DEPARTMENT OF CIVIL ENGINEERING

LABORATORY MANUAL FOR

ESTIMATION PRACTICE-I, 3RD SEMESTER



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Vision:

Civil engineering department is committed to impart knowledge and excellence in civil Engineering to the students and to produce civil engineers of high calibre, technical skills and ethical values to meet current and future challenges.

Mission:

M1: To produce civil engineers with quality technical skills aligned with industry needs to solve real life problems of the society.

M2: To create teaching learning environment for students to acquire knowledge as per need and to motivate towards entrepreneurship and to pursue higher studies.

M3:To serve construction industries, civil engineering profession and the community at large through dissemination of knowledge and technical services to improve quality of life and enhance employability.

M4: To inculcate self-learning attitude and professionalism.

Program Educational Objectives (PEOs)

PEO1- To analyze in civil engineering profession or Higher education by acquiring thorough knowledge and concepts in fundamentals of engineering.

PEO2-To Apply knowledge and skills to real life problems and there by rendering safe and economical structures against natural calamities and also environmentally sustainable and useful to society.

PEO3- To understand entrepreneurial endeavors and to develop effective communication skill and passion for learning.

Program Specific outcomes (PSO)

PSO1-_Able to meet the needs of public in the design and execution of quality construction work considering health, safety, cultural and environmental factors.

PSO2- Analyze and design regular and complex structures applying knowledge of building analysis software package.

PSO3- Able to work effectively as an individual or in a team having acquired leadership skills and manage projects in multidisciplinary environment.

EXPERIMENT NO-1

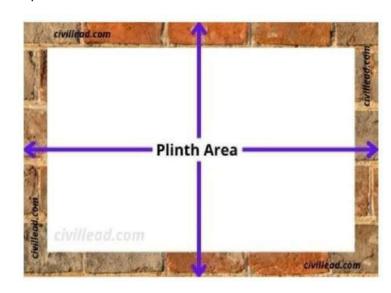
Aim of the Experiment: -

To calculate the plinth area of a building.

Requirement: - Given the details of plinth area work.

Theory

Plinth area: - The built up covered area of a building measurement at floor level of any storey is called plinth area.



Procedure – Find out outer to outer distance of walls.

- > Find out distance of long wall.
- > Find out distance short wall.

<u>Calculation: -</u> Plinth area = long wall * short wall

= 5m*4m

 $= 20m^2$

Precaution: -

- 1. All unit of item of works area correct.
- 2. Calculate should be done carefully.

Result – Total plinth area =20m²

Conclusion: - In above experiment we have concluded that the calculation of plinth.

Experiment-2

➤ Aim of the Experiment: -

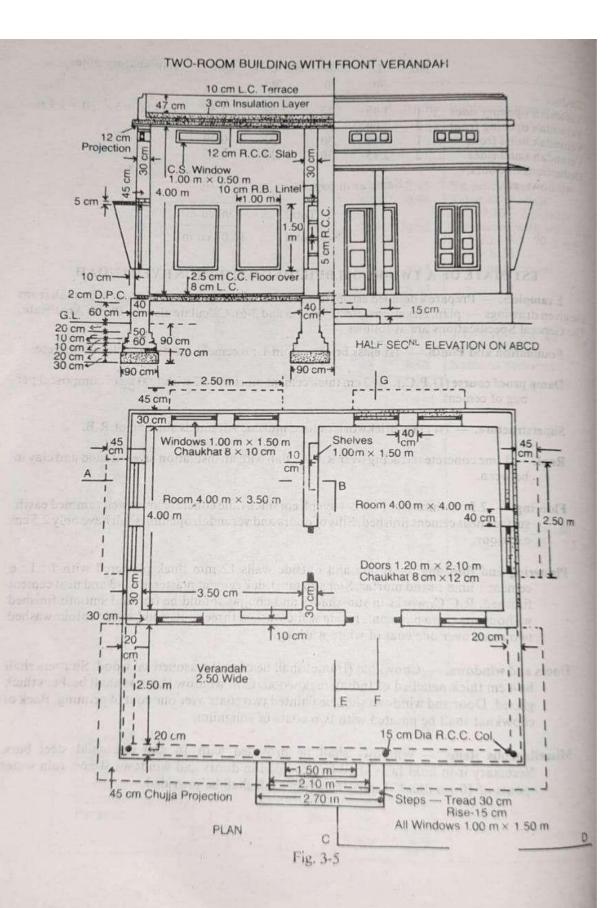
Calculate single storeyed two roomed building with specification as per PWD rate analysis.

Requirement: - Given plan, section and elevation of a two roomed building.

Given specification.

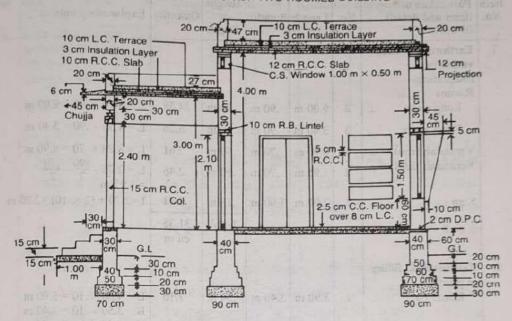
Procedure: - Calculate quantities of all items of work.

> Find out the total rate of given specification and quantities of all items of work of a building.



CROSS-SECTION OF TWO-ROOMED BUILDING

DEFAULS DE MEASUREMENT AND CALCULATION DE COLLUNITIES DEL SI



SECNL ELEVATION ON CEFG

Fig. 3-6

Note - Foundation of verandah is continuous of same section.

Centre to centre lengths -

Room Long walls - 3.50 + 4.00 + .30 + $(2 \times \frac{30}{2})$ = 8.10 m combined total length.

Room Short walls
$$-4.00+(2\times\frac{30}{2})=4.30$$
 m

Verandah Front—Extreme outer length at plinth— $(2 \times \frac{.30}{2})$ = $\{3.50+4.00+(3 \times .30)+(2 \times .05)\}$ - .30=8.20 m

Verandah Sides—
$$2.50 + \frac{.30}{2} + \frac{.20}{2} = 2.75 \text{ m}$$

DETAILS OF MEASUREMENT AND CALCULATION OF QUANTITIES (Ex. 5)

Item No.	Particulars of items and details of works		No.	Length	Breadth	Height or Depth	Quantity	Explanatory note
1.	Earthwork in ex- vation in foundation—	ca-	det of the second	ST THE	300			yn i nei plant mae
	Rooms Long walls	***	2	9.00 m	.90 m	.90 m	14.58	L = 8.10 + .90 = 9.00 m
	Short walls		3	3.40 m	.90 m	.90 m	8.26	L = 4.3090 = 3.40 m
	Verandah front		1	8.90 m	.70 m	.90 m	5.61	L = 8.20 + .70 = 8.90 m
	Verandah sides		2	1.95 m	.70 m	.90 m	2.46	$L = 2.75 - \frac{.90}{2} - \frac{.70}{2}$ $= 1.95 \text{ m}$
	Step		1,,,	2.90 m	1.00 m	.15 m	0.44	$L=2.70 + (2 \times .10) = 2.90 \text{ m}$
	19000000	- Maria				Total	31.35 cu m	
2.	Earthwork in fill in plinth—	ing					300 TO	
La Company	Room (i)	***	1	3.90 m	3.40 m	.54 m	7.16	L = 4.0010 = 3.90 m B = 3.5010 = 3.40 m Ht. = 60 + 2 - 8 = 54 cm = .54 m
	Room (ii)		1	3.90 m	3 90 m	.54 m	8.22	CL = 8.2030 = 7.90 m
	Verandah	***	1	7.90 m	-5 101	.54 m		$\begin{cases} B=2.75 - \frac{.40}{2} - \frac{.30}{2} = 2.40 \end{cases}$
						Total	25.61	
7 5	attensi	1	10.00	mos m	11.18 4	A	cu m	
3.	Lime concrete in foundation					WE SE		
	Rooms — Long walls		2	9.00 m	.90 m	.30 m	4.86	May be taken 1/3 of
	Short walls	year.		3.40 m	.90 m	.30 m	2.75	excavation.
	Verandah front		1 -	8.90 m	.70 m	.30 m	1.87	
	Verandah sides		2	1.95 m	.70 m	.30 m		
	Step		The second	2.90 m	1.00 m	.15 m	0.82	
				Les	- IVU III		0.44	
	No.	1	4		1	Total	10.74 cu m	

Item No.	Particulars of items and details of works	No.	Length	Breadth	Height or Depth	Quantity	Explanatory note
4.	I-class Brick-work in Foundation and Plinth in 1:6	1	ons	11:00 m	E. M. S	re seg	Plint vals)0 cm
went.	cement mortar—	T.L.	100-4	A. mil	nie	2 24	Flinch wall terrain-
П	ROOMS —						- Lumi2
	Long walls —	065. 917	m in	I. vert			goss zat gasta ball
	1st footing	2	8.80 m	.70 m	.20 m	2.46	L = 8.10 + .70 = 8.80 m
	2nd footing	2	8.70 m	.60 m	.10 m	1.04	L = 8.8010 = 8.70 m
	3rd footing	2	8.60 m	.50 m	.10 m	0.86	L = 8.7010 = 8.60 m
	Plinth wall	2	8.50 m	.40 m	.80 m	5.44	L = 8.6010 = 8.50 m
200	Short walls —	98.		277	i Inc	B 5	
	1st footing	3	3.60 m	.70 m	.20 m	1.51	L = 4.3070 = 3.60 m
	2nd footing	3	3.70 m	.60 m	.10 m	0.67	L = 3.60 + .10 = 3.70 m
	3rd footing	3	3.80 m	.50 m	.10 m	0.57	L = 3.70 + .10 = 3.80 m
-	Plinth wall	3	3.90 m	.40 m	.80 m	3.74	L = 3.80 + .10 = 3.90 m
	VERANDAH—						drow-special rands d
	Front wall (long)— lst footing	1	8.70 m	.50 m	.20 m	0.87	L = 8.20 + .50 = 8.70 m
	2nd footing	1	8.60 m	.40 m	.10 m	0.34	L = 8.7010 = 8.60 m
	Plinth wall	1	8.50 m	.30 m	.90 m	2.30	L = 8.6010 = 8.50 m
	Side wall (short) —	12.4					- Challignania
	1st footing	2	2.15 m	.50 m	.20 m	0.43	$L=2.75 - \frac{.50}{2} - \frac{.70}{2} = 2.15r$
100	2nd footing	2	2.25 m	.40 m	.10 m	0.18	$L=2.75 - \frac{.40}{2} - \frac{.60}{2} = 2.25r$
	- OF (A).		11/10		C.O.	20.41	The second second
	Report of the second		97.5	a mu	C. Im.		PARK HOLD

Item No.	Particulars of items and details of works	No.	Length	Breadth	Height or Depth	Quantity	Explanatory note
	OI WOLKS				B.F.	20.41	draw-fault and
	Plinth wall 10 cm above footing	2	2.35 m	.30 m	0.10 m	0.14	$L=2.75-\frac{.50}{2}-\frac{.30}{2}=2.35$
	Plinth wall remaining portion	2	2.40 m	.30 m	.80 m	1.15	$L=2.75 \frac{.40}{2} - \frac{.30}{2} = 2.44$
	Steps — 1st step 2nd step	1 1	2.70 m 2.10 m 1.50 m	.90 m .60 m	.15 m .15 m	0.36 0.19 0.07	
	3rd step	10	1.50 11		Total	22.32 cu m	
5.	2 cm Damp proof	94	The state of	L e m f		1.84 1.4	
	Rooms —	2	8.50 m	.40 m		6.80	Length, breadth same a
	Long walls Short walls	3	3.90 m		<u> l</u> a (4.68	for plinth wall.
	0012 = 013 + 00 & 1	179	150000000000000000000000000000000000000		Total	11.48	
	Deduct door sills	2	1.20 m	.40 m	+	0.96	
	125 = 11, + 12 F = 14	p.f.	· far	Net	Total	10.52 sq m	
6.	I-class Brick-work in superstructure in			0			
	lime mortar— Rooms —	Proj.					- (anof) that more
	Long walls	2	8.40 m	.30 m	4.00 m	20.16	Length — Out to out.
	Short walls	3	4.00 m	.30 m	4.00 m	14.40	Length — In to in.
	Ver. above lintels (over pillars)—	300	1 0	C. Virginia	i m	1 4 2 4	- Its widous
	Front (long) Sides (short)	25 4	8.40 m 2.50 m		.30 m		and the same of th
	Parapet — Over Rooms —	23		d. bre			Thims be
	Long walls	2	8.40 m	.20 m	.60 m	2.02	Ht. = 47 + 10 + 3 = 60 6 = .60 m
	Short walls	2	4.20 m		.60 m		$L=4.00 + (2 \times .30) - (2 \times .20) = 4.20 \text{ m}$
N	A CANADA CONTRACTOR	The same	AND DESCRIPTION OF	C. STREET, SQUARE, SQU	C.O.	38.39	(2 × .20) = 4.20 ···

Item No.	Particulars of items and details of works	No.	Length	Breadth	Height or Depth	Quantity	Explanatory notes
		100			B.F.	38.39	maton Jak H
	Verandah — Front (long)	1	8.40 m	.20 m	.40 m	0.67	Ht. = 27 + 10 + 3 = 40 cm = 40 cm
- 13	Side (short)	2	2.50 m	.20 m	.40 m	0.40	
				1 3	Total	39.46	mer compact air
003.0		EQ.	2.70	1 2		cu m	Liberaria
ranci	Deduct-	2 110					
	Door openings	2	1.20 m	.30 m	2.10 m		S. R.C.C. vork exclus
	Window openings	10	1.00 m	.30 m	1.50 m	4.50	. Ingrated and ite
	C.S. Window ,	12	1.00 m	.30 m	0.50 m	1.80	but and agraphed but facilities but facilities
	Shelves,,	2	1.00 m	.20 m	1.50 m	0.60	Back of shelf 10 cm
	R.B. lintels over— Doors	2	1.40 m	.30 m	.10 m	0.084 (a)	10 cm bearing.
	Windows	10	1.20 m	.30 m	.10 m		Rocf slab year.
	C.S.Windows	12	1.20 m	.30 m	.10 m	0.432 (a)	Total of (a) s = 0.948 cu m
	Shelves	2	1.20 m	.30 m	.10 m	200000000000000000000000000000000000000	obis mile
					Total	9.36	bun-saed and breakers in windows
			20.	Net	Total	30.10 cu m	Top
7.	R. B. work in lintels		7.0	1	050		Rotton
	excluding steel and its bending but		-26	51=15	di De	2	Sides
	including centering and shuttering and		30	65.4	M.	Exc	Shelf sian
	binding steel—		Thin.			1	
	Over doors, windows and	121 2727					
1	shelves		Same (a) in	as for item	items no. 6 =	marked 0.948	10 Mild steel base and control of the control of th
	Over ver. pillars—		0.40	20	20	0.504	Out to out.
11/10	Front Sides	1 2	8.40 2.80	.20	.30	0.504	Insidé bearing 30 cm
	Sides	127	ni rodu	adata	Total	1.788 cu m	march and

Item No.	Particulars of items and details of works	No.	Length m	Breadth m	Height or Depth m	Quantity	Explanatory notes
8.	R. C. C. work in ver. columns	377.39	T IS R				L. Teglabilas
200 C	excluding steel and its bending, but	0.02	Ter sa	20 m	m Ct.		(gidel) front (leng)
114	including form work and binding	08.0	in 01	m 05		5	(stode (shore)
	steel complete fair finished	4	$\pi (.15)^2$	×	2.70	= 0.19 cu m	30 cm insertion into the plinth wall below floor.
		18.1	m 01	E (m () E			
9.	R.C.C. work exclud- ing steel and its	08.0	m 62	1400		a or a	
	bending, but includ- ing centering and	0801	10:02	O met.	100 000	dan.	e waba'W 2.0
	shuttering and binding steel, fair	0.60	10.02	, 20m			Shelves
	finished— Roof slab rooms	1	8.64	4.84	.12	5.018	12 cm projections.
	Roof slab ver	01	8.40	2.80	.10	2.352	10 cm inner bearing, excluding chujja.
er us	Chujja projections Ver. front	SEA I	9.30	.45	.06	0.251	Average thickness.
	Ver. sides	2	2.70	.45	.06	0.146	A 201-112
	Sun-shed and breakers in windows—	08.8	Inio				
	Top	4	2.50	.45	.05	0.225	
	Bottom	4	2.50	.15	.05	0.075	5 cm insertion into wall.
	Sides	4 × 2	1.50	2	.05	0.195	5 cm insertion and avera
	Shelf slab	2 × 3	1.10	.20	.05	0.066	breadth. 5 cm bearing.
					Total	8.328 cu m	
10.	Mild steel bars incl- uding bending in re- inforcement @ 1% of R.B. and R.C.C.	69	1 013	nd med			
	works	DEL	10.31	× 1 ×	78.5 =	8.10q	1% of total of items 1,8 and 9.

