

**MINISTRY OF HEALTH & FAMILY WELFARE
(GOVT OF INDIA)
LOKPRIYA GOPINATH BARDLOI, REGIONAL
INSTITUTE OF MENTAL HEALTH (LGBRIMH)
TEZPUR, ASSAM- 784001**

TENDER

FOR

**PACKAGE-II : Construction of Residences,
Hostels & Academic Buildings including PHE,
Electrical, HVAC, Fire fighting & Other Internal &
External Services in (LGBRIMH), Tezpur, Assam**

VOLUME – V

BILL OF QUANTITY

APRIL' 2012



(Consultants & Engineers for Mega Hospitals & Laboratories)
E - 6 (A), Sector - I, NOIDA (U.P.) - 201 301 (INDIA)

PHONE : 91-2542436, 2542440
91-2542443, 2542445

FAX : 91-11-91-2542447

E- mail : HSCC www.hsccltd.co.in

E-mail: LGBRIMH: www.lgbrimh.org

Tender No HSCC/163/PM/PG-1/ LGBRIMH/2012

Name of Work: PACKAGE-II Construction of Residential, Hostels & Academic Buildings with associated services for Lokpriya Gopinath Bardoloi, Regional Institute of Mental Health (LGBRIMH) Post Box NO.15, Tezpur, Assam-784001.

SUMMARY OF QUOTED PRICE

S. No.	Description	Amount (In Rs.)
1	Civil	
2	Plumbing (PHE)	
3	Fire fighting	
4	Electrical Works	
5	HVAC Works	
	TOTAL	

**Project Name: Construction of Academic, Housing and Hostel Buildings
in LGBRIMH Campus, Tezpur, Assam.**

ABSTRACT OF COST (CIVIL WORK)

S.No	DESCRIPTION OF WORK		Amount
	PART A		
1	EARTHWORK	Rs	
2	CONCRTE WORK	Rs	
3	RCC WORK	Rs	
4	BRICK WORK	Rs	
5	DOORS & WINDOWS	Rs	
6	STEEL WORK	Rs	
7	FLOORING	Rs	
8	CEILING & ROOFING	Rs	
9	FINISHING	Rs	
10	MISCELLANEOUS	Rs	
11	Road Work and Development	Rs	
12	SIGNAGES	Rs	
	TOTAL	Rs	

**Project Name: Construction of Academic, Housing and Hostel Buildings in LGBRIMH
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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
1.00	EARTH WORK					
1.01	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50m and lift up to 1.5m, disposed earth to be levelled and neatly dressed.					
a)	All kinds of soil	6952.00	cum			
b)	Ordinary rock	2318.00	cum			
c)	Hard rock (blasting prohibited)	2318.00	cum			
1.02	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.					
a)	All kinds of soil.	1101.00	cum			
b)	Ordinary rock	367.00	cum			

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1	2	3	4	5	6	7
c)	Hard rock (blasting prohibited)	367.00	cum			
1.03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m.	9815.00	cum			
1.04	Extra for every additional lift of 1.5 m or part there of in.					
a)	All kinds of soil.	2418.00	cum			
1.05	Supplying and filling in plinth with river sand under floors including, watering. ramming consolidating and dressing complete.	905.00	cum			
1.06	Extra for disposal of excavated earth for additional lead beyond 50m or part thereof upto 9 such additional leads.					
a)	All kinds of soil	5581.00	CUM			

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1	2	3	4	5	6	7
1.07	Supplying and stacking of good earth at site including royalty and carriage up to 1 km (earth measured in stacks will be reduced by 20% for payment).	5279.00	CUM			
1.08	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	121.00	100sqm			
1.09	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable material and disposal of unserviceable material.					
a)	Beyond 30 cm girth upto and including 60 cm girth	11.00	Each			
b)	Beyond 60 cm girth upto and including 120 cm girth	11.00	Each			
1.10	Supplying chemical emulsion in sealed containers including delivery as specified.					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	2415.00	Ltr			
1.11	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :					
a)	Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:					
i)	With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration.	5268.00	Sqm			
	Total					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
2.00	Concrete Work					
2.01	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:					
a)	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	643.00	cum			
b)	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	923.00	cum			
c)	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	893.00	cum			
2.02	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc. up to floor five level, excluding the cost of centering, shuttering and finishing:					
a)	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	9.00	cum			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
2.03	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 12.5mm nominal size).	1015.00	sqm			
2.04	Extra for providing and mixing water proofing material in CC/RCC work @ 1 kg per 50kg of cement.	366.00	per 50 kg cement			
2.05	Applying a coat of residual petroleum bitumen of penetration 80/100 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	1015.00	sqm			
2.06	Providing and laying in position cement concrete 1:5:10 (1 Cement : 5 fine sand : 10 broken brick bats 40 mm nominal size) including consolidation etc all complete.	964.00	Cum			
2.07	Extra for concrete work in superstructure above floor V level for each four floors or part thereof.	2010.00	Cum			

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1	2	3	4	5	6	7
2.08	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1: cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	2166.00	sqm			
	Total					

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1	2	3	4	5	6	7
3.00	REINFORCED CEMENT CONCRETE					
3.01	Providing and laying in position machine batched, machine mixed and machine vibrated design mixed cement concrete of specified grade for reinforced cement concrete including pumping of concrete to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 380kg of cement per cum of concrete. All works up to floor V level. Note: The contractor shall install a concrete pump alongwith pipe, fittings etc for this work suitable for pumping of concrete up to terrace/mumty roof level, for which nothing extra is payable.	10567.00	cum			
3.02	Add or deduct for providing richer or leaner mixes respectively at all floor levels.					

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1	2	3	4	5	6	7
i)	Providing M-30 grade concrete by using 400kg of cement per cum of concrete instead of M-25 grade B.M.C/ R.M.C..	520.00	cum			
3.03	Centering and shuttering including strutting, propping etc. and removal of form for:					
a)	Foundations, footings, bases of columns, etc. for mass concrete.	2596.00	sqm			
b)	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	307.00	sqm			
c)	Suspended floors, roofs, landings, balconies and access platform.	20839.00	sqm			
d)	Shelves (Cast in situ)	1420.00	sqm			
e)	lintels, beams, plinth beams. girders. bressumers and cantilevers.	33831.00	sqm			
f)	Columns, Pillars, Piers, Abutments, Posts and Struts.	19251.00	sqm			
g)	Stairs, (excluding landings) except spiral-staircases	1919.00	sqm			
h)	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	386.00	sqm			

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1	2	3	4	5	6	7
i)	Edges of slabs and breaks in floors and walls. Under					
i)	20 cm wide	50.00	metre			
ii)	Above 20 cm wide	10.00	sqm			
J)	Extra for shuttering in circular work for					
i)	columns	20.00	Sqm			
ii)	Beams	20.00	sqm			
3.04	Extra for additional height in centering, shuttering wherever required with adequate bracing, propping etc. including cost of decshuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured)					
a)	Suspended floors, roofs, landings, beams and balconies (Plan area to be measured).	5178.00	sqm			
3.05	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.					
a)	Thermo-Mechanically Treated bars	1610940.00	Kg			

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1	2	3	4	5	6	7
3.06	Deduct for using less cement than the quantity as provided in the item of batch mix concrete/RMC as arrived as per mix design.	155.00	Qtl			
3.07	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof.	1391.00	Cum			
3.08	Providing and fixing machine moulded aluminium covering of approved pattern & design, made out of machine cut aluminium sheet and machine holed for receiving screws, over expansion joints on vertical surfaces/ceilings with full threaded, cadmium plated steel screws 4mm dia. stem, 30mm long and aluminium washers 2mm thick, 15mm dia. at a staggered pitch of 200mm centre to centre including drilling holes in the receiving surface and providing expandable plastic sleeves in holes etc. complete.					
a)	Powder coated aluminium sheet 2.5mm thick (minimum thickness of powder coating 50 micron)	118.00	kg			

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1	2	3	4	5	6	7
3.09	Providing and fixing in position 12mm thick bitumen impregnated fibre board conforming to IS: 1838 including cost of primer, sealing compound in expansion joints.	98.00	per cm depth per 100m			
3.10	Providing precast cement concrete Jali 1 :2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits.	812.00	sqm			
a)	25 mm thick					
	Total					

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1	2	3	4	5	6	7
4.00	BRICK WORK					
4.01	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in:					
a)	Cement mortar 1:6 (1 cement: 6 coarse sand)	786.00	cum			
4.02	Brick work with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level in all shapes and sizes in :					
a)	Cement mortar 1:6 (1 cement: 6 coarse sand)	6777.00	cum			
4.03	Half brick masonry with F.P.S. brick of class designation 75 in foundations and plinth in.					
a)	cement mortar 1:4 (1 cement: 4 coarse sand)	322.00	sqm			
4.04	Half brick masonry with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level.					
a)	Cement mortar 1:4 (1 cement :4 coarse sand)	15695.00	sqm			

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1	2	3	4	5	6	7
4.05	Extra for providing and placing in position 2 Nos. 6mm dia. M.S. bars at every third course of half brick masonry (with F.P.S. bricks).	15705.00	sqm			
4.06	Brick edging 7cm wide 11.4cm. deep to plinth protection with bricks of class designation 75 including grouting with cement mortar 1:4 (1 cement : 4 fine sand)	2580.00	Metre			
4.07	Extra for brick work in superstructure above floor V level for each four floors or part thereof by mechanical means by lifting material using mobile crane.	1056.00	Cum			
4.08	Extra for half brick masonry in superstructure, above floor V level for every four floors or part thereof by mechanical means by lifting material using mobile crane.	1901.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
4.09	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of grade 175, consisting of floor and ceiling channel 50mm wide having equal flanges of 32mm and 0.55 mm thick fixed to the floor and ceiling at the spacing of 610mm centre to centre with dash fastener of 12.5mm dia meter 40mm length and the studs 48mm wide having one flange of 34mm and other flange 36mm and 0.55 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610mm centre to centre by 6mm dia bolts and nuts at both ends of partition fixed flush to wall with rawl plugs at spacing of 450mm centre to centre and fixing of boards to either side of frame work by 20mm long drive wall screws on studs, floor and ceiling channels at the spacing of 300mm centre to centre,					

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1	2	3	4	5	6	7
	including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of Engineer in Charge all complete.					
a)	75mm overall thickness partition with 12.5mm thick double skin plain Gypsum board conforming to IS: 2095: part I	198.00	Sqm			
4.10	Stone work, plain in copings, cornices, string courses and plinth courses, upto 75 mm thick in Cement mortar 1:6 (1 cement : 6 coarse sand) including pointing with white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade.					
a)	Red sand stone	18.00	cum			
	Total					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.00	DOORS, WINDOWS AND PARTITIONS					
5.01	Providing and fixing pressed steel door frames conforming to IS: 4351 manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:					
a)	Profile B	1473.00	metre			
b)	Profile C	6188.00	metre			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.02	Providing and fixing aluminium work for doors, windows, ventilators, partitions and louvers with extruded built up standard tubular <i>sections</i> / appropriate Z sections/ sheet strips and other modular sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling to be paid for separately) :					
a)	For fixed portion					
i)	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	45249.00	kg			

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1	2	3	4	5	6	7
b)	For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of PVC / neoprene gasket required (Fittings shall be paid for separately).					
i)	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	31311.00	kg			
5.03	Providing and fixing anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868. Minimum anodic coating of grade AC 15) sub frame work for windows and ventilators a with extruded built up standard tubular sections of approved make conforming to IS: 733 and IS : 1285 fixed with rawl plugs and stainless steel screws etc.	1188.00	kg			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.04	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item) :					
a)	With float glass panes of 5.50 mm thickness	3486.00	sqm			
5.05	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.					
a)	Pre-laminated particle board with decorative lamination on both sides.	10.00	Sqm			

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1	2	3	4	5	6	7
5.06	Providing and fixing powder coated aluminium grills made out with special extruded sections fixed with suitable means approved and as directed by Engineer in Charge including all complete.	1189.00	kg			
5.07	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.					
a)	With brass cover plate	2.00	each			
5.08	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position :					
a)	Second class teak wood	16.00	cum			

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1	2	3	4	5	6	7
5.09	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :					
a)	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	3829.00	sqm			
b)	25mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws.	1163.00	sqm			
5.10	Extra for Providing and fixing flush doors with decorative veneering					
a)	On one side in item no. 5.04	2238.00	sqm			
5.11	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of shutters (over all area of door shutter to be measured) Over item no. 9.20 and 9.21.	1591.00	sqm			

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1	2	3	4	5	6	7
5.12	Extra of providing vision panal not exceding 0.1sqm in all type of flush doors. (Cost of glass excluded). Over all area of doors shutters to be measured.					
a)	Rectalgular of square	798.00	sqm			
5.13	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	309.00	sqm			
5.14	Providing glass panes, with wooden fillets wherever necessary.					
a)	4 mm thick Glass panes weighing 10 kg./sqm.	132.00	Sqm			
5.15	Extra for Providing etching on glass panes in doors, windows shutters, partition etc in desired pattern complete as per drawing and as directed.(Area of etching shall be measered for payment)	10.00	sqm			

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1	2	3	4	5	6	7
5.16	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS : 2046 Type S including cost of adhesive of approved quality					
a)	1.0 mm thick.	832.00	sqm			

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1	2	3	4	5	6	7
5.17	Providing and installation of fully insulated wooden fire rated shutter of 120min. fire rating conforming to BS: 476 part 22 and IS:3614 Part II as per the prototype tested and certified by CBRI Roorkee, of 55mm thickness, comprising of 75mm x 49mm hardwood internal timber frame work, with infill of 96 kg/m ³ , ceramic fiber blankets, coated with VIPER FR or equivalent intumescent coating on both sides for insulation. The coated insulation shall be sandwiched between 12mm thick, Non combustible Boards (Calcium Silicate) on both sides (edge to edge on internal Hardwood frame) and clad with 3mm thick commercial ply of approved quality & 1mm thick laminate of approved brand and manufacture on both sides, with 55mm x 14mm 2nd class teak wood lipping all round the shutter.					

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1	2	3	4	5	6	7
	The shutter is suitable for mounted on the door frame, as per the item given below.. Both frame and shutter shall be fitted with fire & smoke intumescent seal of Viper or equivalent make of size 20 x 4mm on all the three sides except bottom. The pasting of the ply/veneer/laminate should be done using automatic machine and should be free from any nails or perforations. The board shall be Resistant to vermin, mould growth, minor impact, abrasion and short term water attack. The shutter shall be fixed with the frame with the help of SS 304 grade ball bearing hinges of size 100x76x2mm with necessary screws and making cut out for vision panel. Provisions/reinforcement for fixing all fixtures shall be built in on the door prior to the supply.					
a)	Single/Double Shutter	126.00	sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.18	Providing and fixing door frames as per BS: 476 part 22, IS:3614 Part II as per the prototype certified by CBRI Roorkee made out of 2nd class Teak Wood (Ivory Coast)frame of section 140x65mm for fire resistant doors of 120 minutes fire rating, with heat activated intumescent fire seal strips of size 20 x 4 mm(for smoke sealing) provided in grooves on all three sides of the frame with one coat of approved brand of fire retardant primer including two coats of fire retardant paint FR 881 or equivalent un thinned on cleared hard wood surface of door frames (@3.5 sq.m. per litre per coat) including preperation of base surface as per recommendations of manufacturer to make the surface fire retardant, including fixing the frame with 8 nos. 100 mm long, 10 mm dia metal dash fastners complete as per directions of the Engineer in charge NOTE:- cost of fire seal strips, dash fastners are included in the item. Nothing extra shall be paid if size of any component of material exceeds the limit mentioned in the item.	205.00	Metre			

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1	2	3	4	5	6	7
5.19	Providing and fixing UL listed door Co-ordinator (of Briton IR make IVES coordination with model no. COR 52 US 28X FL32/ Superbright make UL 600 or approved equivalent Make) for coordination of double leaf doors, with minimum one year warrantee.	32.00	Each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.21	Providing and fixing 6 mm thick pyroswiss extra or equivalent fire rated clear toughened glass of approved make, of 120 minutes fire rating to be fixed in vision panel including cost of fire ceramic tape and moulding/beading etc all complete	5.00	sqm			
	ALUMINIUM FITTINGS					
5.22	Providing and fixing IS : 3564 marked Aluminium die cast body tubular type universal hydraulic door closer with necessary accessories and screws etc. complete.	292.00	each			
5.23	Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete:					
a)	300x16 mm	2.00	each			
b)	250x16 mm	971.00	each			

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1	2	3	4	5	6	7
5.24	Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete:					
a)	250x10 mm	2295.00	each			
b)	150x10 mm	4824.00	each			
5.25	Providing and fixing aluminium pull bolt lock anodised ISI marked (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws bolts, nut and washers etc. complete.	260.00	each			
5.26	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :					
a)	125 mm	3044.00	each			
b)	100 mm	1573.00	each			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.27	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws etc. complete.					
a)	Twin rubber stopper	1449.00	each			
5.28	Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodic coating not less than grade AC 10 as per IS : 1868) aluminium lever handles with necessary screws etc. complete (Best make of approved quality).	648.00	each			
5.29	Providing and fixing 1mm thick M.S sheet door with frame of 40x40x6mm angle iron and 3mm M.S gusset plate at the junction and corner all necessary fittings complete including applying a priming coat of approved steel primer					
a)	Using M.S angle 40x40x6mm for diagonal braces	84.00	Sqm			

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1	2	3	4	5	6	7
5.30	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of approved quality with necessary stainless steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.					
a)	255 X 19 mm	4831.00	Each			
5.31	Providing and fixing fly proof galvanised MS steel wire guage to windows and clerestory windows using approved quality MS wire gauge with average width of aperture 1.4mm in both direction with wire of dia .63mm.	2127.00	sqm			
5.32	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.					
a)	Powder coated minimum thickness 50 micron aluminium tubular handle bar.	4.00	each			
5.33	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	1.00	each			

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1	2	3	4	5	6	7
5.34	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary screws etc. complete.					
a)	Powder coated minimum thickness 50 micron aluminium.	579.00	each			
5.35	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge					
a)	Powder coated minimum thickness 50 micron aluminium	4.00	each			
5.36	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete:					
	2nd class teak wood					
a)	50x12 mm	5595.00	metre			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
5.37	Providing and fixing of UL listed fire rated single/double leaf panic exit devices tested in accordance with BS EN 1125: 1997 & BS EN 179: 1997, EN 1670 (Corrosion Resistant), & BS 476 Part 22 (for fire rating) with min. one year warrantee.					
a)	Double Leaf	32.00	Each			
5.38	Providing and fixing of fire rated heavy duty door closer tested in accordance with BS:476 Part 22 for fire rating) and BS EN 1154 with minimum one year warranty.	32.00	Each			
5.39	Providing and fixing fire rated mortice lock with lever handle tested in accordance with European Standard EN12209 / DIN18251 and 80mm Long cylinder to EN1303 of SCHLAGE (IR) EL2020 or approved equivalent manufacturer having 1 year manufacturers warranty.	32.00	Each			

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1	2	3	4	5	6	7
5.40	Providing and fixing 300 mm long stainless steel grade 304 D type back to back pull handle (of Dorset or approved equivalent make) with necessary bolts with alen key arrangement etc complete.	67.00	Each			
	Total					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
6.00	Steel Works					
6.01	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete.					
a)	Fixed to steel windows by welding.	18409.00	kg			
b)	Fixed to brick wall openings /wooden frames with rawl plugs, screws etc.	18409.00	Kg			
6.02	Extra for powder coating over M.S. Grills, Stair case railing, balcony railing etc.	32500.00	kg			
6.03	Steel work welded in built up sections/ framed work including cutting ,hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.					
a)	In stringers, treads ,landings etc of stair cases including use of chequered plate wherever required, all complete.	4447.00	Kg			
b)	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	12221.00	Kg			

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1	2	3	4	5	6	7
c)	In MS windows/ ventilators builtup in section window, angles, square bar, MS flat complete with cutting , welding and hoisting.	751.00	Kg			
6.04	Providing and fixing railing of approved size by welding etc. to parapet railing, balcony railing and staircase railing including applying a priming coat of approved steel primer.					
a)	M.S. tube.	6782.00	Kg			
b)	M.S. sheet.	2100.00	Kg			

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1	2	3	4	5	6	7
6.05	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	11616.00	Kg			
6.06	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2mm and braced with flat iron diagonals 20x5mm size with top and bottom rail of T-iron 40x40x6mm with 40mm dia, steel pulleys complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer.	50.00	sqm			

