10.80 jf ' Total = 226.80 kg or 2.27 qtl			qtl	2.27	3796.00	8616.92				
		1.6mm thick MS sheet = 20x0.90x0.60=10.80 sqm. @12.55kg per sqm. =135.54+ 5% wastage = 6.78kg , Total 142.32 kg			qtl	1.42	4368.00	6202.56				
		100mm channel shoulders6.00m long x3 = 18 @9.20 kg per m = Total 165.60kg or 1.66 qtl			qtl	1.66	3796.00	6301.36				
		Double clip (bridge clip) 7 Nos.			each	7	95.00	665.00				
		Single clip 18 Nos.			each	18	76.00	1368.00				
		MS tube 40mm 9x3.20m = 28.80m 9x1.20 = 10.80m Total = 39.60 m @3.51kg per m = 139.00 kg + 5% wastage 6.95 = 145.95 or 146.00 kg			kg	146.00	42.00	6132.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x3.69 = 1.85			each	1.85	223.36	413.22				
		Blacksmith second class 0.75x3.69 = 2.77			each	2.77	190.00	526.30				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.69 = 3.69			each	3.69	136.69	504.39				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								30729.74				
		Add 2% charges for welding rods etc.						614.59				
								31344.34				
		Cost of using for once						666.07				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	3.50	223.36	781.76				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	6.00	149.97	899.82				
								2347.65				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 2347.65						46.95				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 2394.6						514.84				
		Labour cess on cost of labour @ 1% i.e. on Rs. 2909.44						29.09				
								2938.53	2938.53			2938.53
		Add Submountainous Region @ 10% i.e. on Rs. 2938.53										293.85
			Rate for	10.80	sqm				2938.53			3232.38
			Rate for	1	sqm				272.09			299.29

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.11		Centring and shuttering for slab culverts										
a		upto 3m span										
		Detail of cost for a room 4.50x3 = 13.50 sqm, height 3.5 m	1	sqm								
		Taking Output	13.50	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 750x600mm Angle iron 40x40x5mm=30x[2(0.75+0.60)+ 0.60] = 99.00 m @3kg per m = 297 kg+5% wastage = 14.85 Total = 311.85 kg or 3.12 qtl			qtl	3.12	3796.00	11843.52				
		1.6mm thick MS sheet =30x0.75x0.60=13.50 sqm. @12.55kg per sqm. =169.42 + 5% wastage = 8.47kg , Total 177.90 kg			qtl	1.78	4368.00	7775.04				
		75mm channel shoulders4.50m long x6 = 27 m @6.8 kg per m = Total 183.60 kg or 1.83 qtl			qtl	1.83	3796.00	6946.68				
		Single clip 48 Nos.			each	48	76.00	3648.00				
		MS tube 40mm = 48x3.50m = 168m @3.51 kg per m = 589.68 kg + 5% wastage = 619.16 or 619.00 kg			kg	619	42.00	25998.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x4.90 = 2.45			each	2.45	223.36	547.23	3.25			
		Blacksmith second class 0.75x4.90 = 3.68			each	3.68	190.00	699.20				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x4.90 = 4.90			each	4.90	136.69	669.78				
								58127.45				
		Add 2% charges for welding rods etc.						1162.55				
								59290.00				
		Add 10% extra for curvered arch.						5929.00				
								65219.00				
		Cost of using for once						1385.90				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								1755.88				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1755.88						35.12				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1701						385.07				
		Labour cess on cost of labour @ 1% i.e. on Rs. 2176.07						21.76				
								2197.83	2197.83			2197.83
		Add Submountainous Region @ 10% i.e. on Rs. 2197.83										219.78
			Rate for	13.50	sqm				2197.83			2417.61
			Rate for	1	sqm				162.80			179.08