Note. - Chujjas, sun sheds, etc. may be taken under a separate item.

Explanatory notes	Quantity		Breadth	Length	No.	Am	Particulars of items and details
Salar Street In		Depth m	m	m			of works
him were one at a test of the section of the sectio				"		9.	10 cm Lime concrete in roof terracing complete with surface finishing—
Clear roof area in between parapet.	33.60	-	4.20	8.00	1	•••	Rooms
" niesa" doli "	53.60	— Total	2.50	8.00	1	•••	Verandah
	sq m	John		land	Tip I	r B	3 cm thick insulation layer of sand and clay—
Clear roof area.	33.60 20.00	_	4.20 2.50	8.00 8.00	1		Rooms Verandah
Sta C atomsa	53.60 sq m	Total					Sal wood work in
Windows	1 - 61 7	den			101	it	chowkhat wrough framed and fixed-
C.S. windows	TAXY .	ten					Doors (3 cm insertion into
2 Vert.—2.13 m each. 1 Hor.—1.20 m each. 2 Vert.—1.50 m each	}	.08	.12	5.46	2		floor)
2 Hor.—1.00 m each. 2 Vert.—0.50 m each.		.08	.10	5.00	10	324	Windows
2 Hor.—1.00 m each.	0.230 1	.08	.08	3.00	12		C.S. Windows
	cu m			00.4	28.		4 cm thick Indian teak wood panelle
(b)		1900.7		400,2	3-6)	200	door and window shutters including
Rebate 1.5 cm.	4.355	2.035	_	1.07	2	***	fittings— Doors
See Store above	11.919	1.37	-	0.87	10	***	Windows
hos discretion	16.274 sq m	Total	22		1.5	- 01	4 cm thick Indian teak wood glazed
- and the strategy	3.863 sq m	0.37	CS.	0.87	12		shutters including fittings— C.S. Windows

Item No.	Particulars of items and details of works	No.	Length m	Breadth	Height or Depth m	Quantity	Explanatory notes
16.	Iron work (mild steel) in hold fasts						constete in roof torracing compan with surface
	and window grat- ings— Hold fasts in doors	2×6	-	T. 1	562	12 nos.	6 nos. per door.
	Hold fasts in windows	10×4	-	1 770 (5)	153 153	40 nos.	4 nos. per window.
	Hold fasts in C.S. windows	12×2	Lin	-	_	24 nos.	2 nos. per C.S. window.
	C.S. windows	p pz			Total	76 nos. @ 1 kg	12 J on thick inscittion layer of second and class
	anta so de destin	10.01		1.20	8,00 8,00	each = 76 kg	Horons Vocandan
	Window bars 16 mm dia. @ 1.58	53500				3	of anow bod a talk . Cit
	kg/m— Windows	10×8		1-	12	120	Ver. bars at 10 cm centre approx.
	C.S. windows	12×2	1.00	-	-	24	Two horizontal bars.
17.		1020	180.	£1		144 m 1.58 kg . 52 kg	(acon
	ing in walls 1:1:6 cement, sand, lime	None	80.	108.	-	303.52 kg	a national
	mortar — INSIDE —	pesa		NO.	067	3.035 q	C.S. Windows
	Rooms —	2	3.50		4.00	28.00	
	(1)	2	4.00		4.00	32.00	May be taken as inner per meter × ht. = 15.00 × 4.0
	(ii)	1	4.00	-	4.00	64.00	Modella Sala register
	Verandah inner wall Ver. Front above	1	8.40	_	3.00	25.20	Length out to out.
	cols. inner face Ver. Sides above	. 1	8.00	-	.60	4.80	of Section Classes and
	cols. inner face Jambs sills and	. 2	2.50		.60	3.00	Windows
	soffits of shelves Soffits of ver.	. 2	5.00	.20	-	2.00	L=2 × 1.0 + 2 × 1.5=5.0 m
	lintel —	1			1000		shumes including
	Front Sides	. 2	8.40 2.50	.20	20	1.68	No deduction for col. en
	131.10 - 141.10	A COLD	Dyna is	TO REAL TO	Total		bones Linearing

Item No.	Particulars of items and details of works	No.	Length m	Breadth	Height or Depth m	Quantity	Explanatory notes
roros	Deduct openings in wall in between ver.	9,	L. T	4.			From Seal onten
	and room — Door openings Window openings	2 2	1.20 1.00	2 = 1	2.10 1.50	5.04 3.00	One surface of each. One surface of each.
	- 100 Table - Table	100			Total	8.04	Other doors and windows deducted from outside.
		8		Net	Total	153.64 sq m	Total of inside plastering.
	OUTSIDE — Rooms —	1 10	1		E	1 2.0	Side wall top face
	Back plinth including 10 cm below G.L Back super-	1	8.50	-	.75	6.38	Ht. = .60 + .05 + .10=.75 m These can be combined as-
	structure Sides plinth	1	8.40	121_	4.00	33.60	$\int 1 \times 8.40 \times 4.75 = 39.90$
	below G.L	2	4.70	-	.75	7.05	These can be combined as-
	structure Verandah —	2	4.60	-	4.00	36.80	$\int 2 \times 4.60 \times 4.75 = 43.70$
	Above cols. front outer face Above cols. sides	1	8.40	E - 0	.60	5.04	to description of the second
	outer face Plinth front including 10 cm	2	2.70	-	.60	3.24	Ends of ver, pateret wall, freen wall
	below G.L Plinth sides	1 2	8.50 2.75	ent-301	.70	5.95 3.85	Ht. = .60 + .10 = .70 m
	Wall above ver. roof Parapet – Rooms –	Ĩ.	8.40		.77	6.47	Ht. = 4.00 - 3.23 = .77 m
	Long wall outer face Long wall inner	2	8.40	100 HO	.60	10.08	These can be taken approx
	face	2	8.00	=	.47	7.52	in one operation as — = (total centre length + inner ht. + top width ×
	Long wall top face Short walls	2	8.40	.20	-	3.36	outer ht.)
	outer face Short walls	2	4.60	1	.60	5.52	- (2 × 9.40 - 2 - 4.20
	inner face	2	4.20	otal nex	.47	3.95	= (2 × 8.40 + 2 × 4.20) ×(.47 + .20 + (.47 + .10 + .03)
	Short wails top face	2	4.20	20	Senata L	M road la	W THERE EXTENDED IN THE PARTY OF THE PARTY O
	iop face	2	4.20	.20	C.O.	1.68	$\int = 25.20 \times 1.27 = 32.00 \text{ sq m}$

Item No.	Particulars of items and details of works	No.		Breadth	Depth	Quantity	.Explanatory notes
	and Committee		m	m	m		Compact Contract
				12	B.F.	140.49	
	Front wall outer face Front wall inner face	1	8.40		.40	3.36	These can be taken appin one operation as = (Total centre length)
	Front wall top face	1	8.40	.20		1.68	(inner ht. +top width) outer ht.)
	Side wall outer face	2	2.70		.40	2.16	$= (8.65 + 2 \times 2.50) \times$
	Side wall inner face	2	2.50	cso:	.27	1.35	$\begin{bmatrix} .27 + .20 + (.27 + .10 + .0) \\ = 13.65 \times .87 = 11.88 \end{bmatrix}$
	Side wall top face	2	2.50	20		1.00	- BOISTON
		1			Total	152.20	pribulant dinite is
en ber	Deduct — Window openings (in outer walls)	8		0.4	1.50	12.00	One surface of each.
	C.S. window openings	12	1.00		0.50	6.00	One surface of each.
	Step from plinth wall	1 08	2.70		0.70	1.89	Including 10 cm below G.L.
	Ends of ver. side wall and lintel above col. level Ends of ver. parapet wall, from wall above ver. roof level	2 2		.20	.60	0.24	This may be neglected. This may be neglected.
	97. = 01 00. = 2H	20	Total of	1	tions	20.24	mi (A. serbana)
	T, = EC.1 - 00,4 = AH	\$8. 140		Net	Total	131.96 sq m	Total of outside plaster
71190 — 62	mile and manager of a control of the	80.0	Grand outside	Total of plaster		and 285.60 sq m	confirme les pour
18.	20 mm thick cement plaster 1:3 in step finished cement rendered —	157,52		30	9	oq III	Tour populary was to
201	1st step riser 2nd step riser 3rd step riser	1 1	4.50 3.30 2.10	=	.15	1.49	Front and sides. Front and sides. Front and sides.

	Particulars of				Height		11. 金型(11.957) · [2] (新兴
No.	items and details of works	No.	Length m	Breadth m		Quantity	Explanatory notes
	Ist step tread	1	3.90		.30		Front and sides.
	2nd step tread	1	2.70	Auge 1	30	2.43	Front and sides
	3rd step tread	1	1.50		.30)	Front and sides.
	Plinth wall above	bo	ol i		4,66	10.4	Cesting of poor.
	lst step	2	.30		.45	0.27	Sides.
	2nd step	2	.30	of T	.30	0.18	Sides.
	3rd step	1	1.50	1	.15	0.22	Sides.
					Total	4.59 sq m	ow: goodsey sector: 22
19.	2.5 cm thick c.c.				and the		grinzair sinie to
	1:2:4 over and						ocninde
	including 8 cm lime concrete floor—	- Kar	CHEC	(18) al	ESTRO T	plas (arin)	commence of the last of the
	Room (i)	1	4.00	3.50		14.00	Christian front
Bal	Room (ii)	1	4.00	4.00		16.00	Change yet, status
	Verandah	1	8.00	2.50		20.00	Sills of verandah opening have been taken under
			L phi		Total	50.00	item 20.
	feet read han eng	11 45		1	0 7	sq m	ni emissed uot – avoides
20.	2.5 cm thick c.c. 1:2:4 floor in	Oi					
	sills	I IN	101	101	Lost.	D 5 - 5	menet
	Door sills	2	1.20	.30		0.72	Sinc.
	Sills of ver. opening	1	B 1	-1	0.	THE RESERVE	Edward and 3
	front	1	8.50	.25		2.12	Including .05 m plinth
	BANGA - MI - AL P.	1 3			1	201	outer offset. No. deduc-
		1 649	HOTEL S				tion for cols.
	Sills of ver, opening sides	2	2.50	.25		1.20	Deduct portion
	m (n d)	2	2.50			1.25	-1.0 walled
		35	110 - 1	AND I	Total	4.09	
	Deduct pillars	4	π×(.15)	binarra	e denne	0.07	This deduction may be neglected.
			,	Net	Total	4.02	INSIGERED.
						sqm	

No.	Particulars of items and details of works	No.	Length m	Breadth m	Height or Depth m	Quantit	y Explanatory notes
21.	White washing		7	1		09 to 1	Disass gate let
	three coats inside — Walls	plas	as for tering	inside in item	wall (17) =	153.64	been gen till
	Ceiling of room		4.00	3.50	-	14.00	the contradict
	Ceiling of room	. 1	4.00	4.00		16.00	Selection avon
100	Ceiling of ver	THE RESERVE OF THE PARTY OF THE	8.00	2.50	- 10	20.00	QDEJELLA
		50			Total	203.64 sq m	The state of the s
22.	Colour washing two coats over one coat of white washing outside — Walls	Same	as for	outside	wall		2.5 cm thick e.c. 1:2 - koverende m including 8 -m line
	C) "			in item	(17) =	131.96	ennaste floor-
	Chujja ver. front	100	9.30	.95		8.84	Upper and lower faces an edges.
gn, r	Chujja ver. sides	2	2.70	.95	_	5.13	Upper and lower faces an edges.
	Sunshade and sun- breakers in	00,	it	61			
- 1	windows —Top	4	2.50	.95		9.50	Upper and lower faces and edges.
	Bottom Sides	4	2.50	.25		2.50	edges.
	Sides	8 × 2	1.50	15 + .10	-	6.60	Inner and outer faces.
	Edges of sides Outer projection of	8	1.50	.05		0.60	This may be neglected.
1	roof slab	1 2	26.00	.36	-	9.36	L=Outer perimeter of room B = .12 + .12+.12=.36 m
I	Deduct portion				Total	174.49	
	below G.L.		9.10	- 10	.10	~	L=Outer perimeter—Steps = 2(8.50 + 7.40) - 2.70
	te-Lower sides of co	-R02.4		Net 7	Total	71.58	= 29.10 m