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1	2	3	4	5	6	7
	Total					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.00	Flooring					
7.01	Cement concrete flooring 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate) finised with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.					
a)	40mm thick with 20mm nominal size stone aggregate.	461.00	sqm			
7.02	52 mm thick cement concrete flooring with concrete hardener topping under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 2 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume .hardening compound is mixed @ 2 litre per 50kg of cement or as per manufacturers specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	407.00	sqm			

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1	2	3	4	5	6	7
7.03	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement.					
a)	18 mm thick.	53.00	sqm			
7.04	Providing and fixing glass strips in joints of <i>terrazo</i> / cement concrete floors.					
a)	40 mm wide and 4 mm thick.	1150.00	Metre			
7.05	Precast terrazo tiles 22mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) :					
a)	Medium shade using 50%white cement and 50% ordinary cement.	6050.00	sqm			

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1	2	3	4	5	6	7
7.06	Precast terrazo tiles 22 mm thick with graded marble chips of sizes upto 12 mm in skirting and risers of steps not exceeding 3 cm in height on 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) jointed with neat cement slurry mixed with pigment to match the shade of the tiles, including rubbing and polishing complete with tiles of :					
a)	Medium shades using 50% white cement and 50% ordinary cement.	634.00	sqm			
7.07	Marble stone flooring with 18mm thick marble stone (sample of marble shall be approved by Engineer-in-charge) over 20 mm (average) thick base of cement mortar 1:4 (1 cement: 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete with:					
a)	Raj Nagar White	1391.00	sqm			
b)	Udaipur green marble	2611.00	sqm			
c)	Jaisalmer Stone	370.00	sqm			

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1	2	3	4	5	6	7
7.08	18mm thick Prepolished Granite (Base Rate 250/- Sqft) in Risers, skirting and dado (upto 90 cm height) over 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement including pointing with white cement mixed with pigment matching the shade of granite stone all complete and as directed.	400.00	sqm			
7.09	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :					
a)	25 mm thick.	5007.00	sqm			
7.10	Kota stone slabs 25 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	747.00	sqm			

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1	2	3	4	5	6	7
7.11	Extra for Kota stone/ sand stone in treads of steps and risers using single length up to 1.20 metre .	471.00	sqm			
7.12	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	8105.00	sqm			

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1	2	3	4	5	6	7
7.13	Providing and laying rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete.	1834.00	sqm			
7.14	Providing and laying polished vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement: 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete					
a)	Size of Tile 60x60 cm	6374.00	sqm			

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1	2	3	4	5	6	7
7.15	Providing and fixing 18mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills. facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels					
a)	Granite of any colour and shade					
i	Area of slab upto 0.50 sqm	194.00	sqm			
ii	Area of slab over 0.50 sqm.	622.00	sqm			
7.16	Extra for providing edge moulding to 18mm thick Granite stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer-in-Charge.					
a)	Granite work.	922.00	metre			
b)	maeble work	174.00	metre			

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1	2	3	4	5	6	7
7.17	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	432.00	Meter			
7.18	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.	340.00	each			
7.19	Extra for mirror polishing on kota / marble stone work where ever required to give high gloss finish complete.	3420.00	sqm			
7.20	Fixing glazed/ Ceramic/ Vitrified floor tiles with cement based high polymer modified quick-set tile adhesive (Water based) conforming to IS: 15477 , using 5kg. adhesive per sqm of tile area, in average 3mm thickness.	167.00	sqm			

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1	2	3	4	5	6	7
7.21	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing and cleaning etc. complete on 20 mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand).					
a)	Dark shade using ordinary cement	347.00	sqm			
7.22	Providing and fixing 2 mm thick homogeneous PVC flooring with total weight 3.600 g/m2 polyurethane reinforced(PUR) ,Abrasion group μ : \leq 0.30mm,residual identification approx..06 mm,caster wheel test qualified,,dimensional stablity \leq 0.40%,static electrical charge < 2kv,impact sound reduction approx +4db,good resistance of chemical and fire,doesn't favour in growth of fungi & bacteria. slip resistant (R9 \geq 0.300	50.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.23	Chequered terrazo tiles 22 mm thick with graded marble chips of size up to 6 mm in floors jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) :					
a)	Medium shade using 50%white cement 50% ordinary cement	20.00	Sqm			
7.24	P/L 8mm thick (EN13329) laminated Flooring including skirting (class use of 23/31 AC 3 with 0.2mm thick direct pressure laminated on top) plank size 1290 X 194 mm & groove construction with edge impregnate with seal to secure long lasting joints ,secured together with the help of suitable glue, conforming to EN 13329.	88.00	sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
7.25	Granite stone flooring with 18 mm thick granite (Base Rate Rs. 250/- Sqft) stone, rectangular shape, (minimum size of stone should be 0.45 sqm and one dimension not less than 700 mm), over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with grey cement slurry including rubbing and polishing complete.	553.00	sqm			
	Total					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.00	CEILING & ROOFING					
8.01	Providing and fixing 15mm thick Mineral Fibre False Ceiling Tiles or equivalent of size 600x600 mm in true horizontal levelsuspended on inter locking metalgrid of hot dipped galvanied steel sectios (Galvanized @ 170 gsm/sqm) consisting of main "T" runner suitably spaced at joints to get required length and of size 24x38mm made from 0.30 mm thick (minimum)sheet spaced at 1200 mm center to center and cross "T" of size 24x25mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600mm panel to form grids of 600x 600mm and laying 15 mm thick mineral fibre false ceiling tiles of approved texture in the grid including, wherever, requiried, cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke deterctors etc.exposed					

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1	2	3	4	5	6	7
	Main "T" runners to besuspended from ceiling using GI slotted cleats fixed to ceiling with 6 mm dia and 50 mm long dah fasteners, 4 mm GI adjustable rods with galvanised leve lclips spaced at 1200 m center to center along main T, bottom width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete at all heights as per specificaitons drawings and as directed by Engineer-in-Charge.Only Mineral Fibre false ceiling area will be measured for the purpose of payment.					
	The Mineral Fibre Ceiling shall either be precast (mulded) or wetted product and shall have NRC value of 0.5 (minimum) CAC 35-39, light reflection 84% (minium), fire rating class A as per ASTM E-84, suitable for 95% relatie humidity and also having Thermal Resistance "(R)" =0.33 sqm deg. C/W					
	The job to be carried out by reputed agency having sufficient work experience and approved by the engineer in charge..	1491.00	Sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.02	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8183 density 24kg/m ³ , 50mm thick, wrapped in 200 G Virgin Polythene bags fixed to ceiling with metallic cleats (50x50x3 mm) @ 60 cm and wire mesh of 12.5mm x 24g wire and mesh, for top most ceiling of building.	1491.00	Sq Mtr.			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting with :					
a)	12.5 mm thick tapered edge gypsum board conforming to IS: 2095- Part I.	373.00	sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.04	Providing and fixing 8mm thick clear multi wall polycarbonate sheets of approved quality and shade in desired shape in roofing including the cost of EPDM gaskets , sealing tape , aluminium profile and all necessary accessories complete as per architectural drawings and as directed by Engineer incharge. The item includes designing the complete system and supplying & getting approved from client and / or reputed engineering institue like IIT etc. The detailed shop drawings including supplying structural design calculations based on relevent codal provisions and carrying out water penetration test as per standards followed in India.					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	The whole work is to be done through reputed and approved vendor having experience in polycarbonate work in Commercial/Govt/Corporate buildings as per architectural elevation drawings including filling of joints with silicon sealent and also with masonary/RCC work, at all heights including double heights, straight or curved etc. complete in all respect. (Plan Area shall be measured for the payment) (Framing to be paid seprately)	58.00	Sqm			
8.05	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed pprtions of W.C., kitchen and the like consisting of :					
i)	1st course of applying cement slurry @ 4.4 Kg/sqm mixed with water proofing compound conforming to 18 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
ii)	IIInd course of 20mm cement plaster 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.					
iii)	IIIrd course of applying blown or residual bitumen applied hot at 1.7 Kg. per sqm of area.					
iv)	IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet Should be 100 mm wide and pasted to each other with bitumen @ 1:7 Kg/sqm.)	4040.00	sqm			
8.06	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1mx1mx4micron. finished with 12mm cement plaster 1:3 (1 cement: 3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete.	102.00	each			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
8.07	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement: 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound to IS : 2645 and approved by Engineer - in - charge to required slope and treating similarly the					

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
	adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement: 4 coarse sand) admixed with water proofing compound conforming to IS: 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :					
	With average thickness of 120mm and minimum thickness at khurra as 65 mm.	9651.00	sqm			
	Total					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
9.00	Finishing					
9.01	12 mm cement plaster of mix:					
a)	1:6 (1 cement: 6 fine sand)	25579.00	sqm			
9.02	15 mm cement plaster on the rough side of single or half brick wall of mix:					
a)	1:6 (1 cement: 6 fine sand)	44778.00	sqm			
9.03	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) finished with a top layer 6mm thick cement plaster 1:6 (1 cement: 6 fine sand).	33100.00	sqm			
9.04	6 mm cement plaster of mix:					
a)	1:3 (1 cement: 3 fine sand)	21332.00	sqm			
9.05	Neat cement punning	625.00	sqm			
9.06	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	2075.00	of 50 kg cement used in			

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
9.07	Extra for plastering exterior walls of height more than 10 m from .ground level for every additional height of. 3 m or part thereof.	8187.00	sqm			
9.08	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete	46930.00	Sqm			
9.09	Providing and applying ready made putty of approved quality in required layers and thickness over plastered surface to prepare the surface even and smooth complete	46930.00	Sqm			
9.10	White washing with lime to give an even shade:					
a)	New work (three or more coats)	3327.00	sqm			
9.11	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade					
a)	New work (two or more coats) over and including priming coat with cement primer.	69942.00	sqm			
9.12	Applying one coat of cement primer of approved brand and manufacture on wall surface:					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	Cement primer.	22585.00	sqm			
9.13	Finishing walls with textured exterior paint of required shade:					
a)	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kgl10 sqm).	12172.00	sqm			
9.14	Finishing walls with Acrylic smooth exterior paint of required shade:					
a)	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including base coat of water proofing cement paint applied @ 2.20kg/1 0 sqm.	26251.00	sqm			
9.15	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:					
a)	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	13575.00	sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
9.16	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade:					
a)	Two or more coats on new work	22585.00	sqm			
9.17	Forming groove of uniform size from 12x12mm and upto 25x15mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and direction of the Engineer-in-Charge.	6087.00	metre			
9.18	Providing and fixing 24 gauge and 18mm mesh size chicken wiremesh at junction of concrete and brick work and other locations at all heights including cutting to required size and side laps of minimum 75mm and fixing in positions with nails/screws etc. as directed and as required at site.	6275.00	sqm			
	Total					

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.00	Miscellaneous					
10.01	Providing and fixing Wooden Wall panelling with the following specification:					
a)	Frame work of chemically treated (for termites) seasoned hollock wood 50 X 50 mm in horizonntal & Vertical frame 600 X 600 mm c/c and along doors, windows etc, fixed rigidly with suitable desh fastners etc all complete as required at site.					
b)	Providing and fitting 50 mm thick glass wool of 24 kg/cum density wrapped in 200G virgin polythene bags					
c)	Providing and fixing 20 mm thick first quality rubber wood (as per approved sample) slats/panels of required width for skirting and panelling fixed over wooden base giving 3 mm gap between the panels, as per drawing including required hardware, beading etc all complete.					
d)	Malamine polishing over wooden panelling (Area of paneling shall be measured for complete item)	41.00	sqm			

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.02	Providing and fixing wall panelling with the following specification:					
a)	Frame work of chemically treated (for termites) seasoned hollock wood 50 X 50 mm in horizonntal & Vertical frame 600 X 600 mm c/c and along doors, windows etc, fixed rigidly with suitable desh fastners etc all complete as required at site.					
b)	Providing and fitting 50 mm thick glass wool of 24 kg/cum density wrapped in 200G virgin polythene bags					
c)	Providing and fixing fabric cladding (Base rate of fabric Rs 400 per sqm) fixed with suitable adhesive over 19 mm thick accousitc board of approved quality fixed over wooden base including all hardware, beading etc complete,	41.00	sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.03	Designing, supplying, fabrication and installation of semi unitised Structural glazing system in the form of fixed panels, using specially designed aluminium extruded sections, mullions and transoms having 25 micron Anodising of approved colour and shade and make with mullions fixed on the RCC beams/columns through adequately designed brackets including providing masking tape on the profiles for safety against external scratches on site complete with approved silicon sealant EPDM gasket etc. to make the structural glazing air tight and water tight as per standards and as per Architect's drawings and specifications. The design to be as per BIS code for required wind pressure IS: 875 part III and use of aluminium section alloy as per IS:8147.					

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	System design to strictly consider for thermal movements, air infiltration, water penetration, seismic movement and structural movement. Contractor to furnish shop drawings along with sequence of work for approval of Engineer-in-charge. The minimum section shall be 131x66x2mm and per sqmt weight shall be 10kg approx., the item shall be measured and paid for actual surface area of structural glazing/aluminium composite panel supported on the frame. The work shall be carried out by the specialised agency approved by Engineer in Charge.	1688.00	sqm			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.04	Extra for providing & fixing 24mm made up thickness insulated glass over above corresponding item hermetically sealed with 6mm heat strengthend toughened solar control off line coated high performance temperable glass of approved colour having reflective soft coating and 6mm clear toughned float glass inside with 12mm dry air cavity between two glass panes separated by a hollow aluminium spacer bar with twin lines of micro holes as approved filled with molecular desiccant of approved make and using primary hot meld duly and secondary polysulphide or silicon sealant of approved make all complete over above item. (U value less than 2.85w/sqm k, shadding cofficent less than 0.55, solar factor less than 0.25, light transmission minimum 25%)	1688.00	Sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.05	Providing, cutting, bending and fixing 4mm thick aluminium composite cladding on external façade with water tight system either curved or straight or circular in plan. Skin material 0.5mm thick aluminium sheet (3005 H6) core material natural polyethylene, aluminium cladding panel to be of approved colour/shade fixed with extruded aluminium basic frame, angle cleats, weather sealants, rivets, GI brackets all as approved, using suitable chemical/anchor bolts on structural steel work including necessary accessories complete in all respects (frame work to be paid separately).					
	(Rate should be quoted considering enclosed particular specifications and provision of openable access panels for services wherever required) visible surface area shall be measured for payment. With weather silicon sealant of approved make, non-streaking/ staining weather sealant of approved make.					
	On curved or straight surfaces including cill and jambs.	346.00	sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.06	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) 1st layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.					
a)	Using rough kota stone.	200.00	Sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.07	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :					
a)	Using rough Kota stone	200.00	sqm			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
10.08	Providing and Fixing Structural glass assembly of glazed smoke down stand using 12mm clear toughened glass laminated both sides. Including 8mm clear sealant to specification H13/740 and grade 304 stainless steel of hairline finish assembly fixing of bolted patch plate with counter sunk screw including down hang galvanized bracket support from structure slab using hilti or equivalent anchor as shown in detail drawing and as per	70.00	sqm			
10.09	Providing and fixing concrete decorative tiles of approved make and shade to req size i.e. 3" X 6" or 3"X9" or 4"X8" in wall lining upto 10m height with special adhesive over 12mm thick bed of cement mortar 1:3 (1 cement:3 fine sand) including pointing in white cement with an admixture of pigment to match the tiles shade all complete as per arch dwgs and as directed(Size of tile as per architectural requirement and thickness of tile as per manufacturer specifications.)	35.00	sqm			
	Total					

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.00	ROAD WORK & DOVELOPEMENT					
11.01	Preparation of sub grade by excavating earth to an average of 22.5 cm depth, dressing to camber and consolidating with road roller including making good the undulations etc. and disposal of surplus earth lead upto 50 Metres.	8663.00	SQM			
11.02	Supplying & stacking of graded stone aggregate at site of size range.					
a)	90 mm to 45 mm	1170.00	CuM			
b)	63 mm to 45 mm	1083.00	CuM			
c)	53 mm to 22.4 mm size stone aggregate.	1083.00	CuM			
d)	Stone screening 13.2 mm nominal size (Type A)	105.00	CuM			
e)	Stone screening 11.2 mm nominal size (Type B)	105.00	CuM			
f)	Moorum	105.00	CuM			

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Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.03	Laying spreading and compacting stone aggregate of specified sizes to WBM specifications including spreading in uniform thickness, hand picking, rolling with 3 wheeled road! vibratory roller 8-10 tonne in stages to proper grade and camber, applying and brooming requisite type of screening! binding material to fill up interstices of coarse aggregate watering and compacting to the required density.	1733.00	Cum			
11.04	Providing & applying tack coat using hot straight run bitumen of grade 80/100 including heating the bitumen, spraying bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning & preparing existing road surface as per specifications					
a)	On W.B.M. @ 0.75 kg/SqM	8663.00	SQM			
b)	On bituminous surface @ 0.50 Kg/sqm.	2599.00	SQM			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.05	Providing and laying Bitumen Penetration Macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade including required key aggregate as specified, spreading coarse aggregate with the help of self propelled/ tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then sprading key aggregate with the help of aggregate spreader complete including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy.					
a)	For 50mm compacted thickness using coarse aggregate of size 50-20 mm graded @0.60CUM per 10 sqm key aggregate of size 12.5 mm graded @0.15 cum per 10 SqM With paving asphalt 80/100 @ 50 kg/10 SqM	8663.00	SQM			

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				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.06	Providing and laying seal coat of premixed fine aggregate (passing 2.36 mm and retained on 180 micron sieve) with bitumen using 128 kg of bitumen of grade 80/100 bitumen per CuM of fine aggregate and 0.60 CuM of fine aggregate per 100 SqM of road surface including rolling and finishing with road roller all complete.	8663.00	SQM			
11.07	Providing and laying C.C. pavement of mix M25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately).	263.00	Cum			
11.08	Providing and laying in position bitumen hot sealing compound for expansion joints etc					

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
a)	Using grade 'A' sealing compound.	525.00	Per cm depth per cm width per m length			
11.09	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction and of approved size and design/ shape laid in required colour and pattern over and including 50mm thick compacted bed of course sand, filling the joints with coarse sand etc. all complete as per the direction of Engineer-in-charge.	1050.00	SqM			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.10	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement in position to the required line, level and curvature jointed with cement mortar 1:3 (1 cement: 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm) including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	70.00	Cum			
11.11	Supplying & stacking sludge or manure at site including royalty & carriage upto 1 km (sludge measured in stacks will be reduced by 8% for payment)	1575.00	Cum			
11.12	Spreading of sludge, dump manure or/and good earth in required thickness (Cost of sludge, dump manure or/ and good earth to be paid separately).	1575.00	Cum			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.13	Trenching in ordinary soil upto a depth of 60cm including removal and stacking of serviceable materials and then disposing of by spreading and neatly levelling with in a lead of 50m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).	1575.00	Cum			
11.14	Rough dressing the trenched ground including breaking colds & uprooting weeds from the trenched are after 10 to 15 days of its flooding with water (including disposal of uprooted vegetation)	15750.00	Sqm			
11.15	Supply & sprinkling of Neem cake (at the rate of 6 kg per 100 sq. metres) and fine dressing the ground.	15750.00	Sqm.			