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
b		Exceeding 3m but upto 6 m span										
		Detail of cost for 4.50x10 culvert slab. thickness slab 40cm Bottom area 1x10.60x4.50x47.50sqm sides 2x5x0.40 = 4.00 sqm, Total 51.70 m	1	sqm								
		Taking Output	51.70	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 1000x750mm Angle iron 40x40x5mm=60x[2(1+0.75)+0.75]=255 m Side plate 750x400mm = 12x2(0.75+0.40)= 27.60 m Total = 282.60 m ' @3kg per m = 847.80 + 5% wastage = 42.39 Total = 890.19 Kg. Angle iron for crib 50x50x6mm = 21 Nos. with hight of 2.5 m @110kg x 21 = 2310 kg, Total = @5% wastage, = 115.50 kg, Total 3315.69 kg or 33.16 qtl			qtl	33.16	3796.00	125875.36				
		2.5mm thick MS sheet =60x1x0.75=45 sqm. + Side plate 12x0.75x0.40 = 3.60 sqm. Total 48.60 sqm. @19.61kg per sqm. =953.05 + 5% wastage = 47.65kg , Total 1000.70 kg			qtl	10.01	4368.00	43723.68				
		150x80mm ISMB shoulders 110 m @14.90 kg per m = Total 1639.00 kg or 16.39 qtl			qtl	16.39	3796.00	62216.44				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x43.17 = 21.59			each	21.59	223.36	4822.34				
		Blacksmith second class 0.75x43.17 = 32.38			each	32.38	190.00	6152.20				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x43.17 = 43.17			each	43.17	136.69	5900.91				
								248690.93				
		Add 2% charges for welding rods etc.						4973.82				
								253664.75				
		Cost of using for once						5390.38				
		Labour										
(i)		Fitter,Turner and Pipe Fitter (Ist Class)			day	6.00	223.36	1340.16				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	12.00	149.97	1799.64				
								8530.18				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Sundries such as shuttering oil @ 2% i.e. on Rs. 8530.18						170.60				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 8700.78						1870.67				
		Labour cess on cost of labour @ 1% i.e. on Rs. 10571.45						105.71				
								10677.16	10677.16			10677.16
		Add Submountainous Region @ 10% i.e. on Rs. 10677.16										1067.72
			Rate for	51.70	sqm				10677.16			11744.88
			Rate for	1	sqm				206.52			227.17

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.12		Centring and shuttering for R.C.C. domes										
		Detail cost for a dome 4 m Dia	1	sqm								
		Area = $2 \times 3.142 \times 2 = 25.14$ sqm.										
		Taking Output	25.14	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 10 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 50% of cost										
		Angle iron for truss $75 \times 75 \times 6 \text{ mm} = 24(2+2+3.15) = 171.60 \text{ m}$ @ 6.80 kg per m = 1166.88 kg $50 \times 50 \times 6 \text{ mm} = 24(1.34+0.68+35) = 56.88 \text{ m}$ $24(2.10+1.50+0.75) = 104.40 \text{ m}$ for carcular $1+4.15+8.30+10.36 = 22.81 \text{ m}$ Total = 184.09 m @ 4.50 kg per m = 828.40 kg G. Total = 1965.28 m + 5% wastage = 99.76kg, Total = 2095.04kg or 20.95 qtl			qtl	20.95	3796.00	79526.20				
		10mm thick MS plate = $1 \times 0.45 \times 0.45 = 0.20$ sqm. @ 75.50 kg per sqm. = 15.28 + 5% wastage = 0.76kg , Total 16.04 kg or 0.16qt.			qtl	0.16	4368.00	698.88				
		Single clip 120 Nos.			each	120	76.00	9120.00				
		MS tube 50mm $24 \times 5 \times 3.5 \text{ m} = 420 \text{ m}$ @ 4.57kg per m = 1919.40 kg + 5% wastage = 95.97 Total 2015.37kg			kg	2015.37	42.00	84645.54				
		Labour for making of plate										
		Fitter, Turner and Pipe Fitter $0.50 \times 21.11 = 10.56$			each	10.56	223.36	2358.68				
		Blacksmith second class $0.75 \times 21.11 = 15.83$			each	15.83	190.00	3007.70				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner $1 \times 21.11 = 21.11$			each	21.11	136.69	2885.53				
								182242.53				
		Add 2% charges for welding rods etc.						3644.85				
								185887.38				
		Cost of using for once						7435.50				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	4.00	223.36	893.44				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	8.00	149.97	1199.76				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								9528.70				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 9528.7						190.57				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 9719.27						2089.64				
		Labour cess on cost of labour @ 1% i.e. on Rs. 11808.91						118.09				
								11927.00	11927.00			11927.00
		Add Submountainous Region @ 10% i.e. on Rs. 11927										1192.70
			Rate for	25.14	sqm				11927.00			13119.70
			Rate for	1.00	sqm				474.42			521.87

