

21012.1

Schedule XLV-Form No. 134

Q. 2. $\frac{1}{\sqrt{a+1}} - \frac{1}{\sqrt{a-1}}$ का सरल रूप ज्ञात करें।

Sanctioning Officer

M.B.N. 1794/24-25

SUB-DIVISION

MEASUREMENT BOOK

413

$$\frac{29938}{29938} \quad \frac{29938}{29938} \quad \frac{29938}{29938}$$

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Date of Measurement:-					
Details of work done:-					
(1/31) Construction of subgrade & Earthen Shoulders etc all complete job.					
Approach road Both side	5x30.00m		$(7.25+8.45)/2$		$\times 0.30m = 353.25 m^3$
(2/32) Construction of Granular-Sub base by providing well graded material etc all complete job.					
for Approach Road					
Bell mouth opening Both side	2x22.40m		$(7.80+4.05)/2$		$\times 0.20m = 53.05 m^3$
Rest part Both side	2x30.00m		4.05m		$\times 0.20m = 48.60$
"	2x22.60m		4.05m		$\times 0.20m = 36.61$
					18.30
					Total $\rightarrow 138.29 m^3$
					Limitate $\rightarrow 138.28 m^3$
					138.282 m^3

Further Measurement

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Date of Measurement:-					
Details of work done:-					
(1/33) Bricks, laying, spreading and compacting stone aggregates of specific sizes to WBM 6-3 specification etc all complete job.					
<u>In Approach Road</u>					
Bell mouth opening Both side	2	22.40M	(7.50+3.75)M		
				2	
					$\times 0.075M = 18.90M^3$
Rest bank Both side	2	30.00M	3.75M	$\times 0.075M = 16.875M^3$	
A1 side $\rightarrow$	1	17.60M	3.75M	$\times 0.075M = 4.95M^3$	
A2 side $\rightarrow$	1	27.60M	3.75M	$\times 0.075M = 7.7625M^3$	
				Total $\rightarrow$	48.4875M ³
				limited to	<u>48.43M³</u>
				Placed	
				18108125	
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Further measurement

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Date of measurement :-					
Details of work done :-					
(1/34)					
Providing and applying primer coat etc all complete job.					
<u>In Approach Road</u>					
Bell mouth opening. Both side	2	22.40 M	$(7.50 + \frac{3.75}{2}) \text{ m}$		$= 252.00 \text{ m}^2$
Rest part Both side	2	30.00 M	$\times 3.75 \text{ m}$		$= 225.00 \text{ m}^2$
A1 side $\rightarrow$	1	17.60 M	$\times 3.75 \text{ m}$		$= 66.00 \text{ m}^2$
A2 side $\rightarrow$	1	27.60 M	$\times 3.75 \text{ m}$		$= 103.50 \text{ m}^2$
Total $\rightarrow$					646.50 m^2
Limited to					645.75 m^2

(2/35)	Providing and applying P Tack coat etc all complete job. <u>for Approach road</u>
Bell Mouth opening Both side	$2 \times 22.40 \text{ m} \times \frac{(7.50 + 3.75)}{2} \text{ m} = 252.00 \text{ m}^2$
Rest part Both side	$2 \times 30.00 \text{ m} \times 3.75 \text{ m} = 225.00 \text{ m}^2$
A1 side	$1 \times 17.60 \text{ m} \times 3.75 \text{ m} = 66.00 \text{ m}^2$
A2 side	$1 \times 27.60 \text{ m} \times 3.75 \text{ m} = 103.50 \text{ m}^2$
Total = 646.50 m ² Limited to 645.75 m ²	

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Further Measurement

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Date of Measurement:-					
Details of work done:-					
(1/36)					
Providing, laying and rolling of close graded premix surface material etc all complete job.					
In Approach Road					
Bell mouth opening Both side	2	22.40 M		$\frac{(7.50 + 3.75)}{2}$ M	= 252.00 m ²
Rest lane Both side	2	30.00 M		3.75 M	= 225.00 "
A1 Side	1	17.60 M		3.75 M	= 66.00 "
A2 Side	1	27.60 M		3.75 M	= 103.50 "
Total					646.50 m ²
Committed to					646.75 m ²