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Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.16	Supply & grassing with "Calcutta Doob" grass in rows 7.5cms, apart in either direction including fine dressing the ground to be levelled, supply and filling with good earth if needs, watering & maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds & fit for mowing. Anti-termite shall be applied with CHLOROPYRIPHOS (DURSBAN make or equivalent) at the rate of 2ml per litter in the first watering.	15750.00	Sq.m.			
11.17	Digging holes in ordinary soil and refilling the same with the exca-vated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately):					
a)	Holes 1.2 m dia and 1.2 m deep.	105.00	Each			
b)	Holes 60 cm dia, and 60 cm deep.	105.00	Each			

**Project Name: Construction of Academic, Housing and Hostel Buildings in LGBRIMH
Campus, Tezpur, Assam.**

				Bill of Quantity (Civil work)		
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
11.18	Cutting road and making good the same including supply of extra quantities of materials i.e. aggregate, moorum screening, red bajri and labour required.					
	Bituminious portion	70.00	cum			
11.19	Preparation of granular sub-base road pavement using local suitable granular soil , so as to achieve minimum field C.B.R. of 20 including mixing, rolling with road roller curing etc. all complete.					
		1050.00	cum			
	Sub Total					

**Project Name: Construction of Academic, Housing and Hostel Buildings in LGBRIMH
Campus, Tezpur, Assam.**

Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
12.00	SIGNAGES					
12.01	Providing and fixing sinages of varing sizes and shapes using stainless steel sheet of minimum 16g thickness brass finished including engraving / etching of letters of required size filled with colour as desired by the engineer, fixing with ss screws on walls.	3484.00	sqinch			
12.02	Providing and fixing of sinages of varying sizes and shapes using stainless steel sheet of minimum 16G thickness brush finish including engraving/etching of letters of required size filled with colour as desired by engineer,fixing with ss screws on walls	5429.00	sqinch			
12.03	Providing and fixing of external sinages of varying sizes and shapes using GI sheet of atleast 22 G / aluminium sheet of suitable gauge complete as per technical specifications and directions of Engineer.	158.00	sqft			

**Project Name: Construction of Academic, Housing and Hostel Buildings in LGBRIMH
Campus, Tezpur, Assam.**

Bill of Quantity (Civil work)						
Item No	Description Of Item	Total Qty	Unit	Rate in Figures(Rs)	Rate in Words(in Rs)	Amount in Figures(in Rs)
1	2	3	4	5	6	7
12.04	Providing and fixing MS support frame for external signages made of structural steel including welding, primering, painting foundation with 1:1.5:3 cement concrete complete as per drawing, technical specifications and directions of engineer.	982.00	Kg			
12.05	Providing fabricating and fixing of name plate pockets outside rooms made of 5mm opaque, milky white acrylic sheet in various sizes and with provision of fixing acrylic plates as per boq item on the same, the pockets should be well crafted using high quality adhesives and should be fixed on the wall with the help of screws etc.and as per the direction of the engineer.	2384.00	sq.inch			
SUB TOTAL						

ABSTRACT

Name of Work:BOQ of Plumbing work of Residential & Institutional Buildings for LGB Regional Institute of Mental Health at Tezpur, Assam

The quantities are of Sr.Resident Hostel(1 block),Jr.Resident Hostel(1 Block),Directors Bunglow(D.U.-1),Type-V(6 Blocks,D.U.-12),Type-IV(5 Blocks,D.U.-40),Cafeteria(1 Block),Type-II(3 Blocks,D.U.-24),Type-III(3 Blocks,D.U.-24),Type-VI(9 Blocks,D.U.-9),Academic(1 Block)& External development

S.No.	DESCRIPTION	Amount in Figures(in Rs.)
A	PLUMBING ,	
1.00	SANITARY FIXTURES	
2.00	SOIL, WASTE AND VENT PIPES	
3.00	WATER SUPPLY	
4.00	SEWERAGE AND DRAINAGE	
5.00	EARTH WORK	
6.00	RAIN WATER PIPING	
7.00	EXTERNAL WATER SUPPLY	
8.00	BOREWELL	
9.00	SOLAR WATER HEATING SYSTEM & RECIRCULATING SYSTEM	
10.00	WATER TREATMENT PLANT ,PUMP & EQUIPMENT	
11.00	WATER SUPPLY ELECTRICAL PANEL	
	TOTAL	



Design & Engineering Department

Name of Work:BOQ of Plumbing work of Residential & Institutional Buildings for LGB Regional Institute of Mental Health at Tezpur, Assam

The quantities are of Sr.Resident Hostel(1 block),Jr.Resident Hostel(1 Block),Directors Bunglow(D.U.-1),Type-V(6 Blocks,D.U.-12),Type-IV(5 Blocks,D.U.-40),Cafeteria(1 Block),Type-II(3 Blocks,D.U.-24),Type-III(3 Blocks,D.U.-24),Type-VI(9 Blocks,D.U.-9),Academic(1 Block)& External development