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.13		Centring and shuttering for well kerbs complete in all respects										
(a)		For Square rectangular, polygonal wells										
		Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8 sqm.	1	sqm								
		Taking Output	10.80	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 900x500mm Angle iron 40x40x5mm=24x[2(0.90+0.50)+0.50]=79.20 m @3kg per m = 237.60 kg+5% wastage = 11.88 Total = 249.48 kg or 2.50 qtl			qtl	2.50	3796.00	9490.00				
		1.6mm thick MS sheet = 24x0.90x0.50=10.80 sqm. @12.55kg per sqm. =135.54 + 5% wastage = 6.78kg , Total 142.32 kg			qtl	1.42	4368.00	6202.56				
		Corner angle (1.5m long) 50x50x6mm 4 Nos. x 1.50 m = 6 m @4.50 kg per m=27 kg or 0.27 qtl			qtl	0.27	3796.00	1024.92				
		100mm channel shoulders 275m long x8 = 21.60 m @9.20 kg per m = Total 198.72 kg or 1.99 qtl			qtl	1.99	3796.00	7554.04				
		Double clip (bridge clip) 16 Nos.			each	16	95.00	1520.00				
		Single clip 8 Nos.			each	8	76.00	608.00				
		MS tube 40mm - 4x2.7m = 10.8m @3.51kg per m = 37.90 kg + 5% wastage = 39.79 or 40.00 kg			kg	40	42.00	1680.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x3.92= 1.96			each	1.96	223.36	437.79				
		Blacksmith second class 0.75x3.92= 2.94			each	2.94	190.00	558.60				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.92 = 3.92			each	3.92	136.69	535.82				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								29611.73				
		Add 2% charges for welding rods etc.						592.23				
								30203.97				
		Cost of using for once						641.83				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								1011.81				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1011.81						20.24				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1032.05						221.89				
		Labour cess on cost of labour @ 1% i.e. on Rs. 1253.94						12.54				
								1266.48	1266.48			1266.48
		Add Submountainous Region @ 10% i.e. on Rs. 1266.48										126.65
			Rate for	10.80	sqm				1266.48			1393.13
			Rate for	1.00	sqm				117.27			128.99

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
(b)		For Circular wells										
		Details of cost for footing size 2.7mx2.7mx 1.00m Contact area = 10.8 sqm.	1	sqm								
		Taking Output	10.80	sqm								
		Hire charges of Materials										
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost										
		Wall plate size 900x500mm Angle iron 40x40x5mm=24x[2(0.90+0.50)+0.50]=79.20m ' @3kg per m = 237.60kg+5% wastage = 11.88 ' Total = 249.48 kg or 2.50 qtl			qtl	2.50	3796.00	9490.00				
		1.6mm thick MS sheet = 24x0.90x0.50=10.80 sqm. @12.55kg per sqm. =135.54 + 5% wastage = 6.78kg , Total 142.32 kg			qtl	1.42	4368.00	6202.56				
		Corner angle (1.5m long) 50x50x6mm 4 Nos. x 1.50 m = 6 m @4.50 kg per m=27 kg or 0.27 qtl			qtl	0.27	3796.00	1024.92				
		100mm channel shoulders 2.7m long x8 = 21.60 m @9.20 kg per m = Total 198.72 kg or 1.99 qtl			qtl	1.99	3796.00	7554.04				
		Double clip (bridge clip) 16 Nos.			each	16	95.00	1520.00				
		Single clip 8 Nos.			each	8	76.00	608.00				
		MS tube 40mm - 4x2.7m = 10.8m @3.51kg per m = 37.90 kg + 5% wastage = 39.79 or 40.00 kg			kg	40	42.00	1680.00				
		Labour for making of plate										
		Fitter,Turner and Pipe Fitter 0.50x3.92= 1.96			each	1.96	223.36	437.79				
		Blacksmith second class 0.75x3.92 = 2.94			each	2.94	190.00	558.60				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x3.92 = 2.10			each	3.92	136.69	535.82				
								29611.73				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
		Add 2% charges for welding rods etc.						592.23				
								30203.97				
		Add 20% for circular						6040.79				
								36244.76				
		Cost of using for once						770.20				
		Labour										
(i)		Fitter, Turner and Pipe Fitter (1st Class)			day	0.75	223.36	167.52				
(ii)		Mazdoor (Semi Skilled) (Upper)			day	1.35	149.97	202.46				
								1140.18				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 1140.18						22.80				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 1162.98						250.04				
		Labour cess on cost of labour @ 1% i.e. on Rs. 1413.02						14.13				
								1427.15	1427.15			1427.15
		Add Submountainous Region @ 10% i.e. on Rs. 1427.15										142.72
			Rate for	10.80	sqm				1427.15			1569.87
			Rate for	1	sqm				132.14			145.36

Sr. No.	Code No.	Description	Unit	Quantity	Plan			For Sub-Mountainous Region		
					Rate	Cost	Total	Rate	Cost	Total
1	2	3	4	5	6	7	8	9	10	11
9.14		Shuttering for precast R.C.C. battens/cement concrete block in situ such as staggered RC blocks arrow and plain cement concrete block.								
		Detail of cost for 1.23 sqm of contact Area consider a batten of 3m span with size 0.075x0.20	1	sqm						
		Taking Output	1.23	sqm						
		Hire charges of Materials								
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost								
		Wall plate size 3000x200mm Angle iron 40x40x5mm=2x2(3+0.20)=12.80 m 2x2x2x0.20 = 1.20, Total = 14.00 m @3kg per m = 42 kg+5% wastage = 2.10 Total = 44.10 kg or 0.44 qtl		qtl	0.44	3796.00	1670.24			
		1.6mm thick MS sheet = 2x3x0.20=1.20 sqm. 2x0.15x0.20 = 0.06 sqm., Total = 1.26 sqm. @12.55kg per sqm. =15.81 + 5% wastage = 0.79kg , Total 16.60 kg or 0.17 qtl		qtl	0.17	4368.00	742.56			
		Labour for making of plate								
		Fitter, Turner and Pipe Fitter 0.50x0.61 = 0.31		each	0.31	223.36	69.24			
		Blacksmith second class 0.75x0.61 =0.45		each	0.45	190.00	85.50			
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x0.61 = 0.61		each	0.61	136.69	83.38			
							2650.92			
		Add 2% charges for welding rods etc.					53.02			
							2703.94			
		Cost of using for once					57.46			
		Labour								
(i)		Fitter, Turner and Pipe Fitter (1st Class)		day	0.25	223.36	55.84			
(ii)		Mazdoor (Semi Skilled) (Upper)		day	0.25	149.97	37.49			