Item No.	Particulars of items and details of works	No.	Length m	Breadth m	Height or Depth m	Quantity	Explanatory notes
23.	Painting doors and windows two coats over one coat of priming—	7 10	en tous		On the	and a	m your a movement of
To.	Doors panelled	2 × 21/4	1.20	-	2.10	11.34	21/4 times one surface for both sides.
	Windows panelled	10 ×	1.00		1.50	33.75	n non not beautiful
	C.S. windows glazed	12×1	1.00		0.50	6.00	One surface for both sides:
	Window bars	10	0.84	1.34	u vi lu vico ii	11.25	Excluding chowkhat, one flat area for over all.
	C.S. window bars	12	0.84	0.34	valori i	3.43	flat area for over all.
	THE PARTY OF THE P	2_1/11			Total	65.77 sqm	
24.	Solignum painting two coats in back of chaukhat—		22.0		antro 0 - 200	or done	
	Doors Windows	2 10	5.46 5.00	.12	(1) <u></u>	1.31 5.00	Lengths same for chowkhat in item (13)
	C.S. windows	1 12 200 000) chowards in item (13)				
	124 - 1 and	OF STREET	100 100		Total	9.19 sq m	
25.	C.I, Pipe 10 cm dia. (rain water spout) complete with						
	painting	4	1.00	-	-	4.00	

Particulars of items thwork in excavation in foundation thwork in filling in plinth the concrete in foundation ass brickwork in foundation and plinth in the cement sand mortar adamp proof course (D.P.C.) 1 : 2 cement that with water proofing compound ass brickwork in superstructure in lime that	25.61 10.74	cu m	Rs. F 350.00 275.00 220.00	% cu m	riboal
thwork in filling in plinth the concrete in foundation ass brickwork in foundation and plinth in the comment sand mortar and damp proof course (D.P.C.) 1: 2 cement that with water proofing compound ass brickwork in superstructure in lime	25.61 10.74 22.32	cu m	275.00 220.00 320.00	% cu m	70.4
ass brickwork in foundation and plinth in 6 cement sand mortar In damp proof course (D.P.C.) 1: 2 cement tar with water proofing compound ass brickwork in superstructure in lime	10.74	cu m	220.00 320.00	per cu m	2362.8
ass brickwork in foundation and plinth in 5 cement sand mortar In damp proof course (D.P.C.) 1: 2 cement tar with water proofing compound ass brickwork in superstructure in lime	22.32	cu m	320.00	belismen	riposi
damp proof course (D.P.C.) 1: 2 cement tar with water proofing compound ass brickwork in superstructure in lime				per cu m	7142.4
tar with water proofing compound ass brickwork in superstructure in lime	10.52	sq m	19.00		
	DA	9323	18.00	per sq m	189.3
	30.10	cu m	320.00	per cu m	9632.0
. Work in lintels with 1:3 cement mortar uding steel and its bending, but including tering and shuttering and binding steel.	1.788		520.00	per cu m	929.7
C.C. work 1: 1½: 3 in verandah columns uding steel and its bending, but including n work and binding steel complete fair thed	0.19	cu m	590.00	per cu m	112.10
C. work 1:2:4 in slab excluding steel its bending, but including centering and ttering and binding steel, complete fair shed		cu m	775.00	per cu m	6454.20
d steel including bending in reinforcement	0.520		173.00	per eu m	0434.20
	8.10	9	515.00	per q	4171.50
cm Lime concrete in roof terracing	52.40			100	
				per sq m	643.20
	53.60	sq m	1.50	per sq m	80.40
fixed.	0.735	cu m	700.00	per cu m	3454.50
				C.O.	35352.37
	tering and shuttering and binding steel. C. work 1: 1½: 3 in verandah columns uding steel and its bending, but including n work and binding steel complete fair thed C. work 1: 2: 4 in slab excluding steel its bending, but including centering and ttering and binding steel, complete fair thed d steel including bending in reinforcement in the concrete in roof terracing in thick insulation layer of sand and clay wood work in chaukhat wrought framed.	1.788 C.C. work 1: 1½: 3 in verandah columns uding steel and its bending, but including n work and binding steel complete fair shed C.C. work 1: 2: 4 in slab excluding steel its bending, but including centering and steel its bending, but including centering and steel including steel, complete fair shed d steel including bending in reinforcement shed m Lime concrete in roof terracing splete with surface finishing n thick insulation layer of sand and clay wood work in chaukhat wrought framed	itering and shuttering and binding steel. 1.788 cu m 1.788 cu m	tering and shuttering and binding steel. 1.788 cu m 520.00 1.788 cu	itering and shuttering and binding steel. 1.788 cu m 520.00 per cu m 50.00 per cu m 590.00 pe

	The second of	NID-THE ST	WEE	Rate	Dien sin ut	Amount
o.	Particulars of items	Quantity	Unit	Rs. P.	Per	Rs. P.
75 E 3	in the second	S. C. C.	•	CANTERIOR	B.F.	35352.37
14.	4 cm thick C.P. teak wood panelled door and window shutters including fittings	16.274	sq m	225.00	per sq m	3661.63
15.	4 cm thick C.P. teak wood glazed shutters including fittings	3.863	sq m	200.00	per sq m	772.60
16.	Iron work in hold fasts and window gratings	3.035	quin- tal	700.00	per q	2124.50
	Head should ad killed		STATE !	Scort St		
17.	12 mm thick plastering in walls 1:1:6 cement: lime: sand mortar	285.60	sq m	2.90	per sq m	828.24
18.	20 mm thick cement plaster in steps finished cement rendered	4.59	sq m	16.00	per sq m	73.44
19.	20 mm thick e.c. 1:2:4 floor over and including 8 cm lime concrete	50.00	sq m	18.65	per sq m	932.50
1220	2.5 cm thick c.c. 1: 2: 4 floor in sills	4.02	sq m	18.00	per sq m	72.36
20.		203.64		1 22	per sq m	152.73 -
21.	White washing 3 coats inside	203.0				T F A TOTAL
22:	Colour washing 2 coats over one coat of white washing outside	171.58	sq m	0.82	per sq m	140.70
23.	Painting doors and windows two coats over one coat of priming	65.7.7	sq m	10.40	per sq m	100
24.	Solignum painting two coats	9.19	sq m	3.50	per sq m	32.16
25.		4.00	m	27.00	per m	108.00
Kirs	OF OIL ACTOR	K		-	Total	44935.25
	Add 3% for Contingencies Add 2% for Workcharged E	stablishme	ent		1 300 27	1348.05 898.70
				Grand	Total	47181.00
						- Tables
Plin	th Area Rate (P.A.) -					
	Plinth Area = 8.40 m × 7.30 m = 61.32 sq m (S	ay).				
	Plinth Area Rate = Total Cost = Rs. 47181.0	= Rs 76	9.42	per sq m.		

Precaution: - All units of item of work are concert.

> Calculate should be done carefully.

Conclusion: - From above the experiment we conclude that rate analysis of a two roomed building with specification as per P.W.D.

Experiment -3

Aim of the Experiment: -

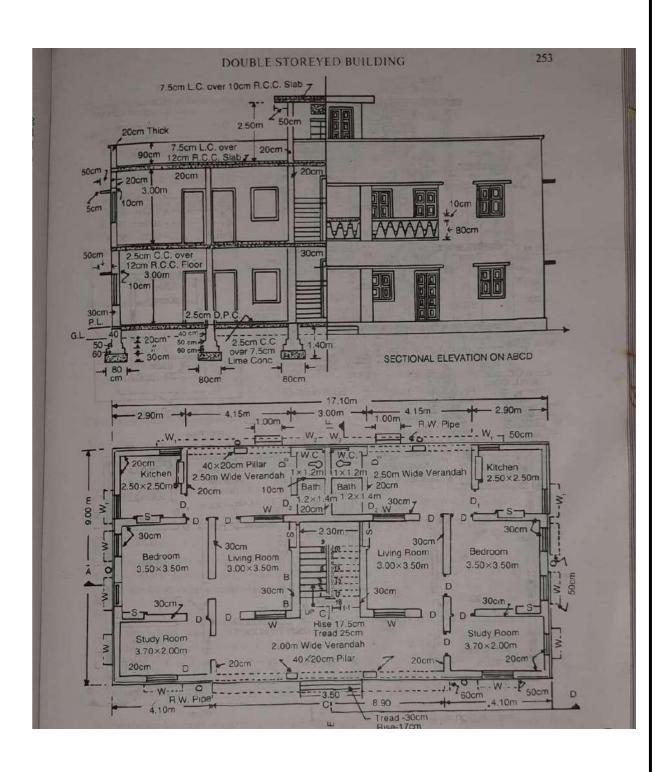
Calculate two stored pucka building with specification.

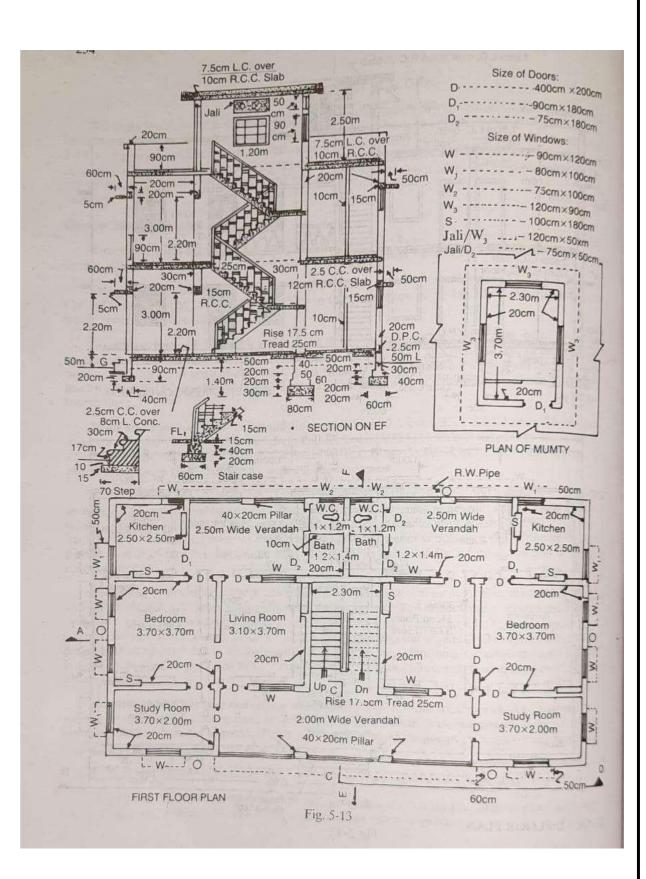
Requirement: - Given plan

Given specification and rate.

Procedure: -

- > Calculate quantities of all items two stored building.
- > Calculate the rate of all items of work as per Odisha PWD rate analysis.





Ground Floor Centre to Centre Length of Walls-

Main Rooms-

Back long walls of all rooms including stair case room C, to C, length

Front long wall of bed and living room on one side of staircase room C. to C. length

Cross or short wall C. to C. length=3.50+.30/2+.30/2=3.80 m

Front Verandah-

Study room, front long wall C. to C. length=3.70+.20/2+.20/2=3.90 m Study room cross or short wall C. to C. length=2.00+.30/2+.20/2=2.25 m Verandah wall in between study rooms C. to C, length=8.90+.20/2+.20/2=9.10 m

Back Verandah-

Kitchen, back wall C. to C. length=2.50+|20/2+.20/2=2.70 m Kitchen, cross or short wall C. to C. length=2.50+.30/2+.20/2=2.75 m Bath and W.C. Two sets combined, back long wall C. to C. length= $2\times1.20+.20+2\times.20/2=2.80$ m Bath and W.C. cross or short wall C. to C. length=1.40+1.00+.10+.30/2+.20/2=2.75 m Verandah wall in between kitchen and W.C., C. to C. length=4.15+.10+.10+.10+.10=4.45 m

First Floor Centre to Centre Length of Walls-

Main Rooms-

Back long wall of all rooms including stair case room C. to C. length = $(3.70+3.10)\times2+2.30+(4\times.20)+.20/2+.20/2=16.90$ m

Front long wall of bed and living rooms on one side of staircase room C. to C. length =(3.70+3.10)+.20+2×.20/2=7.20 m

Cross or short walls C, to C, length=3.70+2×.20/2=3.90 m

Front Verandah-

Study room-Front long wall C. to C. length=3.70+2×.20/2=3.90 m

Study room—Cross or short wall C. to C. length=2.00+2×.20/2=2.20 m

Verandah wall in between study rooms C. to C. length=3.10+2.30+3.10+(2×.20)+2×.20/2=9.10 m

Back Verandah-

Kitchen-Back wall C. to C. length=2.50+2×.20/2=2.70 m

Kitchen—Cross or short wall C. to C. length=2.50+2×.20/2=2.70 m

Bath and W.C.—Two sets combined, back wall C. to C. length=1.20+1.20+.20+2×.20/2=2.80 m

Bath and W.C.—Cross walls C. to C. length=1.40+1.00+.10+2×.20/2=2.70 m

Verandah wall in between kitchen and W.C., C. to C. length=4.15+2×.20/2=4.35 m

The estimate has been prepared sub-head wise storey by storey, first the ground floor and then the first floor, in the following pages.

Ground Floor Centre to Centre Length of Walls-

Main Rooms-

Back long walls of all rooms including stair case room C. to C. length

Front long wall of bed and living room on one side of staircase room C. to C. length =2(3.50+3.00)+2.30+4×.30 +4.30/2+.30/2=16.80 m

Cross or short wall C. to C. length=3.50+.30/2+.30/2=3.80 m =3.50+3.00+.30+.30/2+.30/2=7.10 m

Front Verandah-

Study room, front long wall C. to C. length=3.70+.20/2+.20/2=3.90 m Study room cross or short wall C. to C. length=2.00+.30/2+.20/2=2.25 m Verandah wall in between study rooms C. to C, length=8.90+.20/2+.20/2=9.10 m

Back Verandah

Kitchen, back wall C. to C. length=2.50+.20/2+.20/2=2.70 m Kitchen, cross or short wall C. to C. length=2.50+.30/2+.20/2=2.75 m Bath and W.C. Two sets combined, back long wall C. to C. length=2×1.20+.20+2×.20/2=2.80 m Bath and W.C. cross or short wall C, to C. length=1.40+1.00+.10+.30/2+.20/2=2.75 m Verandah wall in between kitchen and W.C., C. to C. length=4.15+.10+.10+.10=4.45 m

First Floor Centre to Centre Length of Walls-

Main Rooms-

Back long wall of all rooms including stair case room C. to C. length = $(3.70+3.10)\times2+2.30+(4\times.20)+.20/2+.20/2=16.90$ m Front long wall of bed and living rooms on one side of staircase room C. to C. length

=(3.70+3.10)+.20+2×.20/2=7.20 m

Cross or short walls C. to C. length=3.70+2×.20/2=3.90 m

Front Verandah-

Study room—Front long wall C. to C. length=3.70+2×.20/2=3.90 m Study room—Cross or short wall C. to C. length=2.00+2×.20/2=2.20 m Verandah wall in between study rooms C. to C. length=3.10+2.30+3.10+(2×.20)+2×.20/2=9.10 m

Back Verandah-

Kitchen-Back wall C. to C. length=2.50+2×.20/2=2.70 m Kitchen—Cross or short wall C. to C. length=2.50+2×.20/2=2.70 m Bath and W.C.—Two sets combined, back wall C. to C. length=1.20+1.20+.20+2×.20/2=2.80 m Bath and W.C.—Cross walls C. to C. length=1.40+1.00+.10+2×.20/2=2.70 m Verandah wall in between kitchen and W.C., C. to C. length=4.15+2×.20/2=4.35 m

The estimate has been prepared sub-head wise storey by storey, first the ground floor and then the first floor, in the following pages.