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Note: Based on the tender drawing the agency has to prepare the internal & external plumbing shop drawing and obtain the approval of the same before execution and work shall be executed by specialised approved agency.						
1.00	SANITARY FIXTURES						
1.01	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required :						
a)	White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests.	17.1.1	Each	114.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.02	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous flushing cistern and C.P. flush bend with fittings & C.I. brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required:	17.3.1	Each	312.00			
a)	W.C. pan with ISI black solid plastic seat & lid.						
1.03	Providing and fixing white vitreous China flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I. clamps complete, including painting or fittings and brackets, cutting and making good the walls and floors wherever required.	17.4					
a)	One urinal basin with 5 litre white PVC automatic flushing cistern	17.4.1	Each	1.00			
b)	Range of two urinal basin with 5 litre white PVC automatic flushing cistern.	17.4.2	Each	3.00			
c)	Range of three urinal basin with 10 litre white PVC automatic flushing cistern.	17.4.3	Each	3.00			
1.03	Providing and fixing wash basin with C.I. brackets, 15mm C.P. brass pillar taps, 32mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required:						
a)	White vitreous china wash basin size 550x 400 mm with a pair of 15mm C.P. brass pillar tap.	17.7.3	Each	526.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.04	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required:						
a)	510x1040 mm bowl depth 225 mm with drain board.	17.10.1.2	Each	179.00			
1.05	Providing and fixing white vitreous china laboratory sink with C.I. brackets, C.P. brass chain with rubber plug 40 mm C.P. brass waste and 40 mm brass trap with necessary C.P. brass unions complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required:	17.11					
	Size 600x450x200 mm	17.11.2	Each	15.00			
1.06	Extra for using coloured W.C. pan instead of white W.C pan	17.14					
	Orissa pattern W.C. pan 580x440 mm	17.14.1	Each	1.00			
1.07	Extra for using coloured pedestal type W.C. pan (European type) with low level cistern of same colour instead of white vitreous china W.C. pan and cistern	17.16	Each	312.00			
1.08	Providing and fixing superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shape with 6 mm thick hard board backing.						
a)	Rectangular shape 453x357 mm	17.32.2	Each	526.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.09	Providing and fixing 600x120x5 mm glass shelf with edges round of supported and anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	17.33	Each	410.00			
1.10	Providing and fixing toilet paper holder .						
a)	Vitreous china	17.34.2	Each	312.00			
1.11	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour weighing not less than 105 gms.	17.71	Each	70.00			
1.12	Providing and fixing water Jet Nozzle with hose pipe and half turn CP brass angle valve to be fitted with seat cover of european water closet complete in all respect of approved quality	NS	Each	312.00			
1.13	Providing and fixing soap tray with CP brass lid and brackets fixed to wooden cleats with CP brass screws.	NS	Each	410.00			
1.14	Providing and fixing CP brass towel rail size of 600x20 mm of approved make complete with CP brackets fixed to wooden cleats with CP brass screws	NS	Each	435.00			
1.15	Providing and fixing brass coat hook of approved quality and make complete with material of fixing	NS	Each	771.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
1.16	Extra for providing and fixing white vitreous china oval shape wash basin in place of normal wash basin with CI/MS brackets painted white, 15 mm CP brass pillar taps, 32 mm CP brass waste of standard pattern, including painting of fittings and brackets cutting and making good the walls wherever required						
a)	Counter top oval shape wash basin size 550x470 mm with centre tap hole, single 15 mm CP brass swan neck type pillar tap	NS	Each	438.00			
1.17	Providing and fixing stainless steel grab bar 20mm dia of required length minimum 600 mm with PVC cleats, C.P. brass screws etc. complete.	NS	Each	10.00			
SUB TOTAL(SANITARY FIXTURES)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.00	SOIL, WASTE AND VENT PIPES						
2.01	Providing and fixing soil, waste and vent pipes.						
a)	100 mm dia.						
a i)	Centrifugally cast (spun) iron socketed pipe as per IS:3989	17.35.1.2	Metre	5312.00			
b)	75 mm dia						
b ii)	Centrifugally cast (spun) iron socketed pipe as per IS:3989	17.35.2.2	Metre	2470.00			
2.02	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.						
a)	for 100 mm dia. pipe	17.37.1	Each	1003.00			
b)	for 75 mm dia. pipe	17.37.2	Each	588.00			
2.03	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.						
a)	100 mm						
a ii)	Sand cast iron S&S as per IS-3989	17.38.1.2	Each	207.00			
	75 mm						
b)	Sand cast iron S&S as per IS-3989	17.38.2.2	Each	173.00			
2.04	Providing and fixing plain bend of required degree.						
a)	100 mm						
a ii)	Sand cast iron S&S as per IS:3989	17.39.1.2	Each	599.00			
b)	75 mm						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
b i)	Sand cast iron S&S as per IS:3989	17.39.2.2	Each	184.00			
2.05	Providing and fixing heel rest sanitary bend.	17.40					
a)	100 mm dia						
a.ii)	sand cast iron S&S as per IS-3989	17.40.1.2	Each	138.00			
b)	75 mm						
	sand cast iron S&S as per IS-3989	17.40.2.2	Each	97.00			
2.06	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.						
a)	100x100x100mm						
a.ii)	sand cast iron S&S as per IS-3989	17.43.1.2	Each	470.00			
b)	75x75x75mm Centrifugally cast (spun) iron S&S						
b.ii)	sand cast iron S&S as per IS-3989	17.43.2.2	Each	229.00			
2.07	Providing and fixing single equal plain junction of required degree	17.44					
	100x100x100mm	17.44.1					
	sand cast iron S&S as per IS-3989	17.44.1.2	Each	15.00			
2.08	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete						
a)	100 mm						
a.ii)	sand cast iron S&S as per IS-3989	17.55.1.2	Each	265.00			
2.09	Providing and fixing terminal guard.						
a)	100 mm						
a.ii)	sand cast iron S&S as per IS-3989	17.56.1.2	Each	144.00			
b)	75 mm						
b.ii)	sand cast iron S&S as per IS-3989	17.56.2.2	Each	99.00			
2.10	Providing and fixing collar						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	100 mm						
a.ii)	Sand cast iron S&S as per IS-3989	17.57.1.2	Each	474.00			
b)	75 mm						
b.ii)	Sand cast iron S&S as per IS-3989	17.57.2.2	Each	234.00			
2.11	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:						
a)	100 mm	17.58.1	Each	4899.00			
b)	75 mm	17.58.2	Each	1456.00			
2.12	Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :						
a)	100 mm	17.59.1	Each	144.00			
b)	75 mm	17.59.2	Each	97.00			
2.13	Providing and fixing trap of self cleansing with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:						
a)	100 mm inlet and 100 mm outlet						
a i)	Sand cast iron S&S as per IS-3989	17.60.1.1	Each	708.00			
2.14	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement: 4 coarse sand):						
a)	100 mm diameter pipe	17.61.1	Metre	418.00			
b)	75 mm diameter pipe	17.61.2	Metre	196.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.15	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:						
a)	100 mm diameter pipe	17.65.1	Metre	3478.00			
b)	75 mm diameter pipe	17.65.2	Metre	1869.00			
2.16	Providing and fixing floor drain points formed out of 65 mm dia GI elbow, including with 75mm dia Stainless Steel grating with frame, embedded in floor, all complete as directed.	NS	Each	359.00			
2.17	Providing and fixing C.P. brass bottle trap for wash basin including CP waste fittings complete 32 mm dia complete in all respect of approved quality.	NS	Each	486.00			
2.18	Providing and fixing C.P. brass bottle trap for sinks & urinal basin including CP waste fittings complete 40 mm dia complete in all respect of approved quality.	NS	Each	185.00			
2.19	Providing and laying cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) 80 mm thick all-round the SCl/centrifugally S&S pipe diameter.						
a)	100 mm dia	NS	Metre	1733.00			
b)	75 mm dia	NS	Metre	603.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.20	Providing and fixing G.I EXTENSION PIECE for 100 mm dia floor trap formed out of main pipe(Type A) with multiple side inlets, suitable for various dia pipes, side connections, including all fixtures and fittings as per site conditions and as per standard details and water tight sealing of joints and area surrounding the grating and as directed.	NS	Each	617.00			
2.21	Providing Drip seal joint of approved make for the sand cast iron/centrifugally cast iron pipes where the workability of lead joint can be effected due to space constraints. 100 mm/75mm	NS	Each	1745.00			
2.22	Providing and fixing dash fastner made of rust proof plated steel for holding the soil/waste supply pipes complete in all respect Dash fastner for pipe more than 25 mm dia to 150 mm dia pipe of size 25 mm dia and 50 mm long minimum & shall be capable of taking 6 tonnes load and also include the supporting angles 35x35x5 mm/ of required size or MS bars steel structures as per drawing.	NS	Each	2370.00			
2.23	Providing and fixing floor clean out plug consist of CI bend & GI socket heavy class with Brass cap & key for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in -ChargeFCO (floor clean out plug shall be flushed with floor finish 100 mm dia	NS	Each	24.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
2.24	Providing and fixing cPVC. pipes complete with cPVC fittings including painting, jointing, testing the cost of cutting the chases and making good the same for waste water disposal complete as per direction of engineer incharge.	NS					
	32 mm dia nominal bore (Wash basin to floor trap/floor drain)		Meter	781.00			
	40 mm dia nominal bore (Sink, Urinal to floor trap)		Meter	300.50			
	50 mm dia nominal bore (Floor Drain to Floor Trap)		Meter	474.00			
2.25	Providing & fixing SS floor trap grating 143x143x5mm thick screwable with SS fixed frame of 150x150 mm size as per approved make & model	NS	Each	699.00			
2.26	Providing and fixing clean out plug consist of GI socket/nipple heavy class with threaded pludge for opening male threaded cap etc. including lead caulked to CI pipes complete in all respects as per drawing/ sample approved by Engineer -in -Charge	NS					
	100 mm dia		Each	24.00			
	SUB TOTAL(SOIL, WASTE AND VENT PIPES)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.00	WATER SUPPLY						
3.01	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.						
	Internal work- Exposed on wall						
a)	15 mm nominal outer dia pipes (SDR-11)	18.7.1	Metre	1723.00			
b)	20 mm nominal outer dia pipes (SDR-11)	18.7.2	Metre	3428.00			
c)	25 mm nominal outer dia pipes (SDR-11)	18.7.3	Metre	2361.00			
d)	32 mm nominal outer dia pipes (SDR-11)	18.7.4	Metre	1380.00			
e)	40 mm nominal outer dia pipes (SDR-11)	18.7.5	Metre	1033.00			
f)	50 mm nominal outer dia pipes (SDR-11)	18.7.6	Metre	273.00			
g)	62.5 mm nominal outer dia pipes (SDR-11)	NS	Metre	35.00			
3.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.						
	Concealed work including cutting chases and making good the walls etc.						
a)	15 mm nominal outer dia pipes (SDR-11)	18.8.1	Metre	4620.00			
b)	20 mm nominal outer dia pipes (SDR-11)	18.8.2	Metre	1480.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
c)	25 mm nominal outer dia pipes (SDR-11)	18.8.3	Metre	715.00			
3.03	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.						
	External Work						
a)	20 mm nominal outer dia pipes (SDR-11)	18.9.2	Metre	240.00			
b)	25 mm nominal outer dia pipes (SDR-11)	18.9.3	Metre	310.00			
c)	40 mm nominal outer dia pipes (SDR-11)	18.9.5	Metre	240.00			
d)	50 mm nominal outer dia pipes (SDR-11)	18.9.6	Metre	330.00			
e)	62.5 mm nominal outer dia pipes (SDR-11)	18.9.7	Metre	150.00			
3.04	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, including cutting and making good the walls etc.	18.10					
	Internal Work- Exposed on walls						
a)	80 mm dia nominal bore	NS	Metre	160.00			
b)	100 mm dia nominal bore	NS	Metre	60.00			
c)	65 mm dia nominal bore	NS	Metre	150.00			
3.05	Making connection of G.I. /C.P.V.C.distribution branch with G.I./C.I. main of following sizes by providing and fixing tee, including, cutting and threading the pipe etc. commplete including obtaining approval for connection from DJB/Municipal corporation :						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	25 to 40 mm nominal bore	18.13.1	Each	49.00			
3.06	providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)						
a)	25 mm nominal bore	18.17.1	Each	211.00			
b)	32 mm nominal bore	18.17.2	Each	181.00			
c)	40 mm nominal bore	18.17.3	Each	40.00			
d)	50 mm nominal bore	18.17.4	Each	16.00			
e)	65 mm nominal bore	18.17.5	Each	2.00			
3.07	Providing and fixing ball valve (brass) of approved quality, High or low pressure with plastic floats complete						
a)	15 mm nominal bore	18.18.1	Each	221.00			
b)	20 mm nominal bore	18.18.2	Each	145.00			
3.08	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main	18.2					
	25 mm nominal bore	18.20.3	Each	22.00			
	40 mm nominal bore		Each	51.00			
3.09	Providing and fixing unplasticised PVC connection pipe with brass unions:						
a)	45 cm length						
a i)	15 mm nominal bore	18.21.2.1	Each	2079.00			
3.10	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet	18.22					
	150 mm diameter	18.22.2	Each	165.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.11	Constructing masonry chamber 30x30x50 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design						
a)	With F.P.s bricks	18.32.1	Each	86.00			
3.12	Constructing masonry chamber 60x60x75 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design						
a)	With F.P.s bricks	18.33.1	each	77.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.13	Constructing masonry chamber 60x45x50 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for water meter complete with C.I. double flap surface box 400x200x200 mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design						
a)	With F.P.s bricks	18.37.1	each	26.00			
3.14	Painting CPVC/G.I. pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work						
a)	15 mm nominal outer dia pipes	18.38.1	Metre	1723.00			
b)	20 mm nominal outer dia pipes	18.38.2	Metre	3428.00			
c)	25 mm nominal outer dia pipes	18.38.3	Metre	2361.00			
d)	32 mm nominal outer dia pipes	18.38.4	Metre	1380.00			
e)	40 mm nominal outer dia pipes	18.38.5	Metre	1033.00			
f)	50 mm nominal outer dia pipes	18.38.6	Metre	273.00			
g)	65 mm nominal outer dia pipes	NS	Metre	35.00			
3.15	Painting G.I. /CPVC pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.						
a)	20 mm diameter pipe	18.40.2	Metre	240.00			
a)	25 mm diameter pipe	18.40.3	Metre	310.00			
c)	40 mm diameter pipe	18.40.5	Metre	240.00			
b)	50 mm diameter pipe	18.40.6	Metre	330.00			
e)	65 mm diameter pipe	18.40.7	Metre	150.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.16	Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work						
a)	20 mm diameter pipe	18.41.2	Metre	240.00			
b)	25 mm diameter pipe	18.41.3	Metre	310.00			
c)	40 mm diameter pipe	18.41.5	Metre	240.00			
d)	50 mm diameter pipe	18.41.6	Metre	330.00			
e)	65 mm diameter pipe	18.41.7	Metre	150.00			
3.17	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI:12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank						
a)	Treated water Tank and Untreated water tank	18.48.1	per litre	132600.00			
3.18	Providing and fixing C.P brass bib cock of approved quality.						
a)	15 mm nominal bore	18.49.1	Each	371.00			
3.19	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.						
a)	15 mm nominal bore	18.50.1	Each	1246.00			
3.20	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make confirming to IS:8931						
a)	15 mm nominal bore	18.52.1	Each	736.00			
3.21	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931.						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
a)	15 mm nominal bore	18.53.1	Each	2027.00			
3.22	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by municipal board complete with bolts,nuts rubber, insersions etc. (the tail plases if required will be paid seperatly)						
a)	80mm dia nominal bore	18.60.1	Each	57.00			
3.23	Providing and fixing PTMT ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball.	18.62					
a)	40 mm nominal bore, 206 mm long weighin not less than 690 gms	18.62.4	Each	12.00			
b)	50 mm nominal bore, 242 mm long weighin not less than 1240 gms	18.62.5	Each	10.00			
3.24	Cutting holes up to 30x30 cm in walls including making good the same						
a)	With F.P.S. bricks	18.76.1	Each	385.00			
3.25	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof	18.77	Each	425.00			
3.26	Providing and fixing C.P. brass Overhead (Rain Fall) shower (100mm) with arm and wall flange complete including cutting and making good the walls wherever required.	NS	Each	313.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.27	Extra for providing wash basin mixer pillar tap in place of normal pillar tap	NS	Each	354.00			
3.28	Extra for providing shower mixer in place of ordinary concealed stop cock	NS	Each	341.00			
3.29	Providing & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chrome plated steel ball tested to a pressure not less than 10 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers etc.						
a)	15 mm diameter	NS	Each	176.00			
b)	20 mm diameter	NS	Each	213.00			
3.30	Providing and fixing mosquito proof coupling of approved Municipal design for scour and vent pipes for RCC overhead tanks complete in all respects						
a)	15 mm diameter	NS	Each	152.00			
b)	20 mm diameter	NS	Each	190.00			
c)	25 mm diameter	NS	Each	122.00			
d)	32 mm diameter	NS	Each	14.00			
e)	40 mm diameter	NS	Each	15.00			
f)	50 mm diameter	NS	Each	1.00			
3.31	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material on hot water supply/return pipes having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.						
a)	15 mm to 25 mm diameter	NS	Each	1125.00			
b)	32 mm to 50 mm diameter	NS	Each	175.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.32	Supplying, fixing, testing and commissioning of storage type water heater (Geyser) etc. with Stainless steel body , copper container , automatic thermostatic control electric element, pressure release valve, M.S. nuts and bolts etc. conforming to IS: 2082						
a)	25 Litre Capacity	NS	Each	315.00			
b)	35 Litre Capacity	NS	Each	1.00			
3.33	Extra for providing and installing INFRA-RED controlled electrically operated (220V, AC mains) automatic flushing system of approved make instead of urinals with flushing cistern. The automatic flushing system shall comprising of :	NS					
	Light sensing device fixed in recessed metallic box with tamper resistant stainless steel outercase Solenoid valve housed in a recessed metallic box with openable cover mounted at high level (at desired height from finished floor level) complete with interconnecting control wiring in recessed PVC conduit between solenoid valve and sensing unit, including cutting and making good the walls & floor complete and all necessary fittings to make it operational as directed		Each	1.00			
3.34	Extra for in place of pillar tap in wash basin/scrub sink providing and installing INFRA-RED controlled electrically operated (220V, AC mains) automatic tap of approved make instead of pillar tap, comprising of :						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Light sensing device fixed in tap, Solenoid valve housed in a recessed metallic box with openable cover mounted at high level (at desired height from finished floor level) complete with interconnecting control wiring in recessed PVC conduit between solenoid valve and sensing unit, including cutting and making good the walls & floor complete and all necessary fittings to make it operational as directed	NS	Each	1.00			
3.35	Providing and fixing C.P. brass laboratory cock swan neck heavy two way of approved model and make complete in all respect	NS	Each	15.00			
3.36	Providing & fixing solid state fully hygienic no touch hand drier of approved make rated for continuous repeat usage with solid state time delay LSF protection, with independent ambient light level & seasonal control temperatures including providing necessary C.I./M.S. brackets painted with two or three coats of enamel paint of approved shade over a coat of primer, wiring cables from drier to plug, plug tops etc. complete including cutting and making good the walls wherever required.	NS	Each	10.00			
3.37	Providing & fixing water storage cooler of approved make and brand with SS body Complete in respects.(VOLTAS/BLUE-STAR/ USHA SHRIRAM)						
a)	minimum flow rate of 20 ltrs. Per hour and storage capacity 40 ltrs.	NS	Each	13.00			
b)	minimum flow rate of 40 ltrs. Per hour and storage capacity 80 ltrs.	NS	Each	9.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
3.38	Providing and fixing approved make & suitable model of R.O. plant 25 ltrs. Per hour flow rate having capacity to treat the raw water having TDS 1200 ppm and not less than 40%. The treated water should have TDS less than 100 ppm and hardness less than 50 ppm. The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, hydro pneumatic tank, over voltage and over current protection with switch mode power supply system antiscaling dosing system complete in all respects including installation and fittings with the following provisions: (IONIEXCHANGE/ KENT/AQUAPROCESS/Pantair)						
a)	10 micron polypropylene sediment pre filter						
b)	10 micron bacteriostatic activated carbon block on line micron filter with 5 micron rating						
c)	3 Nos. of reverse osmosis memberane with 0.0001 micron pore size energy saving poly amide type						
d)	UV lamp of minimum capacity 25 LPM and minimum lamp wattage 9W	NS	Each	21.00			
SUB TOTAL(water Supply)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.00	SEWARAGE & DRAINAGE						
4.01	Providing laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete.						
a)	100 mm diameter	19.1.1	Metre	399.00			
4.02	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:						
a)	100 mm diameter S.W. pipe/RCC NP2	19.2.1	Metre	433.00			
b)	150 mm diameter S.W. pipe/RCC NP2	19.2.2	Metre	1900.00			
c)	250 mm diameter S.W. pipe/RCC NP2	19.2.5	Metre	1190.00			
4.03	Providing and laying cement concrete 1:5:10 (1 cement:5 coarse sand:10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design:						
a)	150 mm diameter S.W. pipe	19.3.1	Metre	700.00			
b)	250 mm diameter s.W. pipe	19.3.2	Metre	1250.00			
4.04	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating, brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:.						
a)	150x100mm size P type						
a.i)	F.P.S. Bricks class designation 75	19.4.2.1	Each	173.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.05	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement:2 fine sand) including testing of joints etc. complete						
a)	150 mm dia R.C.c. pipe	19.6.2	Metre	2600.00			
b)	250 mm dia R.C.C. pipe	19.6.3	Metre	2440.00			
c)	300 mm dia R.C.C. pipe	19.6.4	Metre	100.00			
4.06	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 (1cement : 4 coarse sand : 8graded stone aggregate 40 mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, and making necessary channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design.						
a)	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):						
a i)	With F.P.S. bricks with class designation 75	19.7.1.1	Each	213.00			
4.07	Extra depth for manholes						
a)	Size 90 x 80 cm						
a i)	With F.P.S. bricks class designation 75	19.8.1.1	Metre	49.50			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.08	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design:						
a)	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :						
a i)	With F.P.S. bricks class designation 75	19.9.1.1	Each	120.00			
4.09	Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m						
a)	With F.P.S. bricks class designation 75	19.10.1	Metre	43.50			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.10	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement: 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 mix (1 cement :3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominalsize) fineished with a floating coat of neat cement complete as per standard design.						
a)	1.68 m deep with SFRC cover and frame(heavy duty HD-20 grade designation) 560 mm internal diameter conforming to IS: 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate 20mm nominalsize) including centering shuttering all complete. (Excavation, foot rests and 12 mm tick cement plaster at the external surface shall be paid for separately)						
a.i)	With F.P.S. bricks with class designation 75	19.11.1.1	Each	60.00			
4.11	Extra depth for circular type manhole 1.22 m internal dia (at bottom) with beyond 1.68 m to 2.29 m						
a)	With F.P.S. bricks with class designation 75	19.12.1	Metre	18.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.12	Providing and fixing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	19.16	Each	1200.00			
4.13	Making connection of drain or sewer line with existing manhole including breking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cemnet mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete (including obtaining approval from DJB/Municipal corporation						
a)	For pipes 100 to 230 mm dia	19.21.1	Each	41.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.14	Providing sand cast iron drop connection externally for 60 cm drop from branch sewer line to main sewer manhole including inspection and cleaning eye with chain and lid sand cast Iron drop pipe and bend encased all-round with cement concrete 1 :5:1 0 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) with all centering and shuttering required, cutting holes in walls and making good with brick work in cement mortar 1:4 (1 cement: 4 coarse sand) plastered with cement mortar 1:3 (1 cement: 3 coarse sand) on, inside of the manhole wall lead caulked joints between sand cast iron pipes and fittings, stiff cement mortar 1:1 (1 cement: 1 fine sand) joints between sand cast iron tee and S.W. pipe, making required channels complete as per standard design and specifications:						
a)	150 mm dia. sand cast iron drop connection	19.22.1	Each	50.00			
4.15	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 75 in cement mortar 1:4 (1 cement:4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design:						
a)	With F.P.S. bricks	19.27.1	Each	360.00			
4.16	Providing and fixing S.W.intercepting trap in manholes with stiff mixture of cement mortar 1:1 (1 cement:1 fine sand) including testing of joints etc. complete						
a)	150 mm dia	19.34.2	Each	28.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
4.17	Constructing brick masonry open surface drain with bricks of class designation 75 in cement mortar 1:4 (1 cement : 4 fine sand) including earth excavation, 10cm thick bed concrete 1:5:10 (1 cement: 5 fine sand :10 graded stone aggregate 40mm nominal size) and 25mm thick cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 12.5 mm nominal size) for filling hunches including 12mm cement plaster 1:4 (1 cement:4 coarse sand) with a floating coat of neat cement inside the drain, its top and exposed side including disposal of surplus earth complete as per standard design.						
	25cm drain 30cm average depth						
	With F.P.S bricks	NS	Metre	760.00			
	45cm drain 75cm average depth						
	With F.P.S bricks	NS	Metre	3070.00			
SUB TOTAL(SEWERAGE AND DRAINAGE)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
5.00	EARTH WORK						
5.01	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth,1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m , disposed earth to be levelled and neatly dressed.						
a)	All kinds of soil	2.6.1	cum	673.00			
5.02	Earth work in excavation by mechanical means(Hydraulic excavator)/manual means over areas(exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed.	2.7					
a)	Ordinary rock	2.7.1	cum	257.00			
5.03	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:						
a)	All kinds of soil						
a.ii)	Pipes, cables etc, exceeding 80 mm dia but not exceeding 300 mm dia	2.10.1.2	metre	2320.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
5.04	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 1.5 m, but not exceeding 3 m (Rate is over corresponding basic item for depth upto 1.5 metre).	2.11	metre	960.00			
5.05	Extra for excavating trenches for pipes, cables etc. in all kinds of soil for depth exceeding 3.0 m, but not exceeding 4.5 m (Rate is over corresponding basic item for depth upto 1.5 metre).	2.12	metre	192.00			
5.06	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, depth upto 1.5 m including getting out the excavated materials, returning the soil as required in layers not exceeding 20 cm in depth including consolidating each deposited layers by ramming, watering etc. stacking serviceable material for measurements and disposal of unserviceable material as directed, within a lead of 50m:	2.13					
a)	Ordinary rock:	2.13.1					
ai)	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	2.13.1.2	metre	1921.00			
5.07	Extra for excavating trenches for pipes, cables, etc. in ordinary/ hard rock exceeding 1.5 m in depth but not exceeding 3 m.(Rate is over corresponding basic item for depth upto 1.5 metre).	2.14	metre	960.00			
5.08	Extra for excavating trenches for pipes, cables, etc. in ordinary/ hard rock exceeding 3.0 m in depth but not exceeding 4.5m.(Rate is over corresponding basic item for depth upto 1.5 metre).	2.15	metre	192.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
5.09	Close timbering in trenches including strutting,shoring and packing cavities(wherever required) complete. (Measurements to be taken of the face area timbered).	2.16					
i)	Depth not exceeding 1.5 m	2.16.1	sq.m.	5763.00			
ii)	Depth exceeding 1.5 m but not exceeding 3m	2.16.2	sq.m.	8643.00			
iii)	Depth exceeding 3m but not exceeding 4.5m	2.16.3	sq.m.	14982.00			
5.10	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m	2.25	cum	355.00			
5.11	Extra for every additional lift of 1.5 m or part thereof in	2.26					
a)	All kinds of soil	2.26.1	cum	130.00			
b)	Ordinary or hard rock	2.26.2	cum	130.00			
SUB TOTAL(EARTH WORK)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
6.00	RAIN WATER PIPING						
6.01	Providing and fixing rain water ,soil, waste and vent pipes. 100 mm dia.	17.35					
6.02	Centrifugally cast (spun) iron socketed pipe as per IS:3989 150 mm dia pipe as per IS:3989	17.35.1.2 NS	metre metre	1278.00 100.00			
6.03	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc. for 100 mm dia. pipe for 150 mm dia pipe	17. 37 17.37.1 NS	 Each Each	 156.00 30.00			
6.04	Providing and fixing plain bend of required degree. 100 mm Sand cast iron S&S as per IS:3989 150 mm	17.39 17.39.1.2 NS	 Each Each	 117.00 4.00			
6.05	Providing and fixing heel rest sanitary bend. 100 mm dia sand cast iron S&S as per IS-3989 150 mm dia	17.40 17.40.1 17.40.1.2 NS	 Each Each	 117.00 4.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
6.06	Providing and fixing on wall face/Concealed unplasticised rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10 mm gap for thermal expansion. (i) Single socketed pipes						
a)	110 mm diameter (6 kg/sq. cm)	12.40.2	Metre	269.00			
b)	160 mm diameter (6 kg/sq. cm)	NS	Metre	645.00			
6.07	Providing and fixing on wall face/Concealed unplasticised - PVC moulded fittings/accessories for unplasticised rigid PVC rain water pipes conforming to IS:13592 Type A including jointing with seal ring conforming to IS:5382 leaving 10 mm gap for thermal expansion.						
a)	Single tee without door						
a ii)	110x110x110mm	12.42.4.2	Each	31.00			
	160x160x160 mm	NS	Each	44.00			
b)	Bend 87.5 degree						
b ii)	110 mm bend	12.42.5.2	Each	31.00			
	160 mm bend	NS	Each	44.00			
c)	Shoe (Plain)						
c ii)	110 mm shoe	12.42.6.2	Each	31.00			
	160 mm shoe	NS	Each	44.00			
6.08	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams	12. 44	Each	115.00			
6.09	Providing and fixing collar	17.57					
	100 mm	17.57.1	Each	121.00			
	Sand cast iron S&S as per IS-3989	17.57.1.2					
	150 mm	NS	Each	5.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
6.10	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:	17.58					
	100 mm	17.58.1	Each	1091.00			
	150 mm	NS	Each	40.00			
SUB TOTAL(Rain Water pipe & fitting)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.00	EXTERNAL WATER SUPPLY						
7.01	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:	2. 10					
	All kinds of soil	2.10.1					
	Pipes, cables etc, exceeding 80 mm dia but not exceeding 300 mm dia	2.10.1.2	metre	950.00			
7.02	Providing and fixing gun metal gate valve with CI wheel of approve quality (screwed end)	18. 17					
	80 mm dia nominal bore	18. 17.6	each	6.00			
7.03	Providing and fixing gun metal non-return valve of approved quality (screwed end)	18. 19					
	65 mm nominal bore	18.19.5					
	Horizontal	18.19.5.1	each	2.00			
	80 mm nominal bore	18.19.6					
	Horizontal	18.9.6.1	each	4.00			
7.04	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately):	18. 31					
	100 mm diameter	18.31.1					
	Class I	18.31.1.1	each	8.00			
	150 mm diameter	18.31.3					
	Class I	18.31.3.1	each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.05	Constructing masonry chamber 60x60x75 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design	18.33					
	With F.P.S. bricks	18.33.1	each	12.00			
7.06	Constructing masonry chamber 90x90x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design	18.34					
	With F.P.S.bricks	18.34.1	each	4.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.07	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws including excavation, refilling the earth or cutting of wall and making good the same complete wherever required:	18. 47					
	50 mm nominal bore	18.47.6	each	4.00			
	65 mm nominal bore	18.47.7	each	6.00			
	80 mm nominal bore	18.47.8	each	4.00			
7.08	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc. if required will be paid separately):	18. 59					
	50 mm dia	18.59.1	each	4.00			
	80 mm dia	18.59.2	each	2.00			
7.09	Providing and laying D.I. specials of class k-12 suitable for push-on jointing as per IS:9523	18. 68					
	Upto 600 mm dia	18.68.1	quintal	30.00			
7.10	Providing push-on-joints to Centrifugally (Spun) Cast Iron pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket	18. 70					
	80 mm dia pipes	NS	joint	70.00			
	100 mm dia pipes	18.70.1	joint	300.00			
	150 mm dia pipes	18.70.2	joint	40.00			
7.11	Providing and laying S&S Centrifugally Cast (Spun)/Ductile Iron pipes conforming to is:8329:	18. 72					
	80 MM DIA Ductile Iron Class k-7 pipes	NS	metre	200.00			
	100 MM DIA Ductile Iron Class k-7 pipes	18.72.1	metre	700.00			
	150 MM DIA Ductile Iron Class k-7 pipes	18.72.2	metre	100.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.12	Disinfecting C.I./D.I. water mains by flushing with water containing bleaching powder at 0.5 gms per litre of water and cleaning the same with fresh water, operation to be repeated three times including getting the sample of water from the disinfected main tested in the municipal laboratory	18.80					
	80 mm diameter C.I./D.I. pipe	18.80.1	100 metre	2.00			
	100 mm diameter C.I./D.I. pipe	18.80.2	100 metre	7.00			
	150 mm diameter C.I./D.I. pipe	18.80.4	100 metre	1.00			
7.13	Providing and fixing G.I. pipes complete with G.I. fittings and clamp including cutting and making good the walls etc.						
	Internal work-Exposed on wall	NS					
a)	65 mm diameter		metre	20.00			
b)	80 mm diameter		metre	20.00			
c)	100 mm diameter		metre	50.00			
7.14	Providing and fixing puddle flanged including 40 cm long GI pipe piece welded/threaded with MS plates 450x450x6 mm thick with both end screwed/flanged.	NS					
a)	For 80 mm dia pipe		Each	2.00			
b)	For 100 mm dia pipe		Each	4.00			
c)	For 150 mm dia pipe		Each	2.00			
7.15	Providing and fixing suitable G.I. vent pipe upto 1m high Class-B (medium quality) with fittings complete as per drawing and as directed.	NS					
a)	For 80 mm dia pipe		Each	4.00			
b)	100mm Dia		Each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
7.16	Providing and fixing double seal type D.I. Manhole cover of 560 mm clear internal diameter of over all heavy duty with locking arrangement complete in all respects.	NS	Each	8.00			
7.17	Providing all materials and labour for supplying and fixing multi-level indicator cum controller, operating in electronic sensing probe and having the controller equipped with level monitoring system and phase monitoring system for automatic operations of various pumps and indicating water levels for various tanks and having multi-level 4 nos. visual indications on panel with alarm system and timer including necessary cable and acknowledge facilities as per requirement and all complete as approved.	NS					
	Water tanks						
a)	controller/Multilevel indicators						
b)	Electronic sensing probe to cut-off raw water pumps at low level in raw water tank.						
c)	Electronic sensing probe to cut-off pumps at high level in receiving tanks.		set	2.00			
7.18	Providing and fixing gun metal foot valve with stainer of approved quality/model complete in all respect	NS					
a)	80 mm dia		each	2.00			
b)	100 mm dia		each	2.00			
SUB TOTAL(EXTERNAL WATER SUPPLY)							