Sr. No.	Code No.	Description	Unit	Quantity	Plan			For Sub-Mountainous Region		
					Rate	Cost	Total	Rate	Cost	Total
1	2	3	4	5	6	7	8	9	10	11
						150.79				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 150.79				3.02				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 153.81				33.07				
		Labour cess on cost of labour @ 1% i.e. on Rs. 186.88				1.87				
						188.75	188.75			188.75
		Add Submountainous Region @ 10% i.e. on Rs. 188.75								18.88
		Rate for 1.23 sqm					188.75			207.63
		Rate for 1 0.00					153.46			168.80

Sr. No.	Code No.	Description	Unit	Quantity	Plan			For Sub-Mountainous Region		
					Rate	Cost	Total	Rate	Cost	Total
1	2	3	4	5	6	7	8	9	10	11
9.15		Shuttering for precast and plain or Reinforced concrete blocks, wall plates, bedplates, shelves etc.								
		Small unit upto 0.1 Cum each)								
		Detail of cost for 0.412 sqm of contact area								
		Consider a bed plate								
		2x0.43x0.20 =0.172 sqm								
		2x.06x0.2 = 0.24 sqm								
		. =0.412								
			1	sqm						
		Taking Output	0.41	sqm						
		Hire charges of Materials								
		Assuming shuttering material will become unserviceable after use of 40 times Adding for maintenance @ 10% of cost Taking salvage value after full use of material @ 25% of cost								
		Wall plate size 530x200mm Angle iron 40x40x5mm=4x(0.53+6x0.20)=3.32 m ' @3kg per m = 9.96 kg+5% wastage = 0.50 ' Total = 10.46 kg or 0.01046 qtl	qtl	0.01046	3796.00	39.71				
		1.6mm thick MS sheet = 2x0.53x0.20=0.21 sqm. @12.55kg per sqm. =2.64 + 5% wastage = 0.13kg , Total 2.77 kg or 0.028 qtl	qtl	0.028	4368.00	122.30				
		Labour for making of plate								
		Fitter,Turner and Pipe Fitter 0.50x1.028 = 0.51	each	0.51	223.36	113.91				
		Blacksmith second class 0.75x1.028 =0.77	each	0.77	190.00	146.30				
		Mazdoor (Un-Skilled)/Chowkidar/Cleaner 1x1.028 = 1.028	each	1.028	136.69	140.52				
						562.74				
		Add 2% charges for welding rods etc.				11.25				
						574.00				
		Cost of using for once				12.20				
		Labour								
(i)		Fitter,Turner and Pipe Fitter (1st Class)	day	0.10	223.36	22.34				
(ii)		Mazdoor (Semi Skilled) (Upper)	day	0.10	149.97	15.00				

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
								49.54				
		Sundries such as shuttering oil @ 2% i.e. on Rs. 49.54						0.99				
		Add Overhead charges & contractor's profit @ 21.50% i.e. on Rs. 50.53						10.86				
		Labour cess on cost of labour @ 1% i.e. on Rs. 61.39						0.61				
								62.00	62.00			62.00
		Add Submountainous Region @ 10% i.e. on Rs. 62										6.20
		Rate for 0.41 sqm							62.00			68.20
		Rate for 1 sqm							150.49			165.53

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.16		Extra for steel shuttering pattern as specified by the Engineer-in-Charge			sqm of surface area				102.00			120.00

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.17		Extra for shuttering in each subsequent storey above the first.			sqm				2.00			2.00
		Storey (except for item No.9.16)										

Sr. No.	Code No.	Description			Unit	Quantity	Plan			For Sub-Mountainous Region		
							Rate	Cost	Total	Rate	Cost	Total
1	2	3			4	5	6	7	8	9	10	11
9.18		Extra for shuttering where any single storey height exceeds 4 metres in height for every additional height of 2 metres or part thereof (except for item No.9.16).			sqm				7.00			7.00