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Further Measurement

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Date of Measurement:-					
Details of work done:-					
(1/35)	Providing & applying Tack Coat etc all complete job.				
	For Approach Road before SDBC				
Bell mouth opening Both side Rest part	2	22.40 M	$(\frac{7.50 + 3.75}{2})$		$= 252.00 \text{ m}^2$
Both side	2	30.00 M	$\times 3.75 \text{ M}$		$= 225.00 \text{ m}^2$
A1 side	1	17.60 M	$\times 3.75 \text{ M}$		$= 66.00 \text{ m}^2$
A2 side	1	27.60 M	$\times 3.75 \text{ M}$		$= 103.50 \text{ m}^2$
			Total		646.50 m^2
			Limited to		645.75 m^2
(2/37)	Providing & laying Semi dense bituminous concrete etc all complete job				
	For Approach Road				
Bell mouth opening Both side	2	22.40 M	$(\frac{7.50 + 3.75}{2})$		$\times 0.025 \text{ M} = 6.30 \text{ m}^3$
Rest part Both side	2	30.00 M	$3.75 \text{ M} \times 0.025 \text{ M}$		$= 5.625 \text{ m}^3$
A1 side	1	17.60 M	$3.75 \text{ M} \times 0.025 \text{ M}$		$= 1.65 \text{ m}^3$
A2 side	1	27.60 M	$3.75 \text{ M} \times 0.025 \text{ M}$		$= 2.58 \text{ m}^3$
			Total		16.155 m^3
			Limited to		16.144 m^3
(3/38)	Providing & fixing Logo of Project Informatory Sign Board etc.				
	Sys Maint. Board				1 No.

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(4/39)	Road Marking With hot-applied Thermoplastic compound etc all complete job.				
	In Approach road				
At 2 A2 side	5	30.00 M	2	0.10 M	$= 30.00 M^2$
(5/40)	Providing & erecting a "W" metal Beam crash barrier etc all complete job.				
	2	30.00 M			$= 120 M$
(6/31)	Construction of Subgrade and earthen shoulders etc all complete job.				
<u>In Plank</u>					
Adjacent to WBM	5	30.00 M	2	1.20 M	
				$\times 0.30 M$	$= 28.68 M^3$
Adjacent to GSB	5	30.00 M	2	1.50 M	
				$\times 0.30 M$	$= 90.00 M^3$
					Total $= 118.68 M^3$
(4) Qty wide TMB P-76					$\rightarrow 353.25 M^3$
					Total $= 471.93 M^3$
(7/30)	Construction of Embankment with material obtained from borrow pits with a lead of 1000 M etc all complete job.				
	(PTO)				

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5th on A/C Bill
ABSTRACT OF COST
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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
Name of work:-	Construction of H.L				
	RCC Bridge across Ganguly				
	River in Bairiya to Parsa mau				
Block:-	Gauraaha				
Agency:-	M/s Narayani Nirman				
	At Hariwatika chowk, Ward-39				
	Bettiah, W. Champaran.				
Agreement No:-	09/24-25				
Date of start:-	04-9-2024				
Time of completion:-	03-9-2025				
ADOC:-					
Aggr. value:-	Rs 4,56,47,074 =				
Rate →	24.51 % below.				
Details of work done:-					
(1)	E/W in excavation for structures etc				
	all complete job.				
	upto 3m depth				
445.66 m ³	vide TMB, P-66				
	@ Rs 427.089/m ³ = Rs 1,90,336 =				
(2)	Prov. & laying of RCCMS				
	etc all complete job.				
25.09 m ³	vide TMB, P-66				
	@ Rs 9827.39/m ³ = Rs 2,46,569 =				
(3)	RCC grade m ³ 2m				
	pile foundation etc				
	all complete job.				
319.464 m ³	vide TMB, P-66				
	@ Rs 10774.88/m ³ = Rs 34,42,186 =				

Continuation
C.O → Rs 38,79,091 =

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
			B.F. $\rightarrow$ 13,295		53,585 = a
(9/9)	RCC grade m ₃₀ 2m				
	Sub-structure etc all				
	complete job-				
	(i) up to 5m ht				
178.33 m ³	vide TMB, P-68				
	@ 11267.16/m ³ = Rs				20,09,272 = a
	(ii) 5m to 10m ht				
34.53 m ³	vide TMB P-68				
	@ 11370.46/m ³ = Rs				3,92,622 = a
(10/10)	RCC grade m ₃₅ 2m				
	Sub-structure etc all				
	complete job.				
	5m to 10m ht				
10.2384 m ³	vide TMB, P-68				
	@ 11498.89/m ³ = Rs				1,17,730 = a
(11/11)	S/F/F HYSD bar rebar				
	- reinforcement in sub-				
	structure etc all				
	complete job.				
29.945 MT	vide TMB, P-68				
	@ 81112.92/MT = Rs				24,28,926 = a
(12/12)	S/F/F 2m position				
	true to line & level				
	ROT-PTFE bearings				
	etc all complete job.				
18 Nos.	vide TMB, P-68				
	@ 51114.04 Each = Rs				9,20,053 = a