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
8.00	BOREWELL(1 No)						
8.01	Drilling by suitable rig as per IS : 2800-1979 (percussion or combination rig) or Reverse Rotary to suit site condition from ground level in all kind of soils and weathered rock including boulders (excluding rock) diameter of bore 450mm including carry out hydrological survey report before boring & getting the approval based on Hydrogeological survey before start of the work.Also getting approval from local authority if any required	NS					
a)	0-30m		metre	30.00			
b)	30-60m		metre	30.00			
c)	60-90m		metre	30.00			
d)	90-120 m		metre	30.00			
8.02	Extra additional for drilling in Ordinary Rock if any found	NS	metre	25.00			
8.03	Extra additional for drilling in Hard Rock if any found	NS	metre	25.00			
8.04	Providing and lowering uPVC casing/housing pipe 200mm dia. with wall thickness 10 mm conforming to IS :12818 including sockets of standard design.	NS	metre	70.00			
8.05	Providing & fixing uPVC screen/slotted pipe with 1.5 mm to 3mm (slots as per strata condition) including sockets of standard design as per IS: 12818/1992.	NS					
	200 mm dia uPVC socketed pipe with wall thickness 10.0 mm		metre	80.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
8.06	Providing and fixing in position threaded iron cap with locking arrangement of approved design to prevent foreign matters getting into the bore-hole as required.	NS	Each	1.00			
8.07	Providing and laying rounded pea gravel washed & served 3 to 6 mm nominal boreas per relevant ISI code.	NS	Cum	16.00			
8.08	Providing and laying cement concrete 1:2:4 mix for sanitary sealing of well at top.	NS	Cum	1.00			
8.09	Supplying, lowering and fixing in position reducer ,PVC bail plug with "U" hooks as per IS:2800-1964.	NS	Each	1.00			
8.10	Development of Tubewell including testing of yield depression & quality of water (for all parameters of potable water), contractor to obtain certificate for quality for water from Competent Authority approved by client or Engineer- In -Charge.	NS					
a)	Development of Tube well by high capacity air compressor till the clear water discharge but not more than 100 hours.	NS	per hour	80.00			
b)	Additional development of Tube well by high an over pumping unit till complete development of tube well does not clear by maximum 100 hours air compressor	NS	per hour	50.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
8.11	Tranportation, mobilisation and demobilisation or drilling equipment and ancillary equipment to site including clearing and cleaning the site after completion of work.	NS	set	1.00			
8.12	Providing and fixing brass full way valve with C.I. wheel of approved make, tested to a pressure of 21 kg/sqcm.	NS					
a)	100 mm dia		Each	1.00			
8.13	Providing and fixing gunmetal non return valve of approved make tested to a pressure of 21kg/sqcm.	NS					
a)	100 mm dia		Each	1.00			
8.14	Providing & fixing G.I. pipes (heavy class)confirming to IS with special fittings in external works including earthwork ,excavationin all kinds of soil including ordinary rock,refilling, painting pipes & fitting complete in all respects.	NS					
a)	100 mm dia		Metre	100.00			
8.15	Providing & filling sand of grading zone V or coarser grade all around GI pipe in external work	NS					
a)	100 mm dia		Metre	100.00			
8.16	Submersible pumps						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Providing and installing submersible pump and electrical panel suitable for 8" dia casing of bore with SS impeller, high tensile SS shaft, copper wound squirrel cage wet type induction motor 2880 rpm, 415 V, 50 Hz, 3 phase A.C. supply, conforming to ISS: 8034-1976, capacity 500 litre per minute at 70-120 m head/ or suitable as per the hydrological survey report along with a directly coupled submersible type squirrel cage electric induction 5 H.P(minimum) . motor suitable for operation on 400 V, 3 phase, 50 c.p.s. A.C. supply, water lubricated bearings and provided with pivoted segment type thrust bearings to withstand non-vertical lead with minimum wear and tear and duly fitted with device to take up the expansion of water with heating of motor, including supply, testing and commissioning of electrical panel from the same manufacturer, complete with all accessories in all respects. The contractor to obtain approval for model and make of pumpset & suitable Electrical panel after having yield report of fully developed tube well and submit actual bore strata chart.	NS					
	1 No, DOL starter of 10 HP with thermal overload relay, Push Buttons, Single Phase Preventer and Switches etc complete as required.						
	including supplying laying and fixing water proof PVC insulated flat submersible cable 3x10 sqmm with end termination with its accessories. complete in all respect as required.		set	1.00			
8.17	Carrying out Electrical logging of Borewell before lowering of pipe for analysiing of water quality including Electrical logging report, calculation etc.		Job	1.00			
	SUBTOTAL (BOREWELL)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
9.00	SOLAR WATER HEATING SYSTEM & RECIRCULATION OF HOT WATER SYSTEM						
9.01	Supply, installation, testing and commissioning of solar water heating system, Thermosyphon type, all complete based on Flat plat collector system (Cu-Cu Type only) comprising of but not limited to the following:						
a)	Requisite number of Flat plate collectors of 2 sq. mtr. collector area. Collector absorber plate to be made of copper tubes & copper fins only						
b)	Hot water storage tank made of stainless steel 304- food grade quality with 100 mm Glass wool insulation and cladding with 24 SWG Aluminum sheet. One temperature measuring device and suitable inlet, outlet and drain connections on the storage tank to be provided. Suitable Electrical Heater backup to be provided inside the tank along with thermostat						
c)	Heat Exchanger - Cage type Internal Heat Exchanger made of SS pipes shall be provided inside the Solar Tank. Heat exchangers shall have min. heat transfer area of 0.24 sq. mtrs. for every 100 LPD calacity. Suitable make up tank for the Heat Exchanger circuit shall also be provided						
d)	Interconnecting system piping shall consist of B Class insulated GI pipes covered with 50mm thick glasswool & clad with 26 SWG Aluminium Sheet. All Gate/Ball valves shall be of ISI make.						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
e)	Electrical control panel, cabling from panel to pumps and electrical heaters shall also be provided						
f)	The solar collector shall be arranged on roof of building in such a way that shadow can be avoided and requisite number of MS support for collector/tanks of minimum 35x35x5 MS angle adequate for 150 Km/Hr wind speed.						
g)	Solar water heating system based on Flat plat collector system technology with output capacity of as mentioned below with hot water at 60 degree centigrade having required Nos. solar collectors as per complete item as per technical specification of make BHEL/TATA/EMMVEE. The system has to be installed by Manufacturers authorised distributors/approved specialised firms of Solar water heating of approved makeThe shop drawing of the systems shall be provided by the agency as per site condition obtain the proper efficiency The system shall be procured after obtaining the approval of shop drawings from HSCC / Engineer-in-charge.(Electric heating element shall not be provided in the system as the solar hot water system will supply the hot water to the individual geyser).	NS					
i)	Solar System of Capacity 1500 Litre/day (With minimum 12 nos of Collector of 2.0 Sqm area each)	NS	each	5.00			
ii)	Solar System of Capacity 1000 Litre/day (With minimum 8 nos of Collector of 2.0 Sqm area each)	NS	each	1.00			
iii)	Solar System of Capacity 2000 Litre/day (With minimum 16 nos of Collector of 2.0 Sqm area each)	NS	each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
9.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.						
	Internal work- Exposed on wall						
a)	15 mm nominal outer dia pipes (SDR-11)	18.7.1	metre	140.00			
b)	20 mm nominal outer dia pipes (SDR-11)	18.7.2	metre	265.00			
c)	25 mm nominal outer dia pipes (SDR-11)	18.7.3	metre	180.00			
d)	32 mm nominal outer dia pipes (SDR-11)	18.7.4	metre	100.00			
e)	40 mm nominal outer dia pipes (SDR-11)	18.7.5	metre	125.00			
9.03	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.	18.8					
	Concealed work including cutting chases and making good the walls etc.						
a)	15 mm nominal outer dia pipes (SDR-11)	18.8.1	metre	220.00			
b)	20 mm nominal outer dia pipes (SDR-11)	18.8.2	metre	130.00			
9.04	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):	18.17					
a)	25 mm nominal bore	18.17.1	each	25.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
b)	32 mm nominal bore	18.17.2	each	15.00			
9.05	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.	NS					
a)	15 mm dia to 25 mm dia		each	980.00			
b)	32 mm dia to 50 mm dia		each	225.00			
9.06	Providing and fixing gun metal ball valve of approved quality	NS					
a)	15 mm nominal bore		each	10.00			
b)	20 mm nominal bore		each	11.00			
	SUBTOTAL(SOLAR WATER HEATING SYSTEM & RECIRCULATING SYSTEM)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
10.00	WATER TREATMENT PLANT						
10.01	WATER TREATMENT PLANT (/Domestic use)						
	Planning, Designing, Detailing, Manufacturing, Supplying, Erection, Testing and Commissioning of Water treatment plant for supply of treated water for use of domestic purpose comprising of filter and pumps. The plant is to be installed in pump room and Raw water supply is available in UGT including design and execution of all Civil, Structural, Electrical, Mechanical, Plumbing and processing, ancillary equipments & works etc required to complete the package, getting approval from HSCC/client etc.						
	The shop drawings & design of WTP shall also be prepared in such a way that it comprise of the following units of required size as per detail design requirements. The work has to be carried through authorised vendor, dealer/representative of approved make (Ion exchange, Pollucon technologies, AKAR Impex, Thermax, Indwa, Aquaprocess, Fontus).						
i)	Providing and fixing vertical/ multi-stage inline centrifugal raw water filter feed pumps mounting on a foundation with CI volute and SS impellar and with stainless steel shaft, mechanical seal and chrome steel shaft sleeve, connected to a TEFC induction motor suitable for 400/440 volts,1500 RPM, 3 phase 50 cycles A.C. supply having IP 55 protection enclosure. complete with base frame, vibration eliminating pads, nuts and bolts etc. (Necessary RCC foundations as per requirement and as per instructions shall be provided by the agency)						
	Raw water (filter) feed pumps.						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Capacity : 150 lpm (Each)						
	Head 35 m						
	Power :3 HP or as required						
	1 working						
ii)	Providing and fixing C.I. "Y" Type suction strainer with stainless steel perforated sheet screen,flangfd ends iner installed outside water tanks. (Make: Leader / Zoloto / Kartar or equivalent) 65/80 mm dia (4 nos.) (min.) or required size and required number						
iii)	Providing and fixing gun metal or bronze ball valves/butterfly valve/NRV/Rotameter, tested to 15.00 Kg / cm2, screwed end connections complete . (Make: Leader/ Zoloto or equivalent)						
	50/65 mm NB (min.) or required size and number						
iv)	Filtration Plant : Vertical Downflow Multigrade Pressure Sand Filter in MS Welded construction fabricated in accordance with IS 2825 from minimum 6 mm thick M.S. plate on shell and minimum 8 mm thick M.S. plate on dished ends as per applicable IS standards. The filter shall have :						
	a) One no pressure tight manhole and at least one no. pressure tight side hole for maintenance purposes.						
	b) Initial charge of Filter Media.						
	c) Complete underdrain system and raw water distributor as per manufacturer's design.						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	d) M.S. heavy class fabricated - epoxy coated / post galvanised face piping comprising of connections with CI Butterfly Valves of required size for inlet, outlet, backwash inlet, backwash drain and rinse drain. Air release line with GM Ball Valve of required size.						
	e) Pressure gauges (100 mm dia bourdon type pressure gauge) / Sampling points with SS isolation cocks at inlet and outlet.						
	f) All internal parts of the filtration plant shall be coated with 6 mm thick natural rubber lining after thorough sand blasting. All external surfaces of the plant including piping shall be coated with two coats of epoxy paint and primer .						
	g) The filter shall be complete with all gaskets / fasteners of standard quality as required.						
	h) The filter shall be designed to give rated output at given raw water quality and flow rate without any operational problem and should not get any loss of performance as long as the operating pressure remains within the given range. Any additional provision is required to make the item complete, the same should be included herein. The work has to be carried through authorised vendor, dealer/representative of approved make (Ion exchange, Pollucon technologies, AKAR Impex, Thermax, Aquaprocess, Indwa, Fontus). The filter water will be supplied to treated water tank through U.V. water steriliser						
	Capacity - 150 lpm						
	Filtration rate - 20,000 lph/sqm (min.)						
	Filter dia approx.700 mm (min.)						
	Filter HOS Min. : 1500 mm (min.)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Working pressure : 3.0 Kg/sq cm.						
	Test pressure : 4.5 Kg/sq cm						
	No. of Filters : 1 working						
v)	UV WATER STERILISERS						
	High performance on line UV water sterilisers of capacity 14000 lph designed on at least 250 J/Sq. M. UV dosage, comprising of glass UV chamber in SS 316 housing, UV lamp and electrical circuit, wall mounted model / line mounted model, capacity 500lpm, minimum lamp rating :120 watts - 1Nos.						
vi)	Providing and fixing G.I.pipes/CPVC pipes to I.S. 3589/1239 (Heavy class) with G.I./CPVC Fittings e.g., Tee, elbow reducers, unions, end cap etc., flanges & clamps, including supporting the pipes with G.I. supports, cutting and making good the walls etc. complete. For Suction & Delivery headers.						
	50/65 mm dia (min.) (Interconnection between units)/ Drain lines etc. as per plant room requirement. (All piping and fitting of required size inside the plant room included in the item)						
vii)	Painting G.I./CPVC pipes with two or more coats of synthetic enamel paint of approved quality and shade over a coat of approved priming coat as directed by the Project-in-charge (shade as per pipe colour code).						
	50 mm dia (min.) (as per required length)						
	Complete W.T.P as mentioned above including testing, at factory and site training and trial run till commissioning of W.T.P. set	NS	Job	1.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
10.02	STRUCTURAL STEEL WORK						
i)	Supply, fabrication, erection, painting of pipe supports of structural steel, for piping work in the production areas and anchoring them. 2 coats of zinc chromate primer and one coat of finishing paint.	NS	Kgs.	300.00			
10.03	Supplying, assembly, erection, testing and commissioning of level controllers based on level switches and necessary auxillary circuits included in the electric panel ,including all accessories required for the performance of the system to the satisfaction of the engineer in charge complete including providing and fixing wiring from control panel to the level switches of required size,all interconnections as required . Note : The required transformers / associated equipment shall be designed keeping in view the acrual distance of various tanks from the control panel, particularly the distance of OH soft water tank from panel. The most suitable route of sensor cable travel between the panel and the tank shall have to be worked out by the contractor according to site conditions and in consultation with engineer in charge. All cabling / switch installation should be done in an easy to maintain manner.						
	One way one tank level controller as under.						
	To switch on the tube well pump when the level of water in the UG raw water tank is low and to cut off the pump when the level in the underground raw water tank is high. (Approx. control cable requirement - 200 meters.)	NS	Set	1.00			
	Two way - Two tank level controller as under.						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
ii)	For Filter Feed Pumps for domestic water.(Operating between the Under ground Raw water tank and the under ground treated water tank near the plant room. (Approx. control cable requirement - 50 meters.)	NS	Set	1.00			
iii)	For Treated water supply Pumps(Operating between the under ground treated water tank near the plant room and the Terrace treated water tank . (Approx. control cable requirement - 125 meters.)	NS	Set	1.00			
iv)	For Raw water supply Pumps(Operating between the under ground Raw water tank near the plant room and the Terrace Raw water tank . (Approx. control cable requirement - 125 meters.)	NS	Set	1.00			
10.04	Providing and fixing gun metal foot valve with stainer of approved quality/model complete in all respect.	NS					
	80 mm dia	a)	each	2.00			
	100 mm dia	b)	each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
10.05	Supplying, installing, testing and commissioning vertical online/horizontal centrifugal pumping set with mechanical seal, C.I. Housing, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).	NS					
	Domestic water pumps (Treated water transfer&Raw water Transfer pump to terrace tank)						
	Treated water transfer pump to terrace tank	a)					
	Capacity 250 lpm						
	Head 65M		Each	2.00			
	Raw water transfer pump	b)					
	capacity 250 lpm & Head 65m		Each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
10.06	Supply, installing, testing and commissioning vertical fully floodable type submersible drainage pump in close coupled design single stage, suitable for handling minimum 10 mm dia solids for trans ferring waste water from sump to outside the building with float switch for automatic start and stop arrangement with panel and wiring, chain and pulley, mechanical seal complete in all respect as per instruction of the Engineer in charge . (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor.	NS					
	Material of Construction (M.O.C): Corrosion Resistant in general : Casing — Cast Iron						
	: Impeller — Ductile cast Iron						
	: Bearings — Anti friction, prelubricated ball bearings, packed with grease for life.						
	Motor: — Dry Motor with built in over load protection Protection - IP68. Insulation Class - F						
	Duty of each pump						
	150 LPM against 12 M head	a)	each	2.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
10.07	Testing Underground tank for water sepage before fixing of tiles or any other finishing including pressure grouting (if required). The tank should be disinfected and cleaned before use as per instruction of Engineer-in-charge(up to 3 lac ltr capacity of each compartment of tank)	NS	set	1.00			
10.08	Providing and fixing of OxiLyte (Mixed Oxidant) Generation System , based on ECA Technology, producing non toxic mixed Oxidant Slution at 1000 ppm of Oxidant Concentration or any other approved disinfection method excepted by HSCC. The solution should be at a pH 3+-0.5 suitable for 24x7 operations should produce 30L per hour. The system should be supplied complete with appropriate dosing pumps , valves, piping, fittings, chemical dosing tank etc. shop drawing complete in all respect.	NS	set	2.00			
	Subtotal (Water treatment Plant,Pump and Equipment)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
11.00	WATER SUPPLY PUMP PANEL						
	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, wall mounted type, free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, powder coat painted and having following incoming and outgoing switchgears complete as required.						
	INCOMER :						
	125 Amp 415 volts, 35 KA (Isc), FP MCCB with e/f protection thermal magnetic release having variable current settings .						
	R, Y&B phase indicating lamp (LED type) with 2A control SP MCB						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 no. 0 to 500 V Digital voltmeter with selectot switch						
	1 to 0 to 125 Amps Digital ammeter with selector switch with one set of 125/5A C.T. s						
	BUSBARS :						
	160 Amp TPN busbars of aluminium						
	OUTGOINGS :						
i	1 Sets of following (Tube Well)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	1 No. 40 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	Single Phase preventer						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
ii	4 Sets of following (For Treated water pump, Raw water transfer Pump)						
	1 No. 32 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 No. 3 Phase, DOL starter (type - II) of 7.5 HP with thermal overload relay, Push Buttons and Switches etc complete as required.						
	Single Phase preventer						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
iii	1 Sets of following (Domestic Pump)						

Item No	Description Of Item	DSR No.	Unit	Total Qty.	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	1 No. 25 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 No. 3 Phase, DOL starter (type - II) of 3.5 HP with thermal overload relay, Push Buttons and Switches etc complete as required.						
	Single Phase preventer						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
iv	2 Sets of following (Drainage Pump)						
	1 No. 25 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 No. 3 Phase, DOL starter (type - II) of 2 HP with thermal overload relay, Push Buttons and Switches etc complete as required.						
	Single Phase preventer						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
	WATER SUPPLY PUMP Panel as mentioned above		Set	1.00			
	Subtotal (Electrical Panel)						

**Name of Work:BOQ of Fire fighting work of Residential & Institutional Buildings for
LGB Regional Institute of Mental Health at Tezpur, Assam**

ABSTRACT OF COST

S.No	DESCRIPTION OF WORK	Amount in Figures(in Rs.)
1	FIRE FIGHTING	
	Sub Total(Fire Fighting work)	
	GRAND TOTAL	

Design & Engineering Department

Name of Work: BOQ of Fire fighting work of Residential & Institutional Buildings for LGB Regional Institute of Mental Health at Tezpur, Assam

The quantities are of Sr.Resident Hostel(1 block),Jr.Resident Hostel(1 Block),Directors Bunglow & Residential quarters, Academic(1 Block)& External development