No.	Particulars of items and details of works	No.	Length m	Breadth m	Height or Depth m	Quantity	Explanatory notes
	Kitchen Bath and W.C. Verandah front Verandah back	2 2 1 2	2.40 1.10 8.80 4.05	2.40 2.40 1.90 2.40	B.F. .425 .425 .425 .425	24.01 4.90 2.24 7.11 8.26	
4	II. Concrete— Lime concrete in foundation—				Total	46.52 cu m	and to choose
	Main rooms— Back long wall full length end to end	1	17,60	0.80	0.30	4.22	
10	Front long walls of bed and living		24.4)	0.80	0.30	4.22	L. Same as excavation
	rooms	2	7.90	0.80	0.30	3.79	L. Same as excavation
	Cross short walls	6	3.00	0.80	0.30	4.32	L. Same as excavation
	Front long walls Cross short walls Kitchens—	2.4	4.50 1.65	0.60 0.60	0.20 0.20	1.08 0.79	L. Same as excavation L=2.2560/260/2 =1.65 m
	Back walls (long)	2	3.30	0.60	0.20	0.79	L. Same as excavation.
	Cross walls (short)	4	2.15	0.60	0.20	1.03	L=2.7560/2-60/2 =2.15 m
	Bath and W.Cs.— Back walls (long)	1	3.40	0.60	0.20	0.41) C.
	Cross walls (short)	3	2.15	0.60	0.20	0.41	L. Same as excavation. L=2.7560/260/2 =2.15 m
	Verandah pillars	4	0.80	0.60	0.20	0.38	
	Front verandah plinth dwarf wall	1	7.50	0.40	0.20	0.60	L=9.10—2×.40/2—2× 60 =7.50 m
	Back verandah plinth dwarf wall	2	3.35	0.40	0.20	0.54	L=4.35—2×.40/2—1×.60 =3.35 m
	Staircase base	1	1.10	0.60	0.20	0.13	
- No	Step front	1	2.50	0.70	0.15	0.26	
Par /	Step back	2	1.20	0.70	0.15	0.25	
7 41	STATE SHOW CHEET IN THE				Total	19.36 cu m	

uding steel reinforcement bars and its bending including centering and shuttering and binding steel— R.C.C. slab— Bed and living rooms 2 7.40 Front verandah including study rooms 1 17.10 Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over entrance of stair case				And properties of the
ding centering and shuttering and binding steel— R.C.C. slab— Bed and living rooms 2 7.40 Front verandah including study rooms 1 17.10 Back verandah including study rooms 1 17.10 Lintels— Over doors D main room over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over entrance of stair case Over doors D study room Over doors D study room Over doors D kitchen 2 1.20 Over doors D study room Over doors D study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 0 1.30 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandow W ₁ of kitchen 2 1.10 Over front verandow W ₁ of kitchen 2 1.10 Over front verandah 20 cm thick 4 1.05			300	
tering and binding steel— R.C.C. slab— Bed and living rooms 2 7.40 Front verandah including study rooms 1 17.10 Back verandah including study rooms 1 17.10 Lintels— Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room Over doors D1 kitchen 2 1.20 Over doors D2 bath and W.C 4 1.05 Over windows W study room Over windows W study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick 0ver back verandah continuous including window W1 W2 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10 Over front verandow W1 of kitchen 2 1.10 Over front verandow W1 of kitchen 2 1.10		11/4/2019		
R.C.C. slab— Bed and living rooms 2 7.40 Front verandah including study rooms 1 17.10 Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room Over doors D1 kitchen 2 1.20 Over doors D2 bath and W.C 4 1.05 Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick Over shelves S kitchen 2 1.30 Over front verandah continuous including window W1 W2 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10				
Bed and living rooms 2 7,40 Front verandah including study rooms 1 17,10 Back verandah including kitchen, bath and W.C. rooms 1 17,10 Lintels—Over doors D main room Over windows W main rooms 8 1,20 Over shelves S in 30 cm wall 6 1,30 Over doors D study room Over doors D1 kitchen 2 1,20 Over doors D2 bath and W.C 4 1,05 Over windows W study room Over shelves S kitchen 2 1,30 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1,05 Over front verandah 20 cm thick Over back verandah continuous including window W1 W2 1 13,60 Over window W, 4 in main rooms and 4 in study rooms Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1,10				
Front verandah including study rooms 1 17.10 Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels—Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room Over doors D1 kitchen 2 1.20 Over doors D2 bath and W.C 4 1.05 Over windows W study room Over windows W study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick 2 1.30 Over shelves S kitchen 2 1.30 Over front verandah continuous including window W1 W2 4 1.05 Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10 Over fronts own on the study rooms over window W1 of kitchen 2 1.10	200	0.10	(740	D
Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels—Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room 2 1.30 Over doors D study room 2 1.30 Over doors D study room 2 1.30 Over doors D kitchen 2 1.20 Over doors D tkitchen 2 1.20 Over windows W study room Over windows W study room Over windows W study room Over windows W stichen 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W1 W2 Sunshades—Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10 Over front own and 4 in study rooms Over window W1 of kitchen 2 1.10	3.80	0.12	6.749	Bearing—ends full
Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels—Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room Over doors D study room 2 1.30 Over doors D study room 2 1.30 Over doors D kitchen 2 1.20 Over doors D tkitchen 2 1.20 Over windows W study room Over windows W study room Over windows W study room Over windows W stucken 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W1 W2 Sunshades—Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10 Over feeste window W1 of kitchen 2 1.10	Tours and	Distance of the last	19	wall (30 cm), sides
Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels—Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over doors D study room Over doors D study room 2 1.30 Over doors D study room 2 1.30 Over doors D kitchen 2 1.20 Over doors D tkitchen 2 1.20 Over windows W study room Over windows W study room Over windows W study room Over windows W stucken 2 1.10 Over R.C.C. Jalli over door D2 of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W1 W2 Sunshades—Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen 2 1.10 Over feeste window W1 of kitchen 2 1.10				half wall (15 cm).
Back verandah including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over entrance of stair case 1 2.70 Over doors D study room 2 1.30 Over doors D₁ kitchen 2 1.20 Over doors D₂ bath and W.C 4 1.05 Over windows W study room Over windows W study room 4 1.20 Over shelves S kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W₁ W₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W₁ of kitchen 2 1.10 Over front volume w	2.35	0.10	4.019	Pearing
including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room 8 1.30 Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over entrance of stair case 7 1 2.70 Over doors D study room 9 2 1.30 Over doors D kitchen 2 1.20 Over doors D kitchen 2 1.20 Over doors D kitchen 2 1.20 Over windows W study room 4 1.20 Over windows W study room 5 2 1.30 Over windows W study room 4 1.20 Over shelves 5 kitchen 2 1.10 Over shelves 5 kitchen 2 1.30 Over R.C.C. Jalli over door D2 of Bath and W.C. 4 1.05 Over front verandah 20 cm thick 7 1.05 Over back verandah 1.05 Over back verandah 1.05 Over window W, 4 in main rooms and 4 in study rooms 7 1.30 Over window W, 4 in main rooms 8 1.20	2,30	0.10	4.019	Bearing—outer ful wall (20 cm), inner
including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room 8 1.30 Over windows W main rooms 8 1.20 Over shelves S in 30 cm wall 6 1.30 Over entrance of stair case 7 1 2.70 Over doors D study room 9 2 1.30 Over doors D kitchen 2 1.20 Over doors D kitchen 2 1.20 Over doors D kitchen 2 1.20 Over windows W study room 4 1.20 Over windows W study room 5 2 1.30 Over windows W study room 4 1.20 Over shelves 5 kitchen 2 1.10 Over shelves 5 kitchen 2 1.30 Over R.C.C. Jalli over door D2 of Bath and W.C. 4 1.05 Over front verandah 20 cm thick 7 1.05 Over back verandah 1.05 Over back verandah 1.05 Over window W, 4 in main rooms and 4 in study rooms 7 1.30 Over window W, 4 in main rooms 8 1.20				half wall
including kitchen, bath and W.C. rooms 1 17.10 Lintels— Over doors D main room		A LES		(-15 cm).
Lintels— Over doors D main room Over windows W main rooms Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D1 kitchen Over doors D2 bath and W.C. Over windows W study room Over windows W study room Over windows W1 kitchen Over shelves S kitchen Over R.C.C. Jalli over door D2 of Bath and W.C. Over back verandah continuous including window W1 W2 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen Over foot veranden Sunshades Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen Over foot veranden Sunshades Over window W, 4 in main rooms and 4 in study rooms Over window W1 of Sunshades Over window W1 of	The state of			(15 cm). amon
Lintels— Over doors D main room Over windows W main rooms Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D ₁ kitchen Over doors D ₂ bath and W.C. Over windows W study room Over windows W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over foot verandow W ₁ of kitchen Over window W ₁ of kitchen Over window W ₁ of kitchen Over foot verandow W ₂ of kitchen Over foot verandow W ₁ of kitchen Over foot verandow W ₂ of kitchen Over foot verandow W ₁ of kitchen Over foot verandow W ₂ of kitchen Over foot verandow W ₃ of kitchen Over foot verandow W ₄ of kitchen Over foot verandow W ₄ of kitchen Over foot verandow W ₄ of kitchen Over foot verandow W ₁ of kitchen Over foot verandow Over window W ₁ of kitchen Over foot verandow Over W ₂ of Loop verandow W ₃ of kitchen Over foot verandow Over W ₄ of kitchen Over foot verandow Over M ₄ of kitchen Over	2.85	0.10	4.874	Total of slab=15.64
Over doors D main room Over windows W main rooms Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D1 kitchen Over doors D2 bath and W.C. Over windows W study room Over windows W1 kitchen Over shelves S kitchen Over R.C.C. Jalli over door D2 of Bath and W.C. Over back verandah continuous including window W1 W2 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W1 of kitchen Over front verandow W1 of kitchen Over front verandow W1 of kitchen Over window W1 of kitchen Over front verandow W2 1.100	2,00	0.10	4.074	cu m.
Over windows W main rooms Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandow W ₁ of kitchen 8 1.20 Over front verandow W ₁ of kitchen 2 1.10	08.35	ALTER I	17	ca m.
Over windows W main rooms Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandow W ₁ of kitchen 8 1.20 Over window W ₁ of kitchen 2 1.10	0.30	0.10	0.312	(a) 15 cm bearing.
Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W ₁ kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandah v	0.00	0,10	0.012	(a) 15 cm ocaring.
Over shelves S in 30 cm wall Over entrance of stair case Over doors D study room Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W ₁ kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	0.30	0.10	0.288	(a)
Over entrance of stair case Over doors D study room Over doors D ₁ kitchen 2 1.30 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W study room Over windows W study room Over shelves S kitchen 2 1.10 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandah	11.00	20.102	0.200	(a)
Case Over doors D study room Over doors D ₁ kitchen Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W ₁ kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10 Over front verandah 20 cm thick 1 2.20	-0.30	0.10	0.234	(a)
Over doors D study room Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room Over windows W ₁ kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	The second second	392731372	2 5 to 2 5 to 2	
Over doors D ₁ kitchen 2 1.20 Over doors D ₂ bath and W.C 4 1.05 Over windows W study room	0.30	0.20	0.162	-konoprebuse
Over doors D ₂ bath and W.C 4 1.05 Over windows W study room 4 1.20 Over windows W ₁ kitchen 2 1.10 Over shelves S kitchen 2 1.30 Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 cm thick 1 9.20 Cover back verandah continuous including window W ₁ W ₂ 1 13.60 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	0.20	0.10	0.052	(b)
bath and W.C. Over windows W study room Over windows W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah continuous including window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 2 1.05	0.20	0.10	0.048	(b) (b)
Over windows W study room Over windows W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 2 1 9.20 1 13.60 2 1.10			Magazinise	15.72 A
Over windows W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 2 1 9.20 1 13.60 2 1.10	0.20	0.10	0.084	(b)
Over windows W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 20 cm thick Over back verandah continuous including window W W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 20 2 1.10	August	E - W	100	
W ₁ kitchen Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 20 1 9.20 1 13.60 2 1.10	0.20	0.10	0.096	(b)
Over shelves S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C. Over front verandah 20 cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 20 cm thick Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front verandah 20 2 1.10	0.00		. 4-14	Heryte-Verna
S kitchen Over R.C.C. Jalli over door D ₂ of Bath and W.C 4 1.05 Over front verandah 20 cm thick 1 9.20 Cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	0.20	0.10	0.044	(b) Side windows.
Over R.C.C. Jalli over door D ₂ of Bath and W.C	0.00	0.10		The same of the same
Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	0.20	0.10	0.052	(b)
Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	167.75			
Over front verandah 20 cm thick 1 9.20 Over back verandah continuous including window W ₁ W ₂ 1 13.60 Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10	The state of the s	0.10	200	
cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Cover from thick to the continuous of the continuous including window W ₁ W ₂ 1 13.60 1 13.60 2 1.10	0.20	0.10	0.084	Total of (a)s=0.834
cm thick Over back verandah continuous including window W ₁ W ₂ 1 13.60 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front 2 1.10	100	11	200	cu m.
cm thick Over back verandah continuous including window W ₁ W ₂ Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over footback verandah continuous including window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over footback verandah continuous including window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over footback verandah continuous including window W, 4 in main rooms and 4 in study rooms Over window W ₁ of	P 12 1		(b)	Total of (b)s=0.460
Over back verandah continuous including window W ₁ W ₂ 1 13.60 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen 2 1.10				cu m.
Over back verandah continuous including window W ₁ W ₂ 1 13.60 Sunshades—Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over fearth and the study rooms 2 1.10	0.20	0.20	0.260	Continuous over
Window W ₁ W ₂ 1 13.60 Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over forest and 1 2 1.10	0.20	0.20	0.368	pillars
Sunshades— Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over football (1.20)				
Over window W, 4 in main rooms and 4 in study rooms Over window W ₁ of kitchen Over front 1.10	0.20	0.15	0.408	THE THE PARTY OF
main rooms and 4 in study rooms Over window W ₁ of kitchen Over feet and 1 2 1.10	3,20	0.13	0.408	15 cm thick.
Study rooms Over window W ₁ of kitchen Over football 2 1.10			771	
Over window W ₁ of kitchen 2 1.10	N. J. 1-		100	
kitchen 2 1.10	0.50	0.05	0.240	
Over from 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			0.240	Average 5 cm thick.
Over front verandah 1 9.20	0.50	0.05	0.055	Tues 21
	0.60	0.05	0.033	Two side windows.
		C.O.	18.445	