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Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
				B.F. $\rightarrow$ B 3,5	422,128 = ∞
(13/13)					
					S/F/P in position true
					to line & level Elasto-
					- metric bearings etc
					all complete job.
168750 cc					vide TMB, P-69
				@ B 0.91/cc	= B 1,53,563 = ∞
(14/14)					
					providing weep holes
					etc all complete job.
132 Nos.					vide TMB, P-69
				@ B 160.42 Each	= B 2,11,85 = ∞
(15/15)					
					Backfilling beh $\rightarrow$
					abutment & R. wall
					etc all complete job.
164.81 m ³					vide TMB, P-69
				@ B 985.03/m ³	= B 1,62,342 = ∞
(16/16)					
					providing and laying
					Pile media etc
					all complete job.
89.994 m ³					vide TMB, P-69
				@ B 5590.69/m ³	= B 503,129 = ∞
(17/17)					
					RCC grade m ³ 25
					Super structure etc
					all complete job.
187.68 m ³					vide TMB, P-69
				@ B 12443.45/m ³	= B 23,35,387 = ∞
					C.O. $\rightarrow$ B 3,85,97,784 = ∞

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
				B.F $\Rightarrow 16385$	97784 =
(18/18)	S/F/P HYSD bar reinforcement in Super-structure etc all complete job.				
31.119 MT	vide TMB, P-70				
	@ Rs 82843.60/MT = Rs				2578010 =
(19/19)	Providing and laying cement concrete wearing course 1/30 etc all complete job.				
34.875 M ³	vide TMB, P-70				
	@ Rs 20405.18/M ³ = Rs				711631 =
(20/20)	Construction of Rec-Rail 1/5 grade in cast in situ etc all complete job.				
124 M	vide TMB, P-70				
	@ Rs 4743.15/M = Rs				588151 =
(21/21)	Drainage spouts complete as per drawing and Technical Specification etc all complete job.				
24 No.	vide TMB, P-70				
	@ Rs 6302.45 Each = Rs				151259 =
(22/22)	PCC MIS in leveling course etc all complete job.				
7.155 M ³	vide TMB, P-70				
	@ Rs 9456.78/M ³ = Rs				67663 =

Continuation C-0 $\Rightarrow$ Rs 4,28,94,498 =

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
					B.F. $\Rightarrow$ 13,426,94,498 = 0
(23/23)					Rcc grade m30 in app -
					- each slab etc all
					complete job.
16.965 m ³					vide TMB, P-71
					@ 16610.95/m ³ = 162,81,505 = 0
(24/24)					providing 2 layers of a
					strip seal expansion
					joint etc all complete
					job.
33.80 m					vide TMB, P-71
					@ 14170.68/m = 15,478,969 = 0
(25/25)					providing 2 fixing zones
					thick compressible
					Fibreboard etc all
					complete job.
33.80 m					vide TMB, P-71
					@ 288.18/m = 15,9740 = 0
(26/26)					providing 2 fixing in
					position 20 mm thick
					premoulded joint filler
					etc all complete job.
33.80 m					vide TMB, P-71
					@ 405.05/m = 15,13,691 = 0
(27/27)					providing 2 layers Boulders
					pitching on slopes etc.
					all complete job.

Continuation

C. $\Rightarrow$ 15,434,28,403 = 0

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
(27/27) Contd:- Boulder pitching			B.F	26 4,34,28,4032w	
248.895 m ³ vide TMB, P-72					
				@ Rs 5882.09/m ³ = Rs 14,64,023 = w	
(28/28) Provide & lay Filter material under neath pitching etc all complete job.					
98.07 m ³ vide TMB, P-72					
				@ Rs 5580.18/m ³ = Rs 5,47,248 = w	
(29/29) clearing and grubbing road land etc all complete job.					
0.15 Hec vide TMB, P-72					
				@ Rs 75573.34/ Hec = Rs 11,336 = 0	
(30/30) Construction of Embankment with material obtained from borrow lead etc all complete job.					
3051.00 1925.00 m ³ vide TMB, P-82					
				@ Rs 261.09/m ³ = Rs 7,96,586 = w 5,02,598 = w	
(31/38) Provide & fix Logo of Project Informatory Sign Board etc all complete job.					
2 Nos. vide TMB - P-72					
1 No. 3 Nos. "				P-80	
				@ Rs 10852.44 each = Rs 32,557 = w	