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1	2	3	4	5	6	7	8
	Note: Based on the tender drawing the agency has to prepare the internal & external plumbing shop drawing and obtain the approval of the same before execution and work shall be executed by specialised approved agency.						
1.00	FIRE FIGHTING SYSTEM						
1.01	Providing, fixing jointing and testing of Heavy (class -C) G.I. pipes as per relevant IS :1239/4736 with special accessories like tees, elbow, gasket, flanges, flanged joints, rubber insertion nuts and bolts including earth work excavating and trenching, wrapping pipe with 4mm thick 500mm width tar based polymeric corrosion protection tape or equivalent suitable to GI/ MS pipe line including applying uniform coat of cold pipe primer complete 1 m below the ground level, refilling in layers not exceeding 20 cm in depth consolidated each deposited layer by ramming & watering complete in all respect as per IS : 1022 (Under ground)						
a)	80 mm dia G.I. Pipe with flange joints	NS	Metre	10.00			
b)	100 mm dia G.I. Pipe with flange joints	NS	Metre	20.00			
c)	150 mm dia G.I. Pipe with flange joints	NS	Metre	20.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.02	Heavy class G.I. pipes conforming to IS with accessories like tees, elbows, flanged joints, rubber insertion, nuts, bolts or welded joints including fixing the pipe with suitable flat iron strip clamps/brackets, structural members, dash fastener , cutting hole and chases in walls, floor, R.C.C. slab etc. and making good the same, including painting pipes and fittings with a primer coat of steel primer and two coats of postal red enamel paint etc. complete as required. (All the fitting i.e. tee /elbow, Valve shall be joint the pumps will flanged joints)						
a)	100 mm dia (with Flanged joints)	NS	Metre	220.00			
b)	150 mm dia (with Flanged joints)	NS	Metre	170.00			
c)	200 mm dia (with Flanged joints)	NS	Metre	10.00			
d)	80 mm dia	NS	Metre	10.00			
e)	65 mm dia	NS	Metre	20.00			
f)	50 mm dia	NS	Metre	100.00			
g)	40 mm dia	NS	Metre	10.00			
h)	32 mm dia	NS	Metre	40.00			
i)	25 mm dia	NS	Metre	120.00			
1.03	Providing and fixing Single headed hydrants flanged inlet with 63 mm female instantaneous outlet of gunmetal complete with male blank caps, chains conforming to IS:5290 type A with stainless steel orifice plate (if required) to keep the pressure not more than 3.5 kg/sq.cm at any point.	NS	Each	69.00			
1.04	Providing 63mm dia 15 m long reinforced rubber lined hose pipe conforming to IS: 636-1992 Part-II with gunmetal male & female coupling wire wound with pipe as required.	NS	Each	110.00			
1.05	Providing and fixing 63mm dia 15 m long canvas hose pipe complete with gunmetal male & female coupling wire wound with the pipe The pipe shall confirm to IS: 4927.	NS	Each	28.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.06	Providing and fixing Gunmetal branch pipe with 20mm dia nozzle conforming to IS:903. suitable for installation connections to hose coupling etc. as required.	NS	Each	69.00			
1.07	Providing and fixing Four way fire brigade connection housed in steel cabinet of size 900mm x 750mm x 400mm fabricated from 1.5mm thick M.S. sheet having lockable arrangement, openable glazed door with 4mm thick glass, including painting a coat of steel primer and two coats of postal red enamel paint, with necessary supports for the cabinet etc. with 150 mm dia. non return and butterfly valves complete in all respects.						
a)	4 Way - 150mm dia	NS	Each	5.00			
1.08	Providing and fixing Set of "Siamese" quadruplet instantaneous fire brigade connections comprising of two gunmetal instantaneous male inlet coupling 63mm dia with plug and cap, chain bends, tees etc for inlet to the static tank.	NS	Each	3.00			
1.09	Providing & Fixing 150 mm dia, 4 way suction coupling for firebrigade withdrawal of water from the fire tank	NS	Each	1.00			
1.10	Providing and fixing Fire hose cabinet with glazed door shutter and frame with hold fasts (frame fabricated from 40 x 40 x 5mm and shutter from angle) 2100 mm high x 1200 mm wide x 600mm deep with locking arrangement, 4mm thick glass with M.S. flats including all accessories, painting with one coat of steel primer and two coats of postal red enamel paint complete as per drawing and as directed. The words " hose cabinet" to be painted on the box complete in all respects.	NS	Each	55.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.11	Providing and fixing Weather proof standard stand post type hose cabinet (900mm x 750 mm x 400 mm) out door type made of 1.5mm thick M.S. sheet having central opening glazed door with 4mm thick glass suitable for accommodating hydrants, 2 Nos. canvas hose pipe and branch pipe including necessary locking arrangements, painting one coat of primer and two coats of postal red enamel paint.. The shutters are to be lockable type. The words " hose cabinet" to be painted on the box.	NS	Each	14.00			
1.12	Providing and fixing cast iron body IS: 210 FG 220 and double flange gear simple operation type butterfly valve conforming to IS: 13095 with SS304 disc and shaft NITNLE rubber replaceable seat of the following size complete with bolts, nuts, washers and rubber insertions as per specification.						
a)	80 mm dia	NS	Each	2.00			
b)	100 mm dia	NS	Each	34.00			
c)	150 mm dia	NS	Each	8.00			
1.13	Supplying, testing, installation & commissioning of pressure switches for pumps including necessary wiring upto the control panel.	NS	Each	9.00			
1.14	Constructing masonry chamber 90x90x100 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 fine sand) for sluice valve, with C.I. surface box 100mm top diameter, 160mm bottom diameter and 180mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design.						
a	with F.P.S. bricks	18.34.1	Each	29.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.15	Supplying and Fixing First Aid Hose Reel , wall mounting swinging type complete with drum & bracket of MS construction, spray painted in Post office Red, confirming to IS 884/1995 with upto date amendments, complete with the following as required.						
	36 Meter long 20 mm dia water hose Thermoplastic (Textile reinforced) Type - 2 as per IS : 12585						
	20 mm dia gun metal ball valve & nozzle.						
	Drum and brackets for fixing the equipments on wall.						
	Connection from riser with stop valve (gun metal) & M.S. Pipe	NS	Each	55.00			
1.16	Providing and fixing C.I. sluice valves (With cap) of approved quality complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) Class II						
a)	100 mm dia	18.31.1.2	Each	12.00			
b)	150 mm dia	18.31.3.2	Each	5.00			
c)	200 mm dia	18.31.4.2	Each	1.00			
1.17	Supply, Installation, Testing and Commissioning of 100 mm dia Bourden type, Stainless Steel dial type Pressure Gauge including brass isolation valve and siphon pipe having caliberation of 0 - 16 Kg / cm ² .	NS	Each	60.00			
1.18	Supplying and Fixing of Fire Man's axe with heavy insulated rubber as per standard conforming to IS 926	NS	Each	55.00			
1.19	Supplying and Fixing vane type waterflow switch with contacts suitable for installation on 50 mm to 150 mm dia pipeline for a service pressure upto 20 Kg/sq.cm.	NS	Each	10.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.20	Providing, Fixing, Testing and Commissioning of Sprinkler Installation Control Valve of Cast iron body and brass / bronze working parts comprising of water motor, alarm, bronze seat clapper and clapper arm, hydraulically driven mechanical gong bell to sound continuous alarm when the Sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc. of size 200/150 mm dia, as required.	NS	Each	1.00			
1.21	Supplying, Installation, Testing & Commissioning modular construction master control annunciation panel for sprinkler with provision for requider No. of Zone (30% additional spares),eachsprinkler hydrant will have atleast 2 zone on each floor as approved by engineer.The panel shall have but not limited to the following arrangment.						
a)	Indication of Zone sprinkler						
b)	Indication of zone fault						
c)	Fire/fault hooter						
d)	Alarm cancel for fire/fault						
e)	Battery for emergency back up of 4 Hrs.	NS	Set	1.00			
1.22	Providing and Fixing 15 mm dia gunmetal / brass quartzoid type Sprinkler Head with quartz bulb and set to operate at specified temperature.						
a)	Pendent / Upright type, 68 C, Chrome plated	NS	Each	60.00			
b)	Side wall extended throw 20 mm dia 68 C, Chrome plated	NS	Each	10.00			

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
1.23	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header on the top of each riser fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve complete with suitable drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes 1.2 Metre high and 250 mm dia	NS	Each	6.00			
1.24	Supply, Installation, Testing and Commissioning External Yard Hydrant Stand Post comprising of GI pipe 80 mm dia (heavy duty C class) from existing ringmain to about 1 meter above ground level and Single Headed Yard Hydrant Valve with 80 mm dia flanged inlet, instantaneous gunmetal coupling of 63 mm dia with cast iron wheel ISI marked, conforming to IS : 5290 (Type A), with ABS cap and chain etc.complete with all accessories as required.	NS	Each	14.00			
1.25	Providing and placing on terrace polyethylene water storage tank ISI : 12701 MARKED indicating the BIS license No with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	18.48	Litres	75000.00			
1.26	Supply, erection, testing & commissioning of exit glow sign board of size 200mm x 350 mm wall mounting signage consisting of photo luminescent coating on acrylic cover	NS	Each	92.00			
1.27	Providing and fixing fire extinguisher of carbon dioxide type consisting of brand new high pressure steel cylinder bearing IS: 7285 mark and having the approval of controller of explosives Nagpur, wheel type valve bearing IS:3224 mark internal discharge tube, 1 meter long high pressure discharge hose, non conducting horn, suspension bracket, fully charged bearing IS: making fixed to wall as directed.						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
a)	4.5kg capacity cylinder	NS	Each	61.00			
1.27	Providing and fixing 9 liters capacity fire extinguisher water type gas pressure conforming to IS marking, fixed to wall.	NS	Each	61.00			
1.28	Providing and fixing ABC type fire extinguishers complete in all respects.						
a)	Capacity 5.0 Kg.	NS	Each	47.00			
1.29	Fabricating, Supplying, Installation, Testing and Commissioning Air Vessel of continuous welded construction with flanged discharge header in pump house fabricated out of 10 mm thick dished ends and 8 mm thick MS sheet, Air Release Valve, complete with drain arrangement with 25 mm dia gun metal wheel valve complete with all accessories etc. as required of the following sizes						
	2 Metre high and 450 mm dia suitable to operate Jockey Pump, Main Fire Pump & Diesel Engine Driven Fire Pump	NS	Each	1.00			
1.30	Providing and fixing C.I. non-return valve complete with gunmetal seat, bolts, nuts washer & rubber insertions as required conforming to IS:5312.						
a)	100 mm dia	NS	Each	4.00			
b)	150 mm dia	NS	Each	6.00			
c)	80 mm dia	NS	Each	2.00			
1.31	Providing & fixing puddle flanged including 40 cm long GI pipe piece welded / threaded with MS plates 450x450x6mm thick with both end screwed / flanged						
a)	for 80 mm dia pipe	NS	Each	2.00			
b)	for 100 mm dia pipe	NS	Each	4.00			
c)	for 150 mm dia pipe	NS	Each	4.00			
d)	for 200 mm dia pipe	NS	Each	2.00			
1.32	Supplying, fixing, installation, testing and commissioning, control valves comprising of :						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
a)	150 mm dia						
b)	1 No. alarm motor & gong (hydraulically operated.						
c)	1 No. main stop valve						
d)	1 No. alarm valve.						
e)	Pressure gauges drain pipe.	NS	Set	1.00			
1.33	Providing & fixing electrical gang bell with all inter-connecting cables for an audio annuciation of pumps failure, complete in all respects.	NS	Each	1.00			
1.34	Providing & fixing half mile range siren with all inter connecting cables and wires complete in all respects.	NS	Each	1.00			
1.35	Supplying, installing, testing and commissioning of electric driven fire pump suitable for automatic operation consisting of the following (as per CPWD specification Part V-1985 for Fire Fighting and its amendments) (For Hydrant system & Sprinkler system).						
a)	Fire pump with stainless steel impeller, CI casing, SS shaft & mechanical seal shall be horizontal split casing centrifugal suction type multistage having following capacity and head so as to ensure a minimum pressure of 3.0 kg per square cm. at the highest and farthest out let at the specified flow complete with necessary strainer / foot valve suction side and pressure gauge on the delivery side including by pass arrangement for periodical testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.						
b)	Squirrel cage type TEFC motor suitable for operation on 415V, 10%, 3 phases 50 Hz. system of suitable HP for the above pump with synchronous speed of 1500 RPM and flexible coupling. The pump motor should conform to IS: 325-1978.						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
c)	Common bed plate fabricated from mild steel channel or cast iron type.						
d)	Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.						
l)	Capacity 2280 LPM and Head 75 Metres	NS	Each	1.00			
1.36	Supplying, installing, testing and commissioning of diesel engine driven fire pump suitable for automatic operation consisting of the following (as per CPWD specifications PartV 1985.) (For Hydrant system & Sprinkler system).						
a)	Horizontal centrifugal type multi-stage, fire pump with stainless steel impeller CI casing, SS shaft & mechanical seal complete of following capacity and Head so as to ensure a minimum pressure of 3.0 kg per sq.cm. at the highest & farthest outlet at the specified flow, complete with necessary strainer pressure gauge on the delivery side etc. including by pass arrangement for periodical testing of the working of the pump set as required. The pump shall be provided with mechanical seals.						
b)	Water cooled cold starting type multi cylinder 4 stroke diesel engine, developing suitable BHP at 1500 RPM for the above pump set with automatic starting mechanism, cooling system shall be with radial cool engine, maintenance free batteries, battery charge unit, flexible coupling with the pump, common bed plate for mounting diesel engine fuel day tank fuel piping and pump and vibration damping arrangement by cushy foot mounting as required complete in all respects.						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
c)	The engine shall be capable to drive the pump at 150% rated discharge at 65% head and shall be suitable for 10% overload capacity for one hour in any period of 12 hrs. continuous run.						
d)	Common bed plate fabricated from mild steel channel or cast iron type.						
e)	Isolation Valve						
f)	Suitable cement concrete pump foundation & vibration damping arrangement with cushy foot mounting as required.						
l)	Capacity 2280 LPM and Head 75 Metres	NS	Each	1.00			
1.37	Supplying, installation, testing and periodic commissioning of electric motor driven automatic pressurization pump set consisting of the following (as per specification) (For Hydrant system & Sprinkler system).						
a)	Centrifugal pump of 180 LPM capacity capable of building up pressure lost in any leakage in the system against atotal head (mentioned as under) complete with C.I. casing stainless steel impellor ; mechanical seal & S.S. shaft necessary strainer, pressure gauge on delivery side etc. including by-pass arrangement for testing of the working of the pumping set as required .						
b)	Squirrel cage A.C. induction motor suitable for operation on 415 V, 10% 3 phase 50 Hz. A.C. supply and of minimum 7.5 HP,1500 RPM, for the above pump with flexible coupling as per specification and conforming to IS: 325/ 1978 and shall be TEFC type only.						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
c)	Common bed plate fabricated from mild steel channel or cast iron type.						
d)	Suitable cement concrete pump foundation with vibration damping arrangement with cushy foot or similar mounting as per required.						
l)	Head - 75 Metres	NS	Each	1.00			
1.38	Supplying, installing, testing and commissioning of electric motor driven type automatic pressurisation, pump set suitable for automatic operation of terrace down comer and consisting of the following (as per CPWD specifications Part V-1985) for fire fighting and its amendmends).						
a	Fire pump with stainless steel impeller CI casing, SS shaft shall be horizontal end suction centrifugally type having a capacity of 900 LPM against a total head of 25m so as to ensure a minimum pressure of 3.0 kg/sqm at the highest and farthest out at the specified flow complete with necessary strainer with foot valve in suction side and pressure gauge on the delivery side including bypass arrangement for periodic testing of the working of the pumping set as required. The pump shall be provided with mechanical seals.(Including taking necessary approval of complete fire fighting scheme from local fire authority before and after start of work) {Agency also has to submit characterstic curve of the pumps, model & other technical data for approval before placing the order}						
b	Squirrel cage AC induction motor suitable fot operation of 415 V ,+/-10%, 3 phase 50 HZ, AC supply and of minimum 7.5 HP,1500 RPM for the above pump with flexible coupling as per spwcification and conforming to IS 325-1978 and shall be TEFC type only						
c	Common base plate fabricated from mild steel channel ot castiron type						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
d	Star delta suitable starter complete in all respect for automatic/manual operation of pump,start and stop push button contactor with required overload production and single phase preventor						
e	Suitable cement concrete pump foundation with vibration damping arrangememnt with cushy foot mounting as required and having provision of suitable weather protection cover.	NS	Each	2.00			
2.00	Fire Fighting PANEL(Electrical)						
	FIRE PANEL- Emergency						
	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, free standing type, wall mounted type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, powder coat painted and having following incoming and outgoing switchgears complete as required.						
	INCOMER :						
	320 Amp 415 volts, 35 KA (Isc), FP MCCB with thermal magnetic release having variable current settings.						
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 no. 0 to 500 V Digital voltmeter with selectot switch						
	1 nos. Digital ammeter with selector switch with one set of 320/5A C.T. s						
	BUSBARS :						
	400 Amp TPN busbars of aluminium						
i	OUTGOINGS :						
	1 Sets of following						
	1 No. 200 Amp. 415/500 volts,35 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 No. 3 Phase, fully automatic star-delta starter (type - II) of 75 HP with thermal overload relay, Timer, Push Buttons and Auto-manual selector switch etc complete as required.						
	Single Phase preventer						
	1 to 0 to 200 Amps Digital ammeter with selector switch with one set of 200/5A CT,s.						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
ii							
	2 Sets of following						
	1 No. 40 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	Single Phase preventer						
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
iii							
	1 Sets of following						
	1 No. 32 Amp. 415/500 volts,25 KA, TP, Moulded Case Circuit Breaker with variable current setting of 0.8 to 1.0						
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.						
	1 No. 3 Phase, DOL starter (type - II) of 7.5 HP with thermal overload relay, Push Buttons and Switches etc complete as required.						
	Single Phase preventer						

Item No	Description Of Item	DSR No.	Unit	Total Qty	Rate in words (in Rupees)	Rate in figures(in Rs.)	Amount in figures(in Rs.)
	1 Set of phase indicating lamp with 2A SP control MCBs						
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.						
iv							
	1 Set of following (in a separate cubicle)						
	One no. Diesel engine auto starting kit with all necessary relay, controls, wiring etc to start 75 HP diesel engine when electrical driven fire pump fail to start.						
	One no rectifier circuit, battery charger, batteries, DC Voltmeter, DC Ammeter etc.						
	FIRE PUMP Panel as mentioned above	NS	Set	1.00			
	Total						

ELECTRICAL WORKS OF HOUSING & INSTITUTIONAL AT LGB REGIONAL INSTITUTE OF MENTAL HEALTH, TEZPUR, ASSAM.

SUMMARY OF COST ESTIMATE - ELECTRICAL WORKS

S.No.	Description	Amount (In Rs.)	In Figure	Amount in Words (Rs.)
1	SUBHEAD 1: H.T. SUB STATION			
2	SUB HEAD 2: MAIN LT PANEL :			
3	SUB HEAD 3 : DG SETS			
4	SUB HEAD 4 : MV PANELS:			
5	SUB HEAD-5: MCB DISTRIBUTION BOARDS.			
6	SUB HEAD: 6 - WIRING			
7	SUB HEAD: 7 - LIGHT FIXTURE AND FANS			
8	SUB HEAD 8: TELEPHONE SYSTEM			
9	SUB HEAD 9 : FIRE DETECTION AND ALARM SYSTEM			
10	SUB HEAD 10: CONDUITING FOR TV OUTLETS			
11	SUB HEAD 11:CONDUITING FOR COMPUTER SYSTEM .			
12	SUB HEAD 12: LIGHTENING PROTECTION			
13	SUB HEAD 13 : LIFTS			
14	SUB HEAD 14: LT CABLES			
15	SUB HEAD 15: EARTHING SAFETY EQUIPMENT AND MISC. ITEMS			
16	SUBHEAD 16.00 : OUTDOOR LIGHTING :			
	GRAND TOTAL FOR ALL ELECTRICAL WORKS			

BOQ FOR ELECTRICAL WORKS OF HOUSING & INSTITUTIONAL AT LGB REGIONAL INSTITUTE OF MENTAL HEALTH, TEZPUR, ASSAM.