CC	ver back verandah entinuous includ-	-	N I	1 20	B.F.	18.445	controlled torre
in	g back windows	100			1 (1)		THE REPORT OF THE PARTY OF THE
W	1, & W ₂	1	13.60	0.50	0.05	0.340	Length same as for lintel.
S	labs of shelves 25						Bearing 5 cm.
cr	n wide 4 cm thick	8×3	1.10	0.25	0.04	0.264	Total of sunshades and
100	Topic Coup, State 1	- 13		1 69	M-Light	5 4 2	shelf slabs = 1.173 cu m.
	taircase-						7 1 5753 - 2 54 p
lı	nclined slabs	2	2.54	1.10	0.15	0.838	$L = \sqrt{2^2 + 1.575^2} = 2.54 \text{ n}$
	bove wall at base	1	1.10	0.50	0.15	0.083	Classic Spring and a second
L	anding slab			25	muj ph		. Leading attenued
n	niddle	1	2.60	1.05	0.15	0.410	Landace
I	anding slab		P			221196943011	- 10 10 75
1	st floor level	1 ,	2.60	0.75	0.15	0.293	B=.60+.15=.75 m
5	Steps without			in the second			
	einforcement	8×2	×1.10	×1/2(.2	5×.175)	0.385	Triangular section.
			WE THE		Total	21.058	Total of staircase slabs
					1.0.141	cu m	(excluding base)
		-			19 1 19	1	=1.541 cu m.
	2.5 cm C.C.		1	- T		1	3.4
1.0	1:2:4 nosing in						
	steps—	0.0	1.10	A 123	W 15 10	19.80	
	Staircase steps	9×2		T.	441	6.90	
	Front steps	3				6.00	distributed 1
	Back steps	3×2	1.00		- T	27,05/250=	
					Total	32.70 m	PARTE ALL MANAGEMENT
7	R.C.C. 1:2:4 Newal					1	named has action
	post 10 cm×10 cm,				11:15	1 1 1	
	I m high including						Takin rosins
	reinforcement com-	1				2 nos.	But they was it.
	plete work	. 2	-	1	_	2 1108.	- Engine
8	R.C.C. 1:2:4				CON II I	9 2	Les faceures de la l'
	Hand rail in stair-			3 7	111		and footbar
	case including rein-		-	107	100 0		
	forcement complete			4 - 1	200		
	work	. 2	2.74	-	-	5.48 m	L=2.54+.20=2.74 III
9	4 cm thick R.C.C.		30	TO ALL	100		Triba lanci
	Jalli including rein-		NE P	1 1	9 2 1		I Pagan was
	forcement complete		E Australia	THE THE		By Carlot	A TO DESCRIPTION OF THE PARTY O
	work	. 4	0.75		0.50		Over doors D ₂
		370	un a	DE	0.0	sqm	Over doors 152
10	2.5 cm Damp proof		20 7	0 0 1	11.9	THE S	
	course C.C. 1: 11/2		1111	0 5 6	8.8	17 3 7 3	Margarett .
	3 with water proof-	SIL	CHAPTER IN		1		was a state
	ing compound—						The large
	Main rooms—			0 04	0	6.88	L=16.80+.40=17.20 m
	Back long wall		1 17.2		200	6.00	
	Front long walls .	120.0	2 7.5		TO STATE OF THE PARTY OF THE PA	8.16	
	C -b -st walle		6 3.4	0.4	U	0.10	L 5100 110 5110 1111
	Cross short walls		The second	100	C.C	21.0	

Side wax

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m thick.

rage its

					1		THE PROPERTY OF THE PARTY OF TH
	Study rooms— Front walls (long) Cross walls (short)	2 4	4,20 1.90	0.30 0.30	1	2.52 2.28	L=3.90+.30=4.20 m L=2.2540/230/2 =1.90 m
	Kitchen— Back walls (long)	2 4	3.00 2.40	0.30 0.30	-	1.80 2.88	L=2.70+.30=3.00 m L=2.7540/230/2=2.40 m
	Cross walls (short) Bath and W.C.— Back walls (long) Cross walls (short)	1 3	3.10 2.40	0.30 0.30	五十二	0.93 2.16 0.60	L=2.80+.30=3.10 m L=2.7540/230/2=2,40 m
	Verandah pillars	4	0.50	0.30	Total	34.21	and the same of th
	Deduct-				Total	to I lie	Jern Golf tal
	Door sills main rooms D	8	1.00	0.40	S - 1	3.20	THOUGHT STORY
	Door sills study room D	2	1.00	0.30	× - 00	0.60	
	Door sills kitchen D1	2	0.90	0.30		0.54	12.5 cm C.1.
	Door sills Bath & W.C., D ₂	4	0.75	0.30	-	0.90	n, gnison No College
		68	Total	of ded	uction	5.24	Staircise stope 1 1
	III. Brickwork	DG.		Net	Total	28.97 sq m	The street steps (1)
11	First class brickwork in lime mortar and founda- tion and plinth—						Tested V.S. Don't may 18 mo 04 log
	Main rooms—						agintagament remens
	Back wall full length—	-36	N. T.			2 10	diplate week
	1st footing	1	17.40	0.60	0.20	2.09	L=16.80+.60=17.40 m
	2nd footing Plinth wall	1	17.30 17.20	0.50 0.40	0.20	1.73 4.82	L=17.40—.10=17.30 m L=17.30—.10=17.20 m
	Front long walls—		20	0.10	0.70	2 4 5	L 17.50 1.10 17.20 III
	Ist footing 2nd footing	2 2 2	7.70 7.60 7.50	0.60 0.50 0.40	0.20	1.85	L=7.10+.60=7.70 m L=7.7010=7.60 m
	Cross walls—	102	7.50	0.40	0.70	4.20	L=7.60—.10=7.50 m
	1st footing	6	3.20 3.30	0.60	0.20	2.30	L=3.80—,60=3.20 m
	Plinth wall	6	3.40	0.50 0.40	0.20 0.70	1.98 5.71	L=3.20+.10=3.30 m L=3.30+.10=3.40 m
	Study rooms— Front walls—						-basequents 4
	Footing Plinth walls	2 2	4.30 4.20	0.40 0.30	0.20 0.70	0.69 1.76	L=3.90+.40=4.30 m L=4.30—.10=4.20 m
					C.O	28.65	10 1.20 11

Cross walls—	- 11				B.F	28.65	
Footing		4	1.80	0.40	0.20		-padaett
DU 41 D	1		CE.T	0.40	0.20	0.58	L=2.2550/2
Pliath wall	***	4	1.90	0.30	0.70	0.140	.40/2=1.80 m
Kitchen-				0.50	0.70	1.60	L=1.80+.10=1.90 m
Back walls-		200	10,200	- winds			Other and Call shared
Footing		2	3.10	0.40	The male		Contract of the last
Plinth wall	The state of the	2	3.00	0.40	0.20	0.50	L=2.70+.40=3.10 m
Cross walls	***	-	3.00	0.30	0.70	1.26	L=3.10 .10=3.00 m
Footing			2.20	The state of the s			The word of the state of the st
. coming	***	4	2.30	0.40	0.20	0.74	L=2.7550/2-
Plinth wall	782		100	DOM:	THE REAL PROPERTY.		.40/2=2.30 m
	***	4	2.40	0.30	0.70	2.02	L=2.30+.10=2.40 m
Bath and W.C.		2	00 5	OSA T	100 S E		ralls, w Mond mostor A
Back walls—			99.5	ALE D	TENT A	1	Kuldien cross walls
Footing		1	3.20	0.40	0.20	0.26	L=2.80+.40=3.20 m
Plinth walls		1	3.10	0.30	0.70	0.65	L=3.20—.10=3.10 m
Cross walls—							2,5,20 3.14
Footing	10	3	2.30	0.40	0.20	0.55	I a action could be V
		3	2.30	0.40	0.20	0.55	L=2.75—.50/2
Plinth wall		3	2.40	0.30	0.70		.40/2=2.30 m
		3	2.40	0.30	0.70	1.51	L=2.30+.10=2.40 m
Verandah pillars			100		a library		estimation and while
Footing de la		4	0.60	0.40	0.20	0.19	resident autore
Plinth wall		4	0.50	0.30	0.70	0.42	A PROPERTY OF
Front verandah			1 2 3				-100100
plinth dwarf wa				1000	044 5		E HO BENCHO POPUL
sum total length		1	7.80	0.20	0.70	1.09	L=9.10—2×.30/2—2×.50
A WEST BUILDING	1			a Valedy		H	=7.80 m
Back verandah	J 191		I is a	3538	000		Watering a with a .
plinth dwarf wa	11	2	3.55	0.20	0.70	0.99	L=4.35—2×.30/2—1×.50
marpha materia	4 74		1004	15 00	-4)P (B		=3.55 m
Staircase base	***	1	1.10	0.50	0.40	0.22	Wall to the second to the
Stair front 1st		1	2.30	0.60	0.20	0.28	nability of the Land
Step front 2nd		1	2.30	0.30	0.15	0.10	Committee Sports
Step back 1st	7	2	1.00	0.60	0.20	0.24	- to Stratorio covingia
Step back 2nd		2 2	1.00	0.30	0.15	0.09	Althorage 20 and the last
The state of the s		IL.	10.00	The second	Total	41.94	
First class	7		1000		Total	cu m	o Haw lond to to talk I
brickwork in lir	ne	o Di	(4.15	06.0	OR LES	Cu iii	
mortar in super	stru-		A PROPERTY.	THE PARTY		A STATE OF	Wayneary Hambard
cture in 30 cm v		No.	1 61.15	02.0=	A Land	2 4 6	biography attack for the party
of main rooms-		-	1127920395	Store And	1000	10.00	1 16 00 20 17 10
Back wall full le	ength	1	17.10	0.30	3.00	15.39	L=16.80+.30=17.10 m
Front long wall			7.40	0.30	3.00	13.32	L=7.10+.30=7.40 m
Cross walls		6	3.50	0.30	3.00	18.90	L=3.80—.30=3.50 m
Staircase room					0.40	0.42	Above Vest-1
front wall		1	2.30	0.30	0.60	0.42	Above lintel.
The second of th		10	UUT		Total	48.03	

		1	118			6.00	THE REAL PROPERTY.
	Deduct-	10	1.00	0.30	2.00	2.59	
	Door openings D	8	0.90	0.30	1.20		4 in main rooms and
	Window openings W	1000	1.00	0.20	1.80	2.16	
	Shelves opening	- 6	1.00	Harrison of			2 in kitchen
			0	ame a	s mar kee	1 (a)	
	Lintels (30 cm wall)	20 00	1 0		5	0.834	Aland
		in i	tem 5 pa	ge 256	1 1		THE STREET
13	First class brickwork in	9	Total	of ded	uction	11.58	Planting Wall
(6.37.)	1:6 cement local sand	500			Total	36.45	cu m
	mortar in superstructure	F 13		Net	Total	50.75	
	in 20 cm walls—	133		The same of	2.00	4.92	L=3.90+.20=4.10 m
	Study rooms front walls	2	4.10	0.20	3.00	100 to 10	L=2.2530/2-
	Study rooms from walls	4	2.00	0.20	3.00	4.80	
	Study rooms cross walls		188	ALC: N	CONT.	10.000	.20/2=2.00 m
		2	2.90	0.20	3.00	3.48	L=2.70+.20=2.90 m
	Kitchen back walls	4	2.50	0.20	3.00	6.00	L=2.75—.30/2—
	Kitchen cross walls	4	2.30	0.20			.20/2=2.50 m
		13 30	2.00	0.20	3.00	1.80	L=2.80+.20=3.00 m
	Bath and W.C. back wall	1	3.00		3.00	4.50	L=2.75—.30/2—
	Bath & W.C. cross wall	3	2.50	0.20	3.00	4.30	.20/2=2.50 m
	Danie II.			New 2008		0.70	.20/ 2-2.50 111
	Verandah pillars	4	0.40	0.20	2.20	0.70	- grithouri
		9	1				
	Front verandah wall	1	8.90	0.20	0.60	1.07	Ht. above lintel
	above lintel	- 1	0.70	0.20			60 cm.
	August and a second			1000			and the first make
	Back verandah walls	138	77772	0.00	015	1.08	Ht. above lintel
	above lintel	2	4.15	0.20	0.65	1.00	65 cm.
	7- 02		WTE .	1118 35	-	20.25	
			1		Total	28.35	- dabas ov merill
	Deduct-	2	1.00	0.20	2.00	0.80	Study room doors.
	Door openings D	2	0.90	0.20	1.80	0.65	Kitchen doors.
	Door openings D ₁					1.08	Bath and W.C.
	Door openings D2 ···	4	0.75	0.20	1.80	1.00	doors.
						0.00	
	Window openings W	. 4	0.90	0.20	1.20	0.86	Study room
			- GLOB	013	Contra		windows.
	Window openings W1	4	0.80	0.20	1.00	0.64	Kitchen windows.
	Window openings W2	2	0.75	0.20	1.00	0.30	W.C. room windows.
	R.C.C. Jalli over doors	-	0.10	0.20		I S	Tractions High
		4	0.75	0.20	0.50	0.30	
	D ₁	4	0.75	0.20	0.30	0.50	beliteenings
	Shelves opening in	0	100	0.10	100000	0.7	5 121 A 4 A CONT.
F _ H	kitchen	2	1.00	0.10	1.80	0.36	Back of shelves 10 cm
	Lintels (20 cm wall)		Same	as mar	ked (b)		
			in item	5 page	258	0.46	The Water Market St.
-11	Lintel over back wall of		The second second	a Factor	230		
	W.Cs.	1	3.00	0.20	0.15	0.09	emilia il novelendo
- 1			3.00	0.20	0.15	0.09	THE DESCRIPTION OF THE PROPERTY OF THE PROPERT
	Lintel over windows W	-		0.00	0.10		
	on back walls of kitchen	2	1.15	0.20	0.15	0.07	ay made in many
4	10 am think Care show		Total	of ded	uction	5.61	- Drugg Bushing
4	10 cm thick first class		Iotai		action		and that they don't
	brickwork in partition		19.5	Net	Total	22.74	cu m
	wall in 1:3 cement				TOWNERS OF THE PERSON NAMED IN	Service Control	The Property of the Control of the C
-	coarse sand mortar with		CHE !		MES		slisy says
	hoop iron or 6 mm dia.						TOWNS STREET
	steel reinforcement		.0a.c		68.5		
	f 11 1	2			The state of the s		The state of the s
1-4	every fourth layer	2	1.20		3.00	7.20	sq m