Continuation

C.O @ Rs 4,63,30,153 = w

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
					B. P-154, 63,30,153 = ∞
(32/31)					Construction of subgrade and Earthen shoulders etc all complete job
471.93 m ³					vide TMB, P-81
					@ Rs 264.63/m ³ = Rs 1,24,887 = ∞
(33/32)					Construction of Granular Sub base by providing well graded material etc all complete job -
138.282 m ³					vide TMB, P-76
					@ Rs 5129.50/m ³ = Rs 7,09,318 = ∞
(34/33)					Providing WBM G-3
					etc all complete job.
48.431 m ³					vide TMB, P-77
					@ Rs 6905.90/m ³ = Rs 3,34,460 = ∞
(35/34)					Providing & applying primer coat etc all complete job.
645.75 m ²					vide TMB, P-78
					@ Rs 59.21/m ² = Rs 38,235 = ∞
(36/35)					Providing and applying Tack coat etc all complete job.
645.75 m ²					vide TMB, P-78
645.75 m ²					" " P-80
Total → 1291.50 m ² @ Rs 20.27/m ² = Rs 26,179 = ∞					
					C.O. → Rs 475,63,232 = ∞

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
			B.F. →	h 4,75	63,232 = ∞
(37/36)	Providing, laying and rolling of close graded premix surfacing material etc all complete job.				
645.75 m ²	wide TMB, P-79				
	@ Rs 334.36/m ² = Rs 2,15,913 = ∞				
(38/37)	Providing and laying Semi dense bituminous concrete etc all complete job.				
16.144 m ³	wide TMB P-80				
	@ Rs 1700.512 / m ³ = Rs 2,74,531 = ∞				
(39/39)	Road Marking with hot applied Thermo-plastic compound etc all complete job.				
30.00 m ²	wide TMB, P-81				
	@ Rs 886.00/m ² = Rs 26,580 = ∞				
(40/40)	Providing and erecting a "W" metal beam-crash barrier etc all complete job.				
120.00 m	wide TMB, P-81				
	@ Rs 4111.20/m = Rs 4,93,344 = ∞				
	C.O. → Rs 4,85,73,600 = ∞				

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
$\left(\frac{41}{41}\right)$ L Construction of Embankment with material obtained from borrow pits with a lead of 1000 m etc all complete job. 1624.80 m ³ vide TMB, P-73 @ Rs 261.09/m ³ = Rs 4,24,219 = ∞					
$\left(\frac{42}{42}\right)$ Construction of Granular Sub-base etc all complete job. 82.256 m ³ vide TMB, P-73 @ Rs 5129.50/m ³ = Rs 4,21,932 = ∞					
$\left(\frac{43}{43}\right)$ Providing and laying RCC pipe 400 mm dia etc all complete job. 45.00 m vide TMB, P-73 @ Rs 7995.34/m = Rs 3,59,790 = ∞					
$\left(\frac{44}{44}\right)$ Dismantling of Existing structures etc all complete job. 289.80 m ³ vide TMB, P-73 @ Rs 1713.06/m ³ = Rs 4,96,445 = ∞ Total = Rs 5,02,75,986 = ∞ Add GST @ 18% → Rs 90,49,677 = ∞ Add L. cess @ 1% → Rs 5,02,760 = ∞ C.D. = Rs 5,98,28,423 = ∞					

Continuation

Particulars	Details of actual measurement				Contents of area
	No.	L.	B.	D.	
				B.F. 165	98,28,423 = w
Add S.Fee (As per 1st bill)					Rs 71,816 = w
Add S.Fee (As per 2nd bill)					Rs 73,418 = w
Add S.Fee (As per 3rd bill)					Rs 59,806 = w
Add S.Fee (As per 3rd bill)					Rs 17,508 = w
Add S.Fee (for this bill)					Rs 32,859 = w
					6,00,83,630 = w
					Total Rs 6,00,83,630 = w
Less 24.51 % as per agreement = (-)					1,47,26,498 = w
					Rs 4,53,57,132 = w
					Total Rs 4,53,57,132 = w
Less previous payment = (-)					Rs 4,04,39,741 = w
					Total Rs 49,17,391 = w
					49,17,391 = w

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29/08/25
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Material statement

Earth	→	3522.93 M ³
coarse sand	→	49.78 M ³
stone product	→	226.92 M ³
Bitumen Emulsion (SS)	→	548.88 kg
Bitumen Emulsion (RS)	→	290.58 kg
Bitumen (S-90)	→	3283.34 kg

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Continuation

PTO for S.Fee

Details of S. Fee (For 5th bill)

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