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
1.00	SUBHEAD 1: H.T. SUB STATION SUBSTATION EQUIPMENTS					
1.01	HT Panel- 1 (Residential area & Institutional area)					
	Supply, erection, testing and commissioning of 5 panel indoor type HT Panel having 630A, 33 kV, 3 Phase, 50 Hz., metal clad, dead front, 18.4 KA rupturing capacity Vacuum Circuit Breakers with interlocking scheme for the operation of different VCB, connections etc. complete with following incomers and outgoings including interlocking as per technical specifications and as required.					
A.	INCOMER :					
i)	2 No. VCB Panel having following:					
	1 No. 630A, 33 kV, 3 Phase, 50Hz., metal clad, dead front, 18.4 KA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB)					
	1 set of 33kV/110V Potential Transformers with HRC fuses for metering and protection.					
	1 Set of Phase indicating lamps with HRC fuses					
	1 No. digital voltmeter.					
	1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY					
	2 No. Push button for CLOSE and TRIP					
	1 set of Current Transformer for metering and protection or as required by state electricity board.					
	1 No. digital ammeter .					
	1 Set of CDG 61 (2 No. O/C, 1 No. E/F) relay					
	8 window Alarm annunciator with separate hooter, accept and rest push buttons.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 Set of undervoltage relay and Overvoltage relay					
	1 set of trip circuit supervision relay					
	Auxiliary Relay with shunt trip coil.					
	1 No. Master Trip relay					
	1 No. digital Power factor meter					
	1 No. digital Frequency meter					
	1 No. 3-Phase digital Trivector Meter of suitable rating					
B.	BUSBARS :					
	33KV, 630 Amps, 18.4 KA Three Phase busbars of Copper.					
C.	OUTGOINGS :					
	<i>2 No. VCB Panels each having following</i>					
	1 No. 630A, 33kV, 3 Phase, 50Hz., metal clad, dead front, 18.4 KA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB)					
	1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY					
	Push buttons for CLOSE and TRIP					
	1 set of Current Transformer for metering and protection as per requirement.					
	1 set of 33kV/110V Potential Transformers with HRC fuses for metering and protection.					
	1 No. digital Amps ammeter .					
	1 Set of CDG 61 (2 No. O/C, 1 No. E/F) relay					
	1 No. Master Trip Relay					
	1 set of trip circuit supervision relay					
	Auxiliary Relay with shunt trip coil.					
	8 window Alarm annunciator with separate hooter, accept and rest push buttons.					
	BUSCOUPLER :					
	<i>1 No. VCB Panels each having following</i>					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 No. 630A, 33kV, 3 Phase, 50Hz., metal clad, dead front, 18.4 KA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB)					
	1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY Push buttons for CLOSE and TRIP					
	1 set of Current Transformer for metering and protection as per requirement.					
	1 set of 33kV/110V Potential Transformers with HRC fuses for metering and protection.					
	1 No. digital Amps ammeter .					
	HT Panel (Residential area & Institutional area)as mentioned above	each	2			
1.02	Four pole structure with GOD, AB switch/ D.O. fuse and lightning arresters, pin/ disc insulators etc of 33 KV grade complete with foundation of pole, fencing, gate etc complete as per requirements of State Electricity Board and as required.	Set	1			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
1.03	BATTERY CHARGER PANEL Supply, erection, testing and commissioning of battery charger panel totally enclosed, free standing type, dust, damp and vermin proof powder coated panel made up of CRCA sheet, with 24 V DC continuous out put for control supply of HT panel complete with battery, control cabling etc. as required. Capacity of battery charger panel should be suitable for above mentioned H.T. Panels. 2 numbers Sealed Maintenance Free (SMF) battery of minimum 150 AH ampere hour capacity. Boost and Trickle charger suitable for above items. 1 No. AC Voltmeter (0-500Volt) 1 No. DC Voltmeter 1 No. DC Ammeter 1 set of AC and DC indicating lamps 1 No. DC Battery charging position indicator DC distribution board suitable for above application to incoming & outgoing MCBs include tripping, closing and indication etc. Control cabling between DC Distribution panel to the HT panel of the Substation with suitable core 1.5 sqmm copper cable					
	Battery Charger as mentioned above.	Set	2			
1.04	H.T. CABLE Supply of following sizes of 33 kV grade, multicore aluminium conductor XLPE armoured and overall HR PVC sheathed power cable as per IS : 7098.					
i	3 Core, 240 sq mm	Metre	2000			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
1.05	Supplying and making end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size 3 Core, XLPE aluminium conductor cable of 33kV grade as required.					
	i 240 sqmm indoor type	Each	8			
	ii 240 sqmm outdoor type	Each	8			
1.06	Providing and laying of 150mm dia non pressure NP2 class (heavy duty) RCC pipe with collar joint with stiff mixture of cement (1 cement : 2 fine sand) including testing the joints, digging and back filling the trench etc. as required for laying of pipe to be laid 1100 mm below ground level.	Metre	150			
1.07	Laying of one number 33 kV, XLPE, power cable of 3 core 240 Sqmm in existing RCC pipe of 150mm dia complete as required	Metre	800			
1.08	Making of manhole size 1.5 m (length) X 0.6 m (width) X 1.1 m (depth) with monkey ladder and brick work on sides. Bottom will be soft soil to absorb water and cover shall be of RCC of suitable size as approved by site incharge complete as required.	Nos	10			
1.09	Supply & laying of 33 KV cable route marker of suitable location & internal.	Nos	30			
1.10	TRANSFORMER-(Residential AND INSTITUTIONAL AREA)					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, erection, testing and commissioning of 750 KVA, 33/0.433 kV, 3 Phase, 4 wire, 50 Hz., ON-AN Transformer for indoor duty with an off load tap changer -7.5% and +5% in the steps of 2.5% with cable at primary (HT side) and secondary end (LT side) shall be connected through busduct, the transformer shall be complete with first filling of oil, with buchholz relay protection, high winding temperature sensors, complete with all fittings including neutral CT, interconnection of control cables and accessories, soak pit for transformer oil complete as per technical specifications including foundation of the transformers etc as per state electricity rule/requirements. The transformer will be as per detailed CPWD technical specifications and as required.	each	4			
1.11	BUS DUCTS (Residential and Institutional area)					
	i) Supply, Installation, testing and commissioning of 1250 phase and neutral four pole, 415 V, 3 Phase, 4 Wire, sandwich construction Aluminium Bus Duct including bends, flexible joints, earth bus (2 runs of aluminium strips), supports for installation, supporting arrangements, etc. complete as per technical specifications and as required.	Mtrs.	80			
	TOTAL FOR SUB HEAD 1: H.T. SUB STATION					
2.00	SUB HEAD 2: MAIN LT PANEL :					
2.01	MAIN LT PANEL - Normal Supply (Institutional area)					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of LT Panel, cubicle type, totally enclosed, free standing type, dust ,damp and vermin proof panel , powder coated, made up of CRCA sheet, complete with aluminium busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, and having incoming and outgoing switchgears with cable alley in front as mentioned below and complete as per technical specifications and as required. The size of cable alley shall be sufficient enough to accomodate the cable sizes as mentioned in the SLD/ specifications/ drawings etc.					
	Note :					
	1. All ACBs shall have 5 NO + 5 NC contacts					
	2. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS. UPS is in the scope of supply.					
	3. connection from transformer to main incomers should done by bus duct					
	INCOMER:					
i)	2 No. ACB Panels each having following:					
	1 No. 1250A, 415/500V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit & earth Fault trip including under voltage release and lockable trip push button. ACB should have Icw=Ics = 50 KA for 1 sec.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB					
	Push button to CLOSE the ACB.					
	R, Y & B Phase indicating lamps (LED type) with 2A control SP MCBs					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 Set of 1250/5-5 CT for metering & protection Restricted earth fault protection with one set of CT.					
	Digital multi function meter with one set of suitable CTs, CT shorting links, R/Y/B LED indicating lamps and 2A control SP MCBs					
	One set of dual core dual ratio CT of 1250/600/5/5A for capacitor panel.					
	BUSBARS : 1600 Amps Phase TPN busbars of aluminium.					
	BUS COUPLER :					
i)	1 No. ACB Panels each having following: 1 No. 1250 A, 415/500V, Motorised, Fully Drawout type (EDO), Four Pole, Air Circuit Breaker with microprocessor based overload, short circuit, Instantaneous & earth Fault trip including under voltage release and lockable trip push button. The ACB should have I _{cw} = I _{cs} = 50KA for 1 sec. 1 set of indicating lamps to indicate OPEN, CLOSE, TRIP. Push button to CLOSE the ACB. 1 Set of A meter with ASS and CTs.					
	OUTGOING.					
i)	2 Nos. MCCB as per following details/ specification: 630 Amps , 415 volts, , 35 KA (I _{sc}) ,TPN, microprocessor based Moulded Case Circuit Breaker with variable current settings and having microprocessor based O/L, S/C,& E/F protection release. R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN, CLOSE, TRIP for MCCB.					
ii)	4 Nos. MCCB as per following details/ specification:					
	320 Amp 415 volts, 35 KA (Ics), TPN microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN, CLOSE, TRIP for MCCB.					
iii)	2 Nos MCCB as per following details/ specification:					
	250 Amps , 415 volts, 35 KA (Isc) TPN, microprocessor based Moulded Case Circuit Breaker with variable current settings and having microprocessor based O/L, S/C,& E/F protection release.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
iv)	4 Nos. MCCB as per following details/ specification:					
	125 Amps , 415 volts, 35 KA (Isc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
v)	4 Nos MCCB as per following details/ specification:					
	100 Amps , 415 volts, 35 KA (Isc),TPN , Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
vi)	2 Nos MCCB as per following details/ specification:					
	63 Amps , 415 volts, 35KA (lsc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
	UPS					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	A UPS of suitable capacity single phase input and single phase output, 240V 50 Hz AC online, with inbuilt 1 Hour battery back up in the form of sealed maintenance free (SMF) batteries with power wiring to the control bus for supply to relays.(UPS to be installed inside the LT panel.)					
	ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and hardware					
	Interlocking between incoming breakers and buscouplers as per interlocking scheme with cabling, necessary hardware and auxiliary contacts					
	MAIN LT PANEL - Normal Supply (Instutional area) as mentioned above	Set	1			
2.02	MAIN LT PANEL - NORMAL (RESIDENTIAL AREA)					
	Supply, installation, testing and commissioning of LT Panel, cubicle type, totally enclosed, free standing type, dust ,damp and vermin proof panel , powder coated, made up of CRCA sheet, complete with aluminium busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, and having incoming and outgoing switchgears with cable alley in front as mentioned below and complete as per technical specifications and as required. The size of cable alley shall be sufficient enough to accomodate the cable sizes as mentioned in the SLD/ specifications/ drawings etc.					
	Note :					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1. All ACBs shall have 5 NO + 5 NC contacts					
	2. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS. UPS is in the scope of supply.					
	3. connection from transformer to main incomers should be done by bus duct					
A.	INCOMERS					
i)	2 Nos ACB as per following details/ specification:					
	1250A, 415V, Fully Drawout type (EDO), (Breaking Capacity=50kA), Four Pole, Air Circuit Breaker with microprocessor based release having over load, shaort circuit & earth fault protection with over voltage and under voltage protection with lockable trip push button .					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for ACB					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Lockable Push buttons for CLOSE and TRIP .					
	R, Y & B Phase indicating lamps (LED type) with 2A control					
	SP MCBs					
	1 Set of 1250/5-5 CT for metering & protection					
	Restricted earth fault protection with one set of CT.					
	Digital Ampere metre with ASS and C.Ts.					
	Digital Volt meter with VSS & HRC fuse					
	Digital multifunction meter to show, KWH, KVAH, P.F.and					
	frequency meter one set of suitable CTs, CT shorting links.					
	One set of dual core dual ratio CT of 1250/600/5/5A for					
	capacitor panel.					
B.	BUS COUPLERS :					
i)	1 Nos .ACB as per following details/ specification:					
	1250A, 415 V, Fully Drawout type (EDO) (Breaking					
	Capacity=50kA), Four Pole, Air Circuit Breaker with					
	microprocessor based release overload, short circuit and earth					
	fault release					
	Indicating lamps with 2A protection MCBs to indicate OPEN,					
	CLOSE, TRIP for ACB					
	Push button for CLOSE and TRIP with lock and key					
	arrangement.					
	BUSBARS :					
	1600 Amp TPN busbars of aluminum					
C.	OUTGOINGS :					
i)	2 Nos .ACB as per following details/ specification:					
	630 Amp 415 volts, 35 KA (Ics) TPN MCCB with variable					
	current settings and having microprocessor based O/L, S/C					
	& E/F protection release.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital energy metre with CT					
ii)	2 Nos MCCB as per following details/ specification:					
	320 Amp 415 volts, 35 KA (Ics), TPN microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
iii)	2 Nos MCCB as per following details/ specification:					
	250 Amp 415 volts, 35 KA (Ics), TPN microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
iv)	2 Nos . MCCB as per following details/ specification:					
	200 Amps , 415 volts, 35 KA (Isc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
v)	4 Nos . MCCB as per following details/ specification:					
	125 Amps , 415 volts, 35KA (Isc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
vi)	4 Nos . MCCB as per following details/ specification:					
	100 Amps , 415 volts, 35KA (lsc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
vii)	2 Nos MCCB as per following details/ specification:					
	63 Amps , 415 volts, 35KA (lsc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Indicating lamp with 2A control SP MCB to indicate OPEN ,CLOSE, TRIP for MCCB.					
	UPS					
	A UPS of suitable capacity single phase input and single phase output, 240V 50 Hz AC online, with inbuilt 1 Hour battery back up in the form of sealed maintenance free (SMF) batteries with power wiring to the control bus for supply to relays.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and hardware					
	Interlocking between incoming breakers and buscouplers as per interlocking scheme with cabling, necessary hardware and auxiliary contacts					
	MAIN LT PANEL - NORMAL (Residential area) as mentioned above	Set	1			
2.03	SUB LT PANEL -Normal Supply (Residential area) IN MAIN LT ROOM					
	Supply, installation, testing and commissioning of LT Panel, cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of CRCA sheet, complete with aluminium busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, powder coated and having incoming and outgoing switchgears as mentioned below and complete as required.					
	Note :					
	1. All ACBs shall have 5 NO + 5 NC contacts					
	2. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS					
A.	INCOMERS :					
	1 Nos. MCCB as per following details/ specifications:					
	630 Amp 415 volts, 50 KA (Ics) FP MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	1 set of 630/5-5 of CT for metering & protection.					
	Restricted earth fault protection with one set of CT					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital multi function meter with one set of suitable CTs, CT shorting links, R/Y/B LED indicating lamps and 2A control SP MCBs					
b)	BUSBARS :					
	800 Amps Phase FP busbar of aluminium.					
c)	OUTGOING.					
i	9 Nos. MCCB as per following details/ specifications:					
	125 Amp 415 volts, 35 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
ii	2 Nos. MCCB as per following details/ specifications:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	63 Amp 415 volts, 35 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
iii	10 no. 63 Amps , 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker, with ON/ OFF indication.					
	UPS					
	A UPS of suitable capacity single phase input and single phase output, 240V 50 Hz AC online, with inbuilt 1 Hour battery back up in the form of sealed maintenance free (SMF) batteries with power wiring to the control bus for supply to relays.					
	ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and hardware					
	Interlocking between incoming breakers and buscouplers as per interlocking scheme with cabling, necessary hardware and auxiliary contacts					
	SUB Distribution Board-Normal Supply (Residential area) IN MAIN LT ROOM as mentioned above	Set	1			
2.04	MAIN LT PANEL -Emergency supply (Institutional area)					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of LT Panel, cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of CRCA sheet, complete with aluminium busbars, danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, necessary interlocking, powder coated and having incoming and outgoing switchgears as mentioned below and complete as required. Note :					
	1. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS					
A.	INCOMERS 1 No . MCCB as per following details/ specification: 320 Amp 415 volts, 50 KA (lcs), FP microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release. "ON" LED indicating lamp and 2A control SP MCB Extended rotary operating mechanism Digital energy meter with one set of suitable CTs, CT shorting links. Ampere Metre of suitable range with suitable set of CT's and ASS.					
	BUSBARS : 400 Amp FP busbars of aluminum					
C.	OUTGOINGS :					
i)	2 No . MCCB as per following details/ specification:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	160 Amps , 415 volts,TPN ,35 KA, Moulded Case Circuit Breaker with thermal magnetic release and variable current settings.					
	"ON" LED indicating lamp and 2A control SP MCB					
	Extended rotary operating mechanism					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Ampere Metre of suitable range with suitable set of CT's and ASS.					
ii)	3 Nos MCCB as per following details/ specification:					
	100 Amps , 415 volts, TPN, 35 KA, Moulded Case Circuit Breaker with thermal magnetic release and variable current settings.					
	"ON" LED indicating lamp and 2A control SP MCB					
	Extended rotary operating mechanism					
	Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
iii)	2 Nos MCCB as per following details/ specification:					
	63 Amps , 415 volts, TPN, 35 KA, Moulded Case Circuit Breaker with thermal magnetic release variable current settings.					
	"ON" LED indicating lamp and 2A control SP MCB					
	Extended rotary operating mechanism					
	Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
iv)	ENCLOSURE :					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Fabrication, PVC Sleeving, Control/Power Wiring and hardware					
	Interlocking between incoming breakers and buscouplers as per interlocking scheme with cabling, necessary hardware and auxiliary contacts					
	MAIN LT PANEL -Emergency supply (Institutional area)as mentioned above	Set	1			
2.05	CAPACITOR PANELS -(Residential & INSTITUTIONAL area)					
	Supply, installation, testing and commissioning of M.V. cubicle type totally enclosed free standing type, powder coated, dust, damp and vermin proof Capacitor Panel complete with busbars, M.V. danger notice plate, ammeter, ammeter selector switch, indicating lamps, CT's, Extra heavy duty, APP type Capacitors suitable for non linear loads upto 20%, total operating losses not more than 0.5 W / KVAR, contactors suitable for capacitor switching (current limiting contactor circuit to suppress switching inrush current) interconnections with suitable capacity aluminium leads/solid aluminium strips, rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as required.					
A.	INCOMER :					
	315 Amp 415 volts, 50 KA (lcs), FP microprocessor based MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital energy metre with CT					
	Day & Night mode selector switch					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	10 steps Intelligent microprocessor based Automatic Power factor Correction relay having measurment sensitivity of 1 %.					
	Extension of incoming busbars for connection of multicore armoured aluminium cables.					
B.	METERING :					
	1 set of digital Amp. Meter, digital Poper factor meter and Digital voltmeter					
C.	BUSBARS :					
	630 Amp FP busbars of aluminum					
D.	OUTGOINGS :					
i)	1 Nos . as per following details/ specification:					
	100 Amp 415 volts, 50 KA (Ics) TPN MCCB with thermal magnetic release having variable current settings .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	100 Amps, 415 volts, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to supress switching inrush current.					
	ON/ OFF delay timers for switching capacitor circuit.					
	"ON" and "TRIP" LED indicating lamp and 2A control SP MCBs					
	50 kVAR Extra heavy duty, APP type Capacitors suitable for non linear loads upto 20%, total operating losses not more than 0.5 W / KVAR.					
ii)	6 Nos . as per following details/ specification:					
	63 Amp 415 volts, 50 KA (Ics) TPN MCCB with thermal magnetic release having variable current settings .					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	63 Amps, 415 volts, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to suppress switching inrush current.					
	ON/ OFF delay timers for switching capacitor circuit.					
	"ON" and "TRIP" LED indicating lamp and 2A control SP MCBs					
	25 kVAR Extra heavy duty, APP type Capacitors suitable for non linear loads upto 20%, total operating losses not more than 0.5 W / KVAR					
iii)	3 Nos . as per following details/ specification:					
	32 Amp 415 volts, 50 KA (Ics) TPN MCCB with thermal magnetic release having variable current settings.					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	32 Amps, 415 volts, TP, Power Contactor suitable for capacitive switching including current limiting contactor circuit to suppress switching inrush current.					
	ON/ OFF delay timers for switching capacitor circuit.					
	"ON" and "TRIP" LED indicating lamp and 2A control SP MCBs					
	10 kVAR Extra heavy duty, APP type Capacitors suitable for non linear loads upto 20%, total operating losses not more than 0.5 W / KVAR.					
	Capacitor Panel -(Residential area & Institutional AREA) as mentioned above	set	4			
	TOTAL SUBHEAD 2: MAIN LT PANEL					
	SUB HEAD 3 : DG SETS					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
3.00	DG Set and Accessories					
3.01	SOUND PROOF DG SETS OF 160 KVA : (INSTITUTIONAL AREA)					
	Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 160 KVA: Prime Power Ratings , 415 volt at 1500 RPM, 0.80 lagging; power factor suitable for 50 Hz, 3 phase system , 0.85 load; factor suitable bhp, radiator type air cooled type diesel engine; alternator set mounted on common base frame, return fuel cooler, battery & battery charger, Anti Vibration mounting; pads, Engine alternator safeties, electronic governor; including all accessories & their wiring as per technical specification. DG set should be PLC/PC compatible. This includes the following:					
	Supplying and fixing of suitable sizes High class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe length as per pollution control board norms and as required.					
	Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 22 gauge aluminium sheet cladding etc. as required for the under mentioned dia pipe.					
	Supply, installation, testing and commissioning of suitable size fuel pipe for connecting diesel engine to individual day service tank including supply and fixing of required valves & filters etc. as required.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Fabrication of supports for exhaust pipe, fuel pipe or for any other purpose out of suitable M.S. structural steel including supplying and applying of enamel paint of approved shade after one coat of steel primer of reputed company.					
	Supplying and fixing of suitable capacity cable adapter box for alternator.					
	Providing and fixing oil tank of 990 litres capacity complete with suitable M.S. fabricated MS stand oil level indicator gauge tank and stand duly painted, complete with float switches etc. as required.					
	Factory assembled Sound proof Canopy as per pollution control board requirement to achieve noise level desired during night condition, with base frame, doors, inspection window, fresh air supply fans, light fixtures for illumination with switch, two no. 15A power sockets, wiring for light fixtures and power sockets, etc.					
	Any other item required for completion of system above (D.G. set)					
A.	DG AMF PANEL					
	Supply, installation, testing and commissioning of DG , cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of CRCA sheet, complete with aluminium busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coated and having incoming and outgoing switchgears as mentioned below and complete as required.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Note :					
	1. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS					
	2. Panel shall be suitable for manual and automatic operation (AMF) and shall be complete as required.					
A.	One no. 315A auto change over switch for changeover between State Electricity Board power & DG set power.					
B.	1 No.MCCB as per following details/ specification:					
	315Amps , 415 volts, four pole, Moulded Case Circuit Breaker with thermal magnetic release and variable current settings .					
	"ON" LED indicating lamp and 2A control SP MCB					
	Extended rotary operating mechanism					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	Digital Volt meter with VSS & HRC fuse					
	Digital multifunction meter to show, KWH, KVAH, P.F.and frequency meter one set of suitable CTs, CT shorting links.					
C.	PROTECTION AND AMF COMPONENTS for above mentioned DG set.					
	Over Voltage relay					
	Under Voltage relay					
	Battery charger (with trickle and boost charging).					
	DC voltmeter and ammeter.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	DC ammeter.					
	8 window Alarm annunciator with separate hooter, accept, reset and rest push button.					
	Hooter.					
	Engine Cranking Relay.					
	Main supply voltage monitor, alternator voltmeter monitor and Engine Starting Relays.					
	Auxillary relays, timer, push button and control fuses.					
	Phase sequence relay					
D.	ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and necessary electrical/ mechanical interlocking etc any other item required for proper functioning of the system complete as required.					
	DG SET WITH AMF PANEL-(Institutional) as mentioned above	set	1			
3.02	SOUND PROOF DG SETS OF 40 KVA (DIRECTOR'S BUNGLOW)					
	Supply, installation, testing and commissioning of sound proof (silent type) Diesel Generating set having 40 KVA Prime Power Ratings , 415 volt at 1500 RPM, 0.8 lagging; power factor suitable for 50 Hz, 3 phase system & for 0.85 Load Factor , suitable bhp, water cooled radiator type diesel engine- alternator set mounted on common base frame, return fuel cooler, battery & battery charger, Anti Vibration mounting pads, Engine alternator safeties, electronic governor including all accessories & their wiring as per technical specification. This includes the following:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supplying and fixing of suitable sizes High class MS pipe for DG exhaust complete with bends, elbow, flanges etc including silencer and catalytic convertor exhaust pipe length 4 meter above the building top/ as per pollution control board norms and as required.					
	Supply and fixing of 50mm thick compressed mineral wool insulation (Rock wool) for D.G. exhaust pipe with 22 gauge aluminium sheet cladding etc. as required for the under mentioned dia pipe.					
	Supply, installation, testing and commissioning of suitable size fuel pipe for connecting diesel engine to individual day service tank including supply and fixing of required valves & filters etc. as required.					
	Fabrication of supports for exhaust pipe, fuel pipe or for any other purpose out of suitable M.S. structural steel including supplying and applying of enamel paint of approved shade after one coat of steel primer of reputed company.					
	Supplying and fixing of suitable capacity cable adapter box for alternator.					
	Providing and fixing oil tank of 990 litres capacity complete with suitable M.S. fabricated MS stand oil level indicator gauge tank and stand duly painted, complete with float switches etc. as required.					
	Factory assembled Sound proof Canopy as per pollution control board requirement to achieve noise level desired during night condition, with base frame, doors, inspection window, fresh air supply fans, light fixtures for illumination with switch, two no. 15A power sockets, wiring for light fixtures and power sockets, etc.					
A.	AMF PANEL:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of DG cubicle type, totally enclosed, free standing type, dust, damp and vermin proof Panel made up of 14/ 16SWG CRCA sheet, complete with aluminium busbars, M.V. danger notice plate, interconnections with suitable capacity aluminum leads/solid aluminum strips/rods, powder coat painted and having incoming and outgoing switchgears as mentioned below and complete as required.					
	Note :					
	1. All relays to operate at 240Volts, Single phase, 50Hz., AC supply through UPS					
	2. Panel shall be suitable for manual and automatic operation (AMF) and shall be complete as required.					
	One no. 100A auto change over switch for changeover between State Electricity Board power & DG set power.					
-	1 No.MCCB as per following details/ specification:					
	100 Amp 415 volts, 35/36 KA (Ics) FP MCCB with microprocessor based over load earth fault short circuit release with advance neutral protection having variable current settings.					
	"ON" LED indicating lamp and 2A control SP MCB					
	Extended rotary operating mechanism					
	Digital energy meter with one set of suitable CTs, CT shorting links.					
-	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
-	Digital Volt meter with VSS & HRC fuse					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
-	Digital multifunction meter to show, KWH, KVAH, P.F.and frequency meter one set of suitable CTs, CT shorting links.					
B.	PROTECTION AND AMF COMPONENTS for above mentioned DG set.					
-	Over Voltage relay					
-	Under Voltage relay					
-	Battery charger (with trickle and boost charging).					
-	Digital voltmeter and ammeter.					
-	Digital ammeter.					
-	8 window Alarm annunciator with separate hooter, accept, reset and rest push button.					
-	Hooter.					
	Engine Cranking Relay.					
	Main supply voltage monitor, alternator voltmeter monitor and Engine Starting Relays.					
	Auxillary relays, timer, push button and control fuses.					
	Phase sequence relay					
C.	ENCLOSURE :					
	Fabrication, PVC Sleeving, Control/Power Wiring and necessary electrical/ mechanical interlocking etc any other item required for proper functioning of the system complete as required.					
	DG SET WITH AMF PANEL as mentioned above	Set	1			
	TOTAL SUBHEAD 3: DG SETS					
4.00	SUB HEAD 4 : MV PANELS: FEEDER PILLARS :					
4.01	Feedr Pilar- TYPE-2 Quarters					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of following; outdoor type with canopy, IP-55 protected M.V. cubicle type; totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming; and outgoing cables with thimbles, powder coated and having following incoming and outgoing switchgears; complete as required.					
a)	INCOMER: 1 no. 125 Amps , 415 volts, 25KA (1sc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having; variable current settings. R,Y&B phase indicating lamp (LED type) with 2A control SP MCB Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. 1 No. 0 to 500 V voltmeter with selector switch. 1 No. Amp ammeter with selector switch with 120/5A C.T.'s.					
b)	BUSBARS: 150 Amp TPN Aluminium busbars					
c)	OUTGOING: 8 nos 40 A DP MCB. 1 nos 25 A DP MCB.					
	Feeder Pillar-Type-2 Quartes as mentioned above	Set	3			
4.02	Feedr Pilar- TYPE-3 Quarters					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of following; outdoor type with canopy, IP-55 protected M.V. cubicle type; totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming; and outgoing cables with thimbles, powder coated and having following incoming and outgoing switchgears; complete as required.					
a)	INCOMER: 1 no. 200 Amps , 415 volts, 25KA (1sc),TPN, Moulded Case Circuit Breaker with thermal magnetic release having; variable current settings. R,Y&B phase indicating lamp (LED type) with 2A control SP MCB Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. 1 No. 0 to 500 V voltmeter with selector switch. 1 No. Amp ammeter with selector switch with 200 /5A C.T.'s.					
b)	BUSBARS: 200 Amp TPN Aluminium busbars					
c)	OUTGOING: 8 nos 63 A DP MCB. 1 nos 25 A DP MCB.					
	Feeder Pillar-Type-3 Quartes as mentioned above	Set	3			
4.03	Feedr Pilar- TYPE-4 Quarters					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of following; outdoor type with canopy, IP-55 protected M.V. cubicle type; totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming; and outgoing cables with thimbles, powder coated and having following incoming and outgoing switchgears; complete as required.					
a)	INCOMER: 1 no. 125 Amps , 415 volts, 25KA (lsc),four pole, Moulded; Case Circuit Breaker with thermal magnetic release having; variable current settings . R,Y&B phase indicating lamp (LED type) with 2A control SP MCB Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers. 1 No. 0 to 500 V voltmeter with selector switch. 1 No. 0 to 125 Amp ammeter with selector switch with 125/5A C.T.'s.					
b)	BUSBARS: 200 Amp TPN Aluminium busbars					
c)	OUTGOING: 8 nos 40 A FP MCB.					
	Feeder Pillar-Type-4 Quartes as mentioned above	set	5			
4.04	Feeder Pillar-Type-5 Quarters					
a)	INCOMER:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 no. 125 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 125 Amp ammeter with selector switch with 125/5A C.T.'s.					
b)	BUSBARS: 200 Amp TPN Aluminium busbars					
c)	OUTGOING: 8 nos 63 A FP MCB.					
	Feeder Pillar- Type-5 Quarters as mentioned above	set	2			
4.05	Feeder Pillar-Type-6 Quarters					
a)	INCOMER: 1 no. 125 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 125 Amp ammeter with selector switch with 125/5A C.T.'s.					
b)	BUSBARS: 200 Amp TPN Aluminium busbars					
c)	OUTGOING:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	4 nos 63 A FP MCB.					
	Feeder Pilar- Type-6 Quarters as mentioned above	set	3			
4.05	Feeder Pillar-Senior Resident Normal Supply					
a)	INCOMER:					
	1 no. 315 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 315 Amps ammeter with selector switch with 315/5A C.T.'s.					
b)	BUSBARS:					
	400 Amps TPN Aluminium busbars					
c)	OUTGOING:					
	48 nos 40 A DP MCB.					
	Feeder Pillar Normal Supply - Senior Resident as mentioned above	set	1			
4.06	Feeder Pillar Emergency Supply - Senior Resident					
a)	INCOMER:					
	1 no. 100Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 100Amps ammeter with selector switch with 100/5A C.T.'s.					
b)	BUSBARS: 200 Amps TPN Aluminium busbars					
c)	OUTGOING: 3 no. 40 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings. 2 Nos. 40 amps FP MCB 2 Nos. 25 amps FP MCB					
	Feeder Pillar Emergency Supply- Senior Resident as mentioned above	set	1			
	SUB DISTRIBUTION BOARDS:					
4.07	Sub Distribution Board Normal Supply -Junior Residents					
a)	INCOMER: 1 no. 250 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings . R,Y&B phase indicating lamp (LED type) with 2A control SP MCB Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 250 Amp ammeter with selector switch with 250/5A C.T.'s.					
b)	BUSBARS: 300 Amp TPN Aluminium busbars					
c)	OUTGOING:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	14 No. 63 Amp, Four Pole, Miniature circuit Breaker.					
	Sub Distribution Board Normal Supply- Junior Residents as mentioned above	set	1			
4.08	Sub Distribution Board EMERGENCY Supply -Junior Residents					
	a) INCOMER:					
	1 no. 100Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 100Amps ammeter with selector switch with 100/5A C.T.'s.					
	b) BUSBARS:					
	200 Amps TPN Aluminium busbars					
	c) OUTGOING:					
	3 no. 40 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings .					
	2 Nos. 40 amps FP MCB					
	2 Nos. 25 amps FP MCB					
	Sub Distribution Board EMERGENCY Supply -Junior Residents as mentioned above	set	1			
4.09	SDB - Cafeteria					
	a) INCOMER:					
	1 no. 125 Amps , 415 volts, 25KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking; with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V voltmeter with selector switch.					
	1 No. 0 to 125 Amp ammeter with selector switch with 125/5A C.T.'s.					
	b) BUSBARS: 160 Amp TPN Aluminium busbars					
	c) OUTGOING: 4 No. 63 Amp, Four Pole, 9 KA Miniature circuit Breaker.					
	SDB-Cafeteria as mentioned above	set	1			
	ACADEMIC BLOCK:					
4.10	MV PANEL NORMAL ACADEMIC BLOCK (IN BASEMENT)					
	a) INCOMER: 1 Nos. MCCB as per following details/ specifications:					
	630 Amp 415 volts, 35 KA (Ics) FP MCCB with variable current settings and having microprocessor based O/L, S/C & E/F protection release.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Digital multi function meter with one set of suitable CTs, CT shorting links, R/Y/B LED indicating lamps and 2A control SP MCBs					
b)	BUSBARS : 800 Amps Phase FP busbar of aluminium.					
c)	OUTGOING.					
i)	3 Nos. MCCB as per following details/ specifications:					
	200 Amp 415 volts, 35 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings.					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
ii)	7 Nos. MCCB as per following details/ specifications:					
	160 Amp 415 volts, 35 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings.					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	iii) 1 Nos. MCCB as per following details/ specifications:					
	63 Amp 415 volts, 25 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings.					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
	MV PANEL NORMAL ACADEMIC BLOCK : (IN BASEMENT) as mentioned above :	Set	1			
4.11	MV PANEL EMERGENCY ACADEMIC BLOCK : (IN BASEMENT)					
	a) INCOMER:					
	1 Nos. MCCB as per following details/ specifications:					
	160 Amp 415 volts, 35KA (Isc), FP MCCB with thermal magnetic release having variable current settings .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Digital multi function meter with one set of suitable CTs, CT shorting links, R/Y/B LED indicating lamps and 2A control SP MCBs					
b)	BUSBARS : 200 Amps Phase FP busbar of aluminium.					
c)	OUTGOING.					
i)	2 Nos. MCCB as per following details/ specifications:					
	100 Amp 415 volts, 35 KA (Isc), TPN MCCB with thermal magnetic release having variable current settings.					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should be with spreader link and phase barriers.					
	Indicating lamps with 2A protection MCBs to indicate OPEN, CLOSE, TRIP for MCCB					
	Digital Ampere Metre of suitable range with suitable set of CT's and ASS.					
i)	3 No.63 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
ii)	3 No.40 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
iii)	5 No.32 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
iv)	5 No.16 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
	MV PANEL EMERGENCY ACADEMIC BLOCK : (IN BASEMENT) as mentioned above.	Set	1			
4.12	Basement & Ground Floor (Normal)					
a)	INCOMER:					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 no. 160 Amps , 415 volts, 35KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V Digital voltmeter with selector switch.					
	1 No. Digital ammeter with selector switch with 160/5A C.T.'s.					
	BUSBARS:					
b)	200 Amp TPN Aluminium busbars					
c)	OUTGOING:					
i)	2 No. 63 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
ii)	5 No.32 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
	Basement & Ground Floor (Normal) as mentioned above	Set	1			
4.13	Second floor & Sixth floor(Normal)					
a)	INCOMER:					
	1 no. 160 Amps , 415 volts, 35KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	1 No. 0 to 500 V Digital voltmeter with selector switch.					
	1 No. Digital ammeter with selector switch with 200/5A C.T.'s.					
	BUSBARS:					
b)	250 Amp TPN Aluminium busbars					
c)	OUTGOING:					
i)	3 No.63 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
ii)	3 No.32 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
iii)	2 No.32 Amp 415 volts, 9 KA ,DoublePole (DP), Miniature Circuit Breaker.					
	Second floor & Sixth floor(Normal) as mentioned above	Set	2			
4.14	Third floor, Fourth floor & Fifth Floor(Normal)					
a)	INCOMER:					
	1 no.160 Amps , 415 volts, 35KA (Isc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V Digital voltmeter with selector switch.					
	1 No. Digital ammeter with selector switch with 160/5A C.T.'s.					
	BUSBARS:					
b)	200 Amp TPN Aluminium busbars					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	c) OUTGOING:					
	i) 3 No.63 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
	3 No.32 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
	Third floor & Fourth floor(Normal) as mentioned above	Set	3			
4.15	MV panel First Floor-1 (Emergency)					
	a) INCOMER:					
	1 no. 100 Amps , 415 volts, 35KA (lsc),four pole, Moulded Case Circuit Breaker with thermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	Extended rotary operating mechanism with door interlocking with defeat feature and padlock facility.					
	MCCB should have spreader links & phase barriers.					
	1 No. 0 to 500 V Digital voltmeter with selector switch.					
	1 No. 0 to 100 Amp Digital ammeter with selector switch with 100/5A C.T.'s.					
	b) BUSBARS:					
	250 Amp TPN Aluminium busbars					
	c) OUTGOING:					
	i) 2 No. 63 Amp 415 volts, 9 KA ,Four Pole, MCB.					
	ii) 2 No. 32 Amp 415 volts, 9 KA ,Four Pole, Miniature Circuit Breaker.					
	MV panel First Floor-1 (Emergency) as mentioned above	Set	1			