							(24.
15	IV. Wood work—Door and window— Sal wood work in chau- khats in doors and						
	windows— Door D (10 cm×7.5 cm section) Door D ₁ Door D ₂ Window W Window W ₁ Window W ₂	12 2 4 12 4 2	5.10 4.60 4.45 4.20 3.60 3.50	0.10	0.075 0.075 0.075 0.075 0.075 0.075	0.459 0.069 0.134 0.378 0.108 0.053	5 cm in insertion into floor.
16	3 cm thick panelled shutters of Deodar wood in door and windows—				Total	1.201 cu m	
	Doors D Doors D Doors D Window W Window W Window W Window W2	2 4 12 4	0.88 0.78 0.63 0.78 0.68 0.63	111111	1.94 1.74 1.74 1.08 0.88 0.88	20.486 2.714 4.385 10.109 2.394 1.109	15 mm rebate ". " " " " " " " " "
17	Doors and windows fittings of oxydized iron V. Steel and Iron work— Steel reinforcement bars		Same	as in ite	Total em (16)	41.197 41.197 sq m	sq m May also be taken per no. of different fittings.
18	including bending in R.C.C. work		20.67	× 1/100 ×	78.5	16.226 q	@ 1% of R.C.C. work in item 5 excluding steps = 1% of (21.055385)= 1/100×20.67 cu m.
19	Iron work in hold fasts and window bars— Hold fasts in doors Hold tasts in windows	18× 18×		each each	CLA (R.F.	108 kg 72 kg	6 nos. in each door. 4 nos. in each window.
	20 mm dia. window bars @ 2.47 kg per m— 12 windows 90×120 cm (W)	12×	8×1.20	=	115.20	m	8 bars 1.20 m each.
	4 windows 80×100 cm (W ₁)		7×1.00	=	28.00	m	7 bars 1.00 m each.
	2 windows 75×100 cm	2×	6×1.00		12.00	m	6 bars 1.00 m each.
	(W ₂)		Total @ 2.47	155.20 kg per	m m	= 383.34	
	O P TOUR		NOLES!	lb by	Total	563.34 =5.633	

Net	Total	of	Inside	uction plaster	42.80	sq m
1	2	2.30 Total	of dad	2.00	9.20	
Staircase entrance openings	2	2.20	Q= af	- TT		ivo deduction being sina.
R.C.C. Jalli	-	-	_			No deduction being small
Window openings	4	0.90	_	1.20	4.32	One face only. One face only.
Door openings D	4	0.75	_	1.60	4.80	One face only.
Door openings D	2	0.90	- T	1.60	2.88	One face only.
Door openings D	12	1.00		1.80	21.60	
Deduct-				Total	459.28	Sq m above Skirting and Dado.
lintel	6	0.20	-	2.00	2.40	Verandahs, etc. of 20 cm wall=268.80 sq m
below verandah	= 1					Total of Study, Kitchen, Bath and W.C. rooms,
20 cm face of wall		0.00		2.00	6.40	L=40+20+20=80 cm
Pillars 3 faces	4	0.80		2.80	28.00	
Side walls	4	2.50	dog le	0.80	6.64	
Long wall outer above pillar	2	4.15	1 1			el Matamania amiliat
Back verandah— Long walls inner	2	4.15		2.80	23.24	
Side walls	2	2.00	=	2.80	11.20	
above pillar	1	8.90	100	0.80	7.12	
Long wall outer		8.90		2.80	24.92	Openings to be deducted
Front verandah— Long wall inner	1	9.00		2.00	24.02	
W.C.	2	4.40	-	2.50	22.00	L=(1.0+1.2)×2=4.40 m
Bathrooms	2	5.20	-	2.00	20.80	$L=(1.4+1.2)\times 2=5.20 \text{ m}$
Kitchens	2	10.00	Diver 1	2.50	50.00	L=Inner perimeter=10.00
Study rooms	2	11.40	_	2.80	63.84	L=Inner perimeter=11 40
and soffits	2 2 2	5.60	0.10	-	1.12	$L=(1.0+1.8)\times 2=5.60 \text{ m}$
Shelves—Jambs, sill	61	40.5		Table 1-		
and soffits	6	5.60	0.20	-	6.72	L=(1.0+1.8)×2=5.60 m
entrance lintel Shelves—Jambs, sill	2	0.30	-	2.00	1.20	C THOUT TO
30 cm face of wall below stair case	2	0.20		2.00	1.20	Tanetti C
Staircase room	1	11.60	-	2.80	32.48	L=Inner perimeter=11.6
Living rooms	2	13.00	-	2.80	72.80	L=Inner perimeter=13 m
Bed rooms	2	14.00	_	2.80	78.40	L=Inner perimeter= 14.0
walls Inside Plastering			F 1		P. L.	Dado at bottom
local sand mortar in		200	31.0-		0 -	Excluding Skirting and
12 mm plastering with 1:6 cement		2360+	95		6 -	The state of the s
Pointing-	1	San I	6			
VI. Plastering and		3100			sq m	
high)	1	5.38		0.80	4.304	L=2×2.54+.30=5.38 m
two flights (80 cm						
stair case railing						

(Ex. 9 Contd.)

	Outside Plastering— Outer side (including plinth and 10 cm below G.L.)	1	52.20		3.77	196.79	L=outer perimeter =2 (17.10+9.00) =52.20 m Ht. =3.0+.50+.05+ .10+.12= 3.77 m
	Deduct— Window openings W Window openings W ₂ Window openings W ₂ Front verandah openings	8 4 2 1	0.90 0.80 0.75 8.10		1.20 1.00 1.00 2.20	8.64 3.20 1.50 17.82	One face. L=8.90—2×.40=
	Back verandah openings Step front Step back	2 1 2	3.75 2.30 1.00	-	2.20 0.65 0.65	16.50 1.50 1.30	8.10 m L=4.15—.40=3.75 m Ht.=.50+.05+.10 =.65 m
	0/3		Total	of ded	uctions	50.46	labasity more
			Net	Total plas	of out tering	side 146.33	sq m
22	6 mm plastering with 1: 3 cement, medium sand		Grand inside plaster	Total and ing =	of outside 562.81	sq m	Lambs study so D
	mortar in ceilings— Bedrooms Living rooms Study rooms Kitchens Baths W.C.s Front verandah Back verandahs	2 2 2 2 2 2 2 1 2	3.50 3.00 3.70 2.50 1.20 1.20 8.90 4.15	3.50 3.50 2.00 2.50 1.40 1.00 2.00 2.50	11111111	24.50 21.00 14.80 12.50 3.36 2.40 17.80 20.75	driam Charach La -
	Soffits of front verandah lintels	1	8.10	0.20	-	1.62	L=8.90—2×.40 =8.10 m
	Soffits of back verandah	2	3.75	0.20	-	1.50	L=4.15—.40=3.75 m
	Staircase— Inclined slab Landing slab middle	2	2.54 2.30	1.10 0.90	-	5.59 2.07	and magazinasi printa medinal
	Landing slab (Ist floor level) Soffit of lintel at entrance Under sides of sun-	1	2.30 2.30	1.10 0.30	-	2.53 0.69	a died formet.
	shades — Sun shades W	8	1.20	0.50	-	4.80	Total of sunshade=18.22sq m*
	Sun shades W ₁ kitchen	2	1.10	0.50	-	t.10	Total excluding bed rooms
	Front verandah sun shade	1	9.20	0.60		5.52	and living rooms =103.83 m
	Back verandah sun shade continuous	1	13.60	0.50	Total	6.80	4

1	Skirting 20 cm high with					anibuding to octow	
	2 mm thick 1 : 3 cement coarse sand mortar neat			OF SE	a		
(coarse sand mortal near	10				28.00	Lengths inner
	cement finished—	2	14.00	-		20,00	perimeter.
	Bedrooms			30 H	2	26.00	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	13.00	-0	To be	20.00	TOOLS WITE STORE
	Living rooms	-	7.7.67656	ETAIL !	5 15	3.00	
1	Jambs of main rooms	10	0.30	7-3	-		
112	doors D	1	9.90	-	-	9.90	and an armine to the second
	Staircase room	2	0.30	THE .		0.60	The ATT OF THE PARTY OF
- 4 6	Jambs at entrance · · ·	2	11.40	Ellen San	上	22.80	
- 1	Study rooms	1	8.90	100	5	8.90	A STATE OF THE STA
	Front verandah long wall	T	2.20	100		4.40	
	Front verandah side walls	2	4.15	STAR STATE		8.30	
	Back verandah long walls	2	2.70	55/4		10.80	
	Back verandah side walls	4	A STATE OF THE STA			3.20	
	Pillars 3 faces	4	0.80	Time will			Total of study room
	Jambs study rooms door	10 %	0.00	inneus !		0.40	verandahs etc. =
-//	D	2	0.20		100	Paris Tak	69.30 m
				Delrass		17 - 29	0.763
	24550		1 02.5	02.3	Total	126.30	SECOND STATE
- 1	- · · · · · · · · · · · · · · · · · · ·	12	1.00	THEFT		12.00	Dill Co. Building
	Deduct door opening D	12	The street	N TO STATE OF			a known a come
	the second of th		GC -	Net	Total	114.30	EDITINGUES OF
	36.5		The Capable	A STATE OF		m	COLOR OF THE PARTY
24	Dado 12 mm thick 1:3		1.00.1	TUS !			Front ver moth
	cement coarse sand		14 (D49 C)				Back vernicals
	mortar neat cement		0,0,5	The Columbia	9 4		
	finished (in kitchen, bath		1	018			Lintels
	and W.C.)-						
	Kitchen 50 cm high	2	10.00		0.50	10.00	Lengths inner
			(i) (i)		7		perimeter.
	W.C. 50 cm high	2	4.40		0.50	4.40	Statronas
	Bathroom I m high	2	5.20	1 12 3	-1.00	10.40	dels sention!
	Jambs of kitchen door Di	2	0.20	1 2 EC	0.50	0.20	in de sembrada -
	Jambs of W.C. door D2	2	0.20	=	0.50	0.20	dala unionasi -
	Jambs of bath door D2	2	0.20	1.0.4	1.00	0.40	(b) (10) (41)
	1000		a a a a a a a a a a a a a a a a a a a		T 1	25.40	PER LESS TRANSPORT
					Total	25.60	Those bus as a sund
	Deduct-	194	67.0			sq m	725H7E
	I Control Cont	2		The share	0.50	0.00	N Contractor
	Kitchen door D	2	0.90	-	0.50	0.90	
	W.C. door D ₂	2	0.75		0.50	0.75	W about our
	Bath door D ₂	2	0.75	# 1	1.00	1.50	A Comment of the Land
	C.S.S. Substitute From		Total	of ded	uction	3.15	THE REAL PROPERTY.
	The sale	160	Lotui	or ded	action		Colone Street
	080		3 3 32 0	- ALIFE		sq m	a Manufacture state of
	print ga vai i		and the same	Net	Total	22.45	- COLCUMBER
	10 4 4 5 641	1070				sq m	

(Ex. 9 Contd.)

							(Ex. 9 Contd.)
25	20 mm plastering with					1	
	1: 3 cement coarse sand mortar neat cement	1		Lb .			
		Van to	1 1 1 1 1	Burg		1	
	finished in steps— Front steps tread and riser	3200		0.0	PRE-	1	
		1	2.30	1.21	-	2.78	B=2×.30+3×.17+.10=
	Back steps, tread and	1081		1 KOP (0)	Tallers.	Living	1.21 m
	riser	2	1.00	1.21		2.42	
	Sides of front and back				THE WAY		
	steps	3×2	-	0.60	0.27	0.97	The state of the s
	Lance de Marie, Sales	3×2		0.30	0.17	0.31	A STREET, STRE
	Stair case steps, tread	28.0		1 22			
	and riser	2×8	1.10	0.425	-	7.48	B=25+17.5=42.5 cm
		582		1 95.0			=.425 cm
	VII. Flooring—	03.0			Total	13.96	NA IN THE ROLL
26	2.5 cm C.C. 1:2:4 floor	TV:Faziti		1 - 18650	0.23010	sq m	
	over and including 7.5 cm	itmic 3			9	1 2766	
	lime concrete —						
	Bedrooms	2	3.50	3.50	-	24.50	
	Living rooms	2	3.00	3.50	10-3	21.00	7 - 10 und
	Staircase room	1	2.30	3.50		8.05	ST THE
	Sill of entrance	1000	2.30	0.30		0.69	THE RESERVE TO SERVE
	Study rooms		3.70	2.00	-	14.80	
	Kitchens	2	2.50	2.50	The state of the s	12.50	
	Bathrooms		1.20	1.40		2.40	State of Livery Control
	W.Cs	2	1.20 8.90	2.00		17.80	CONTROL BUILDS
	Front verandah Back verandahs	0.00	4.15	2.50		20.75	A SHEW THINK I THE
	Back verandahs	. 2	4.13	2.50			Little April 1971
	Bankley Control			all all the	Total	125.85	The supplies
	The state of the s	0.50	10000	911		sq m	THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TW
27	2.5 cm C.C. 1:2:4 floor						
4.4	(without lime concrete)—	100			at 5	The second second	
	Sills of door D	10	1.00	0.30	100	3.00	Called Street Control
	Sills of door D		1		18 1		(a) He
	(study room)	2	1.00	0.20	10-	0.40	And the second section in
	Sills of door Di	. 2	0.90	0.20	THE REAL PROPERTY.	0.36	
	Sills of door D2	. 4	0.75	0.20	1 =	0.60	and the same of
	Sills of verandah	Carl I	E ST	100			
	openings over plinth	1		14 37			Manager Manage
	dwarf wall—	1000	0.10	0.20		1.62	L=8.90-2×.40=
	Front verandah	. 11	8 10	0.20		N. M.	8.10 m
	to the state of th	-	2 75	0.20		1.50	L=4.15—.40=3.75 m
	Back verandah	. 2	3.75 2.30	0.20	-	2.07	Over R.C.C. landing
	Staircase landing	. 1	2,30	0.70			slab.
		1	H-	1 1884	Trans	9.55	THE STREET STREET
	THE REAL PROPERTY AND PARTY AND PARTY.			He was a line	Total		
	THE RESERVE OF THE PARTY OF THE					sq m	

sag							
20	VIII. Painting—	The state of			415-31	drive	with the state of the
28	Painting two coats		E P L			Brand an	
	over one coat of					1920	CANCEL SECTION OF THE PARTY OF
	priming —	12×21/4	1.00	_	2.00	54.00	11/8 for one face.
	Panelled door D	2×21/4	0.90	_	1.80	7.29	Carl Post "are
-73	Panelled door D	4×21/4	0.75	I	1.80	12.15	**
-3	Panelled door D ₂	12×21/4	0.90		1.20	29.16	NOT 29 11 19
	Panelled Window W	4×21/4	0.80	100.1	1.00	7.20	22 22
	Panelled Window W	2×21/4	0.75	SHADI O	1.00	3.38	and the man
	Panelled Window W ₂	20274	0.75				te syves in the
	Painting Window bars	12	0.75	AL DE T	1.05	9.45	One clear flat area in
	W	12	0.75		1.00	100	between chaukhat.
	Painting Window bars	4	0.65	The said	0.85	2.21	JULIA PORTUNIE DE
	W ₁	4	0.05	1	0.03		100 mbm.
	Painting Window bars	2	0.60	THE CONTRACT OF	0.85	1.02	
	W ₂	. 2	0.00	March 1	0.05	1.02	
	Iron grill in staircase	1 116	5.38		0.80	4.30	-grinosii iHV
	railing	1	3.38			4.50	1:1.0.0 m.d.5 1
29	Coaltar painting two			Han San	Total	130.16	rourint ball town
	coats on back of	4 4 - 18		ALC:		sq m	OTRIDERO BEI
	chaukhats-			William Charles			
	Door D	12	5.10	0.10	-	6.12	Lengths same as for
	Door D ₁	2	4.60	0.10		0.92	chaukhats in item 15.
	Door D ₂	4	4.45	0.10		1.78	mootist on R
	Window W	12	4.20	0.10	D=0	5.04	outstand to Medical
	Window W ₁	4	3.60	0.10	The state of	1.44	- Leann an affinial
	Window W ₂	2	3.50	0.10		0.70	The state of the s
			01-1	0.1	Total	16.00	The same Subset
	IX. White washing and	a trent	12/93		Total	sq m	
	colour washing —			The out		34 111	From versuctions
30	White washing 3		7.7				erene aszalak
	coats-Walls (inside)		Same	as for	inside	No ence	
	Ceiling, under side of	plast	ering	in item	(21)	416.48	
	sunshade, etc.	1	Same	as for	ceiling		
		plast	ering	in item	(22)	149.33	A STATE OF THE REAL PROPERTY.
31	Colour washing two	I I	177.76		Total	565.81	- A MAN HOLES
3.1	coats over one coat of	3				sq m	or sint would
	white washing	1 1	THE .	190	1,186		Tracolate by
	(outside)—	1 3 7		Ber .	SAE-IF S	0.70	Cl 300, 102/12
	Walls (outside)	1377	Same	as for	outside	wall	- turber ybus
- 95	100000000000000000000000000000000000000	plas	tering	in item	(21)	146.33	Portion below G.L.
	Upper surface of		1 1 1	10.3			to be deducted
	sunshades		Same	as	marked	* in	Under surface same
			item	(22)		18.22	as lower surface.
	Deduct 10 cm portion	18			Total	164.55	Edges neglected.
	below G.L	1	47.90	10-40-2	0.10	4.79	L=outer perimeter-
	0.104 0.12.				0.10	7.19	steps
	The same the last	100	1 100 0		THE REAL PROPERTY.		= (2×17.10+2×9.00)-
		1		Net	Total	159.76	(2.30+2×1.00)=
	X Misc. Items—		3000		Juli	sq m	47.90 m
32	10 mm dia. A.C. rain water pipes (6 nos.)	-	2	THE TANK		and the second	
	Lugter nines in noci	6	3.60	-	- 1	21.60 m	L=3.00+.12+.50=3.62
	water pipes (o nos.)	222	5.0800,080			THE RESIDENCE OF THE	=3.60 m

FIRST FLOOR

Details of Measurement and Calculation of Quantities (Ex. 9)

Item No.	Particulars of items and details of works	No.	Length	Breadth m	Height or Depth m	Quantity	Explanatory notes
	II. Concrete						Contract of the second
1	Lime concrete in roof terracing 7.5 cm thick complete with surface	1	1 12	100			Mark Val
	finishing — Roof of 1st floor in	et in	1.25.1	1 60	Bary		Table 18 a m
	between parapet	1	16.70	8.60		143.62	Mumty room to be deducted.
5	Roof of stair case room	93.6	OE N				
	(mumty room) including	Unit	1 150	H DE A			L=2.30+2×.20+2×.50
	chujja projection	1	3.70	5.10	-	18.87	∫ =3.70 m
	100						B=3.70+2×.20+2×.50
	Deduct mumty room at				Total	162.49	= 5.10 m
	1st floor level	1	2.70	4.10	_	11.07	
				Net	Total	151.42	
-					4	sq.m.	
2	R.C.C. work 1 : 2 : 4						
	excluding steel				The state of	100	
	reinforcement and its bending but including					1	
	centering and shuttering		1400				
	and binding steel-		Same	as in	item (5)		
	Roof slab		of G.F.	page	258	15.642	Slab of all rooms
							and verandahs.
						61	
	Lintels— Over main room doors D	8		0.20	0.10	0.000	
	Over main room doors D	ō	1.30	0.20	0.10	0.208	Bearing 15 cm
	windows W	8	1.20	0.20	0.10	0.192	
	Over main room shelves	4	1.30	0.20	0.10	0.104	
	Over entrance of staircase	1	2.70	0.20	0.20	0.108	
	Over doors D study room	2	1.30	0.20	0.10	0.052	
	Over doors D ₁ kitchen	2	1.20	0.20	0.10	0.048	
	Over doors D2 Bath and		1.00	0.20	0.10	0.004	
	W.C. Over window W study	4	1.05	0.20	0.10	0.084	
	room	4	1.20	0.20	0.10	0.096	
	Over window W1 kitchen	2	1.10	0.20	0.10		Side windows
	Over shelves kitchen	4	1.30	0.20	0.10	0.104	- manufactura
	Over R.C.C. Jalli over door D ₂ of bath and W.C.	4	1.05	0.20	0.10	0.084	

ESTIMATING AND COSTING

270				1	0.20	0.368	20 cm thick.
	Lo Continerandah	11	9.20	0.20	0.20	17.17	To columnia territoria
	Over front verandah Over back verandah continuous including window W ₁ W ₂ Sunshades, shelf slab	10	13.60 Same of G.F.	as an	0.15 item (5) 259	0.408	15 cm thick.
	Stair case inclined slab and landings		Same of G.F.	as in page	item(5) 259	1.541	month gallery
	Steps (without reinforcement)	8×2	1.10	1/2 (.25×	175)	0.385	Lott of to long!
	Mumty room— Roof slab including chujja projections Lintel over door Lintel over windows	1 1 3	3.70 1.20 1.50	5.10 0.20 0.20	0.10 0.10 0.10	1.887 0.024 0.090	Bearing 15 cm
2015	TEXASTICAL CONTRACTOR OF THE C		01.8	OVER	Total	22.644	and the same of th
3	2.5 cm c.c. 1:2:4 nosing in steps of stair case neat cement finished	9×2	1.10	-		cu m 19.80m	Total In Second
4	R.C.C. 1:2:4 newal post in stair case 10 cm × 10 cm 1 m high including reinforcement complete work	3	-		_	3 nos.	One at first floor one at middle and one at mumty floor.
5	R.C.C. 1:2:4 handrail over grill including reinforcement complete work—	27.5	OF THE	on the			manky noor.
	Stair Case inclined Upper landing Front verandah	1 1 1	5.38 1.30 8.10			5.38 1.30 8.10	L=8.90—2×.40
	Back verandah	2	3.75			7.50	=8.10 m L=4.15—.40=3.75 m
6	4 m thick R.C.C. Jalli including reinforcement	05.0	1 151		Total	22.28 m	L-4.13—.40-3.73 m
	complete work — Over doors of Bath and W.Cs. Over windows of mumty	4	0.75		0.50	1.50	d control
	room	3	1.20		0.50	1.80	F. F. F. C. W.
	America 1 222	11.0	700		Total	3.30 sq m	

(Ex. 9 Contd.)

III. Brickwork-	1	1	1	1		(Ex. 9 Conta.
First class brickwork in		4 11	19 1	15 1	19 19 19 19	THE PARTY OF THE P
1: 6 cement local sand		200		10.00	17900	AND STATES !
mortar in superstructure		100		100	ALTERNATION OF	The state of the s
Main rooms— Back wall full length			- Navago	10000	TOWN TO	
	1	17.10	0.20	3.00	10.26	L=16.90+.20 =17.10 m
Front long walls	2	7.40	0.20	3.00	8.88	L=7.20+.20=7.40 m
Cross walls	6	3.70	0.20	3.00	13.32	L=3.90—.20=3.70 m·
Stair case room front			1		1000	2 2/20 120 2/10 11
wall	1	2.30	0.20	0.60	0.28	Above lintel
The second second		1000	-	Total	32.74	
				Total	32.74	
Deduct—	1	1	-	1500		
Door openings D	10	1.00	0.20	2.00	4.00	and the second second
Window opening W	8	0.90	0.20	1.20	1.73	10.23
Shelve opening	4	1.00	0.10	1.80	0.72	Back of shelf 10 cm.
Lintels over door	10	1.30	0.20	0.10	0.26	The state of the s
Lintels over window W	8	1.20	0.20	0.10	0.20	
Lintels over shelves	4	1.30	0.20	0.10	0.10	and the same
The state of		Total	of ded	uction	7.01	
Net	Total	for	main	rooms	25.73	(i)
50.00	THE .		SILVE		cu m	
Study room, kitchen, Bath and W.Cs.,						Maria Cara
front and back verandahs	100	Same	as for	item	(13)	
Month		G.F.	page	262	22.74	(ii)
Mumty room—	1	12.80	0.20	2.50	6.40	Total centre line
		12.00	0.20	2.50	0.40	length =12.80 m
Deduct Door Wi	1	0.90	0.20	1.00	022)	
Deduct Window W ₂	3	1.20	0.20	1.80	0.32	= 1.33 cu m
Deduct Jalli above W3	3	1.20	0.20	0.50	0.36	1.55 cu iii
		Total	of	Mumty	100	
The state of the s	230		2000	room	5.07	(iii)
Parapet long wall	2	17.10	0.20	0.975	6.67	
Parapet short wall	2	8.60	0.20	0.975	3.35	
MET WILLIAM IN THE		Total	of para	pet	10.02	(iv)
Grand	Total	of (i),	(ii), (iii)	and(iv)	63.56	
					cu m	

(Ex. 9 Contd.)

							(Ex. 9 Conta.)
15	Iron work in hold fasts	1303	189		Lap.		CASE AND SECURIOR
	and window bars—Doors	13		100		The state of	SCHOOL STREET
	floor	13 00			Carrier Co	The same	The State of the S
	11001	Trave	Same	as in	item	(19) of	MINERA MOSERA
	Mumty room—	1833	G.F.	page	263	563.34	Morrison or Delight
	Hold fast in door D	6	@ 11.		136	kg	manyo w he W
11 11	Hold fast in windows W2	3×4	@ 1 kg	each	- T	6 kg	Ashneys with
- 316	20 mm dia window bars		@ 1 kg	each	26 7 3	12 kg	Samusado
	in windows W2 of mumty	11	2000			1 3 3 3	Appropriate access
	room @ 2.47kg per m	3×9	×0.90	×2.47	The state of	60.02 kg	6 bars 0.90 m each
		1	ACT OF STREET	to he had	Total	641.36	kg
16	Iron grill work in	150	201 SF		Total	=6.414 q	Kg
	railings—Staircase railing	Towns.	D I		STORY IN	0.414 q	
	two flights	1	5.38	1982 200	0.80	4.31	
	Upper landing Front verandah railing	1	1.20	17-50	0.80	0.96	and records there are
	Tront verandan ranning	1	8.10	- 0	0.80	6.48	L=8.90—2×.40
	Back verandah railing	2	3.75		0.80	6.00	=8.10 m L=4.15—.40=3.75 m
		~	3.75		2575	6.00	L=4.15—.40-3.75 m
	VI. Plastering and	FL			Total	17.75	- mocrymenty
	Pointing—	1	and the		1 1 1	sq m	
17	12 mm plastering with	- 3	1 1 2		71 -		N. C. Carrier
	1:6 cement local sand	-			1000 1 10	3000	CI C
	mortar in walls—				6.00		Developations Chilatina
	Inside plastering —	1 7	1		ale la		Excluding Skirting and Dado at bottom.
	Main rooms—	N. Y				100.00	and Dado at bottom.
	Bedrooms	2	14.80		2.80	82.88	L=Inner perimeter
	The state of the s		10.40		10 1 19		=14.80
	Living rooms	2	13.60	100	2.80	76.16	L=Inner perimeter
	Staircase room	1	12.00		3.00	36.00	=13.60 L=Inner perimeter
	The state of the s		12.00		3.00	50.00	=12.00
	Face of wall below stair				The state of		12.00
	case entrance lintel 20 cm		H A		L D III	Hill and the second	
	wide	2	0.20	ich and	2.00	0.80.	
	Shelves—Jambs, sills and soflits	4	5.60	0.10		2.24	State of the last of the
		4	3.00	0.10		2.24	AND A PROPERTY OF
	Study room, Kitchens,				Je T		
- 9	Bath and W. Cs.,	1	700				
	Verandahs, etc. (of 30 cm		Como		Tarana a	(21)	
	wall)		Same G.F.	as for page	item 264	(21) in 268.80	
4	Mumty room	1	12.00	page —	2.50	30.00	
	COLUMN CO		recut .				
	Deduct Door and	-		and I	Total	496.88	
	W		Same	as for	item	(21) in	
300	Window openings		G.F.	page	264	42.80	patri.
	of Sapanor I in the	NI .	200010	re una	-		
		Net	Total plaster	of in	side	454.08	
	- 10 Ge 32		plastel	ing		sq m	

ESTIMATING AND COSTING

				. 1	1	
Outside plastering -	1	52.20	-	3.00	156.60	L=outer perimeter= 2 (17.10+9.00)=52.20 m
Outside of first floor	100	100	0.000	. 20	8.64	One face.
Deduct		0.90	-	1.20	3.20	37 37 33 33 33
Window opening W	8	0.80		1.00	1.50	The same of the same of the same of
Window openings Wi	4	0.80	-	1.00	1.50	THE RESERVE TO SERVE THE PARTY OF THE PARTY
Window openings W ₂	2	0.75	and the state of	HU - AN	17.82	L=8.90-2×.40=8.10 m
Front verandah	13		100	2.20	17.02	L 0.70 2 .40 0.10 m
openings	1	8.10	100			L=4.1540=3.75 m
Back verandah	100			2.20	16.50	L=4.1340=3.75 m
openings ···	2	3.75	11		47.66	
openings	1	Total of	deducti	on	0.000	The second second
and the same					108.94	(i)
	Net	Total of plasster	ing 1st	floor	sq m	Self-line
Parapet wall (outer	11.59	20		2.00	102.40	(ii) L=Total length of
top and inner)	1	51.20	=	2.00	sq m	4 walls=51.20 m
(op and inner)	1		11 3	0 1 5	39	Ht.=2×.90+.20=2.00 m
A PART OF PARTY AND		Page 11		1000		11.1 = 130 120 2.00 m
Mumty room —		400 June			34.00	L=Outer perimeter
Outer side of walls	1	13.60	-	2.50	34.00	=13.60 m
Outer side of wans	100				1 1 1 1 1 1 1	-13.00 III
Deduct door openings	1000			1000		
Di	1	0.90	_	1.80	1.62	
Deduct window		1000000				=6.66 sq m
	3	1.20	_	0.90	3.24	-0.00 sq iii
Deduct R.C.C. Jalli	3	1.20	_	0.50	1.80	2
Deduct R. C. C. Sun					27.24	(ii)
TO ALL THE REAL PROPERTY.	Net	Total	of mum	ty	27.34	(11)
a same to the	1000	130	W		sq m	
100,000	Total	of	outside	plas-	THE SELECT	
The second of the second	[10] (C.S.) (C.S.)	ing (i),	(ii) and	(iii)=	238.68	sq m
		= 0.000		, ,	200.00	
THE PERSON NAMED IN	200	d Total	ALC: THE RESERVE	100000000000000000000000000000000000000	1.012.05	THE RESERVE OF THE PARTY OF THE
- +	and	outside	plaster	ing=	692.76	The second second
6 mm plastering with	13.1	-		A Bird	sq m	2 Page 1
1:3 cement medium			EE I	172 1 3		100000
sand mortar in ceiling				1 11 11 1		
Bedrooms	2 2	3.70	3.70		27.38	
Living rooms	2	3.10	3.70		22.94	
First floor study room,		14 1 3 3	1	112	22.74	
Kitchen, bath and						
W.C., verandahs, stair-	- 2	15.0			The Late	The second second second
case, Sunshades, etc.	Same	as in	item	(22) of		
The second	III. SE	G.F.	page	265	103.83	
Mumty room—Ceiling	1	2.30	3.70	200	The state of the s	Land of the land
Chujjas long	2	5.10	0.50		8.51	
Chujjas short	2	2.70	0.50		5.10	L=3.7+.4+2×.5=5.10 m
The state of the s	100		0.50		2.70	L=2.30+.40=2.70 m
				Total	170.46	sq m

(Ex. 9 Conto

							(Ex. 9 Conto
19	Skirting 20 cm high	10-11			1		
	with 12 mm thick 1:3	*					
	cement coarse sand				med 1		
	mortar neat cement finished— Bedrooms	12	14.00				
	Y 5.50	2 2	14.80	S E	1 TO 104	29.60	L=Inner perimeter.
	Jambs of Main room	2	13.60	_	-	27.20	Switch Strategy Land
	doors D	. 10	0.20	11-2		2.00	The second of th
	Study rooms,	10	0.20		STATE OF	2.00	The second second
		. Same	as in	item	(23) of		
			G.F.	page	266	69.30	
	Deduct door openings			F-0-			
	Deduct door openings	12	1.00		Total	128.10	To the second of the
	ъ	12	1.00	_	_	12.00	To stood as at
	Table to the second			Net	Total	116.10	The same of the last of
20	Dado 12 mm thick				ino-seament		
	1:3 cement coarse			Land II	3 7		and a
	sand mortar neat cement finished (in						
	kitchen, Bath and						Tale Tillian
	W.C.)	Same	as in	item	(24) -6		ad well by
	,,,e.,	Same	G.F.	page	(24) of 266	22.45	AND THE PARTY OF T
			G.1.	page	200	sq m	
	VII Flooring—			1		Sq III	1
21	2.5 cm C.C. 1:2:4	100					
(4)	floor—						
	Bedrooms		3.70	3.70	- ,	27.38	Mar Tour Harris
	Living rooms		3.10	3.70	-	22.94	ment mor Thus
	Study rooms	. 2	3.70	2.00	-	14.80	ELIEFEW STREET
	Dark	0	2.50 1.20	2.50	-	12.50	Physipil complete
	W. Cs	2	1.20	1.00		3.36 2.40	The same of
	Front verandah	3210	8.90	2.20		19.58	Including sills openin
	Back verandahs	2	4.15	2.70	_	22.41	Including sills openin
	Staircase landing (first			177			
	floor levels)	. 1	2.60	0.40	-	1.04	
	Staircase landing			10		2 221	
	(middle)	. 1	2.60	1.00	-	2.60	
	Staircase landing (2nd floor levels)	. 1	2.60	0.40		1.04	
	Sills of doors D	1.0	1.00	0.40		1.04 2.40	SECTION AND ADDRESS OF
	Sills of doors D ₁	2	0.90	0.20		0.36	CATCOLL - UKD 1
	Sills of doors D ₂	4	0.75	0.20	_	0.60	THE PARTY NAMED IN
					Total		The same of the sa
		The same	en in	Photo:	Total	133.41	Description of the second
	VIII. Painting—	BE -31	THE R	THE PARTY		sq m	
22	Painting two coats	1		PER COST	1 94 19		
	over one coat of		100	1 - 1	ALT DE		
	priming—First floor		Hard H				
	doors windows,	1 25 1		The st	1		The state of the s
	window bars, staircase	. Same	as in	item	(28) of	\$150	THE PROPERTY CAN LAND
	railing grills	· Same	G.F.	page	268	130.16	C. Starten
-		1000	0.1.	Page	200	130.10	

th of

andah grill upper urill oom— door indows bars ainting two back of doors and w W Washing r Washing— hing 3 alls (inside)	1 1×2!, 3×1 3×1	1.20	item	0.80 1.80 0.90 0.75 Tota 29 of 268 — Total	3.65 3.24 2.36 1 152.8: sq m 16.00 sq m 0.46 1.26	5
door indows bars ainting two back of doors and wom— W ₂ Washing r Washing—	1×2½ 3×1 3×1	1.20 1.05 as in G.F.	item page	0.90 0.75 Tota 29 of 268	3.24 2.36 1 152.8: sq m 16.00 sq m 0.46 1.26	5
ainting two pack of doors and wom— Washing r Washing— hing 3	Samo	as in G.F.	item page	29 of 268	1 152.8: sq m 16.00 sq m 0.46 1.26	a la
washing r Washing—	1	G.F.	0.10	268	16.00 sq m 0.46 1.26	
doors and w. Washing r Washing—	1	G.F.	0.10	268	16.00 sq m 0.46 1.26	
Washing r Washing—	1/20	1915/00/2015/1		- Total	0.46 1.26	
r Washing—		1 34		Total	III I I DEPARTMENT III	
r Washing—			1000 1	1/2-3		The state of the s
alle (incida)	Un A		BE I	OLE !		min special
	Same	as insi in item	de plas (17) page	f.F. 273-74	454.08	The Terror was a second
lerside of		Same	as plas	tering F.F.	in item	AT A STORE OF
444			page	-274 - Total	170.46 624.54	an brad sen
hing two			000	SE S	sq m	
	ame a	as out	side (17)	plaster F.F.	ing	
			page		238.68 sq m	TO A DE CHICLE OF
A.C. rain		3.20			19.20 m	Including band.
	ne coat of ag — Walls S	ne coat of lig — Walls Same	ing two ne coat of ng — Walls Same as out in item as— A.C. rain	ing two ne coat of ng — Walls Same as out side in item (17) page A.C. rain	ing two ne coat of g — Walls Same as out in item (17) page 273-74 A.C. rain (18) F.F. 274. Total plaster F.F. 273-74	ing two ne coat of ag — Walls Same as out in item Same as out i

 $\label{lem:conclusion:from above the experiment we get quantiles of two stored building. \\$

Experiment-4

➤ Aim of the experiment.

Analysis at rates in details for above items of work basing Odisha govt. with help of MS Excel.

Requirement: - MS Excel given specification and rate analysis from above experiment.

Procedure: -

- Open MS Excel.
- > Create a new work book.
- > Save a work book.
- \triangleright Enter date and sum \rightarrow save the date.
- Print, copy etc.

GR	OL	INI	חו	71 /	20	n

Abstract of	Estimated	Cost (Ex 9	Ground	Floor

Item No.	Particulars of items of work	Quantity	Unit	Rate	Per	Amount
1.0.		Quantity	Onn	Rs. P.	Per	Rs. P.
1	I. Earthwork — Site clearance and setting out	1	Job	150.00	L.S.	150.00
2	Earthwork in excavation in foundation	55.75	cu m	350.00	% cu m	195.12
3	Earthwork in filling in plinth	46.52	cu m	275.00	% cu m	127.93
4	II. Concrete— Lime concrete in foundation	19.36	cu m	220.00	/ cu m	4259.20
5	R.C.C. work 1:2:4 excluding steel reinforcement bars and its bending but including centering and shuttering and binding steel	21.058	cu m	675.00	/ cu m	14214.15
6	2.5 cm 1 : 2 : 4 nosing in steps neat cement finished	32.70	m	6.00	/ m	196.20
7	R.C.C. 1:2:4 Newal post 10 cm × 10 cm, 1 cm height including reinforcement complete work	2	No.	20.00	each	40.00
8	R.C.C. 1:2:4 Hand rail in stair case including reinforcement complete work	5.48	m	24.00	/ m	131.52
9	4 cm thick R.C.C. Jalli including reinforcement complete work	1.50	sq m	120.00	/ sq m	180.00
10	2.5 cm Damp proof course C.C. 1:2:3 with water proofing compound	28.97	sq m	20.00	/ sq m	579.40
11	III. Brickwork — First class brickwork in lime mortar in foundation and plinth	41.94	cu m	295.00	/ cu m	12372.30
12	First class brickwork in lime mortar in superstructure in 30 cm wall	36.45	cu m	320.00	/ cu m	11664.00
13	First class brickwork in 1:6 cement local sand mortar in superstructure in foundation and plinth	22.74	cu m	340.00	/ cu m	7731,60
					C.O.	51841.42

G.O.

89236.79

No.	Particulars of items of work	Quantity	Unit	Rate	Per	Amount
	The same of the sa			Rs. P.		Rs. P.
27	2.5 cm C.C. 1 : 2 : 4 floor	9.55	sq m	18.00	/sq m	171.90
	VIII Painting—			1004		
28	Painting two coats over one coat of priming	130.16	sq m	6.90	/ sq m	898.10
29	Coal tar painting two coats on back of chowkhats	16.00	sq m	2.30	/ sq m	36.80
	IX. White washing and colour washing—	1 1 5		in land	and ri	
30	White washing 3 coats inside	565.81	sq m	0.75	/sq m	424.36
31	Colour washing 2 coats over one coat of white washing	159.76	sq m	0.82	/ sq m	131.00
	X. Miscellaneous items—				Jones Site	
32	100 mm dia. A.C. rain water pipe	21.60	m	27.00	m	583.20
	Add 8% for Water Supply and Add 8% for Electrification Woo		orks	or man in dust state quality	Total	91482.15 7318.57 7318.57
a Egy	Add 3% for Contingencies Add 2% for Workcharged Esta	blishment		Brica et	otal	106119.29 3183.58 2122.39
				Grand T	otal	111425.26

Plinth Area Rate of Ground Floor—

Plinth Area=17.10×9.00=153.9 sq m.

Plinth Area Rate Inclusive of Water Supply and Sanitary Work and Electrification Works = $\frac{\text{Total}}{}$ = $\frac{\text{Rs.}111425.26}{}$ = 724.00 per sq m. Plinth Area 153.9 sq m

COST (EX. 9 FIRST FLOOR)

ABSTRACT OF ESTIMATED		D COST		Rate	Per	Amount
. 1		Quantity	Unit	Rs. P.		Rs. P.
tem No.	Particulars of items of work					
1	II. Concrete— Lime concrete in roof terracing 7.5 cm thick complete with surface finishing	151.42	sq m	18.00	/sq m	2725.56
2	reinforcement and its bending but including centering and shuttering and	22.644	cu m	680.00	/cu m	15397.92
3	2.5 cm C.C. 1:2:4 nosing in steps of	19.80	m	6.00	/ m	118.80
4	R.C.C. 1:2:4 newal post in stair case 10 cm × 10 cm, 1 m height including reinforcement complete work	3	nos.	20.00	/ nos.	60.00
5	R.C.C. 1:2:4 hand rail over grill including reinforcement complete work	22.28	m	20.00	/ m	445.60
6	4 cm thick R.C.C. jalli including steel reinforcement complete work	3.30	sq m	120.00	/ sq m	396.00
7	III. Brickwork— First class brickwork in 1:6 cement local sand mortar in superstructure in 20 cm thick wall 10 cm thick first class brickwork in	63.56	cu m	343.00	/ cu m	21801.08
	partition wall with 1:3 cement coarse sand mortar with hoop iron or 6 mm dia. steel reinforcement every fourth	continued		ANT THE PARTY OF	Haller	
9	layer 10 cm thick brick band with 1:6 cement local sand mortar at top of	7.20	sq m	42.00	/ sq m	302.40
	parapet IV. Wood work Door and windows—	52.20	m	4.00	/ m	208.80
10	Salwood work in chowkhats in doors and windows	1.331	cu m	4700.00	/ cu m	6255.70
11	3 cm thick panelled shutters of Deodar wood in doors and windows	42.554		200.00	to chall to	0510.00
12	3 cm thick fully glazed shutters of		sq m	200.00	/ sq m	8510.80
13	deodar wood Door and window fittings of oxydized	3.931	sq m	125.00	_/sq m	491.37
1.	V. Steel and iron work-	46.485	sq m	30.00	/ sq m	1394.55
14	Steel reinforcement bars including bending	17.544				
15	Iron work in hold fasts and window		quintal	515.00	/ q	9035.16
- 10	Vais	6.414	quintal	700.00	19	4489.80

FIRST FLOOR						281		
HEM NO.	particulars of items of work	Quantity	Unit	Rate	Per	Amount		
				Rs. P.		Rs. P.		
16	Iron gril in railings VI. Plastering and pointing— 12 mm plasteing with 1: 6 cement	17.75	sq m	200.00	B.F. / sq m	71633.54 3550.00		
17	local sand mortar in waits	692.76	sq m	7.10	/ sq m	4918.59		
18	medium sand mortar in centing	170.46	sq m	5.80	/ sq m	988.67		
	1: 3 cement coarse sand mortar neat cement finished Dado 12 mm thick 1: 3 cement coarse	116.10	m	4.00	/ m	464.40		
20	sand mortar neat cement finished VII. Flooring—	22.45	sq m	9.50	/sq m	213.27		
21	2.5 cm C.C. floor VIII. Painting—	133.41	sq m	18.00	/ sq m	2401.38		
22	Painting two coats over one coat of priming Coaltar painting two coats on back of	152.85	sq m	6.90	/ sq m	1054.66		
23	chowkhats	17.72	sq m	2.30	/ sq m	40.75		
	IX. White washing and colour washing— White washing 3 coats inside	624.54		0.75		468.40		
25	Colour washing two coats over one coat of white washing	238.68	sq m	0.73	/ sq m	195.71		
26	X. Miscellaneous items—	19.20	m	27.00	/sq m	518.40		
Add 8% for Water Supply and Sanitary Works Add 8% for for Electrification Work						86447.77 6915.82 6915.82		
Add 3% for Contingencies				7	Total	100279.41 3008.38		
Add 2% for Workcharged Establishment				Total Say Rs.		2005.59 105293.31 105293.00		
Dat	th Area Rate of First Floor-	INSTALL DE	NAME OF TAXABLE PARTY.		marra i			
	Plinth Area=17.10×9.00=153.9 sq m. Plinth Area Rate Inclusive of Water Sup	oply and Sa	nitary W	ork and E	lectrificat	ion		
Plinth Area Rate of the Double storeyed building, for both Ground floor and First floor Pinth Area Rate of the Double storeyed building, for both Ground floor and First floor combined= P.A. Rate of G.F.+P.A. Rate of F.F.=Rs. 724.00+Rs. 684.16=Rs. 1408.16 per-sq m.								

Conclusion: - from above the experiment we know that, how to use MS Excel in estimating rate analysis.