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
4.16		Suplying,Installation,testing and Commisioning of metre board panel consisting of three phase/single phase digital KWH meter of following rating with suitable rating MCB on out going of every energy meter. Energy meter duly tested and sealed by state electricity board, in individual lockable cubical. The panel should be fabricated with 2mm thick MS powder coated sheet . It should be free standing/ wall mounted as per technical specifications & as required.					
	a	8 nos. single phase 40 amps KWH Metre with 40 amps DPMCB	Set	3			
	b	8 nos single phase 63 amps KWH Metre with 63 amps DPMCB	Set	3			
	c	8 nos. three phase 10-40 amps KWH Metre with 40 amps FP MCB	Set	5			
4.17		Suplying,Installation,testing and Commisioning of three phase digital KWH meter of following rating with suitable rating MCB on out going of every energy meter. Energy meter duly tested and sealed by state electricity board, in individual lockable cubical .The cubicle should be fabricated with 2mm thick MS powder coated sheet . It should be wall mounted as per technical specifications & as required.					
	a	Three phase upto 63 amps with 63 amps FP MCB	Each	22			
		TOTAL SUB HEAD 4 : MV PANELS :					
5.00		SUB HEAD-5: MCB DISTRIBUTION BOARDS.					
		MCB DISTRIBUTION BOARD					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
5.01	Supplying & fixing following way, three pole and neutral,prewired,sheet steel, MCB distribution board, 415 volts,on recess/surface complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar,din bar, detachable gland plate, interconnections, phosphatized and powder coated including earthing; etc.Before procurement of DB the contractor has to take approval of DB schedule/ drawing of each DB from the Electrical Engineer, HSCC, as per technical specifications and as required.(but without MCB & RCCB),					
	i 4 way (8+12), Double door	Each	9			
	ii 6 way (8+18), Double door	Each	67			
	iii 8 way (8+24), Double door	Each	29			
	iv 12 way (8+36), Double door	Each	1			
5.02	Supplying & fixing following way, single pole and neutral,prewired,sheet steel, MCB distribution board, 240 volts,on recess/surface complete with loose wire box, terminal blocks, tinned copper busbar, neutral link, earth bar,din bar, detachable gland plate, interconnections, phosphatized and powder coated including earthing; etc.Before procurement of DB the contractor has to take approval of DB schedule/ drawing of each DB from the Electrical Engineer, HSCC, as per technical specifications and as required.(but without MCB & RCCB),					
	i 4 way SPN	Each	6			
	ii 8 way SPN	Each	2			
	iii 12 way SPN	Each	72			
	iv 16 way SPN	Each	24			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
5.03	Supplying & fixing 6 Amps to 32 Amps rating, 240 volts, 'B' series, miniature circuit breaker suitable for lighting & other loads of following poles in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications & as required.					
i	Single pole	Each	2345			
ii	Single pole & neutral (DP)	Each	8			
iii	Triple pole & neutral (FP)	Each	20			
5.04	Supplying & fixing following rating, four pole, 415 volts, Miniature Circuit Breaker (MCB), in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.					
i	40 Amps	Each	43			
ii	63 Amps	Each	42			
iii	100 A mps	Each	1			
5.05	Supplying & fixing following rating, four pole, 415 volts, Residual Current Circuit Breaker (RCCB) having a sensitivity current upto 300 mA in the existing MCB DB complete with connections, testing & commissioning etc. as per technical specifications and as required.					
i	25 Amps	Each	7			
ii	32 Amps	Each	13			
iii	40 Amps	Each	43			
iv	63 Amps	Each	42			
v	100 Amps	Each	1			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
5.06	Supplying & fixing following rating, double pole, 415 volts, Miniature Circuit Breaker (MCB), in the existing MCB DB; complete with connections, testing & commissioning etc. as per technical specifications and as required.					
	i 40 Amps	Each	72			
	ii 63 Amps	Each	24			
5.07	Supplying & fixing following rating, double pole, 415 volts, Residual Current Circuit Breaker (RCCB) having a sensitivity current upto 300 mA in the existing MCB DB; complete with connections, testing & commissioning etc. as per technical specifications and as required.					
	i 25 Amps	Each	6			
	ii 40 Amps	Each	72			
	iii 63 Amps	Each	24			
5.08	Supplying and fixing Single pole Blanking plate in the existing MCB DB complete as required.	Each	512			
	TOTAL SUBHEAD: 5- MCB DISTRIBUTION BOARD.					
6.00	SUB HEAD: 6 - WIRING					
6.01	WIRING					

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	i	Wiring for light point/fanpoint/ exhaust fan point/call bell point with 1.5 sq.mm. PVC insulated, fire retardant low smoke (FRLS) copper conductor cable, single core/ multi strand, in steel conduit (Including supplying & recess laying of MS conduit and accessories) including the following and complete as required.					
	ii	Supplying and Fixing Modular type switches (modular Bell push in case of call bell points) in suitable size modular metal boxes, base plate & modular cover plates, space for fixing electronic fan regulator in case of fan point wiring & space for fixing 5A socket on the board etc.					
	iii	Supplying and fixing Hexagonal fan Boxes with 3 mm thick hylem sheet covers in case of Fan Points					
	iv	Supplying & Fixing Ceiling Rose in case of Exhaust Fan Points etc.					
	v	Note :					
	vi	i) Unless otherwise specified all the conduiting work to be done in recess					
		Point wiring as mentioned above	Point	6408			
6.02	i	Wiring for twin control light points with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable in MS conduit (including supplying and recess laying of MS conduit) including the following and complete as required.					
	ii	Supplying and Fixing Modular type two numbers 2 Way switches in suitable size modular metal boxes, base plate & modular cover plates etc.					
	iii	Note :					

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	iv	i) Unless otherwise specified all the conduiting work to be done in recess					
		Wiring for twin control light points as mentioned above	Point	378			
6.03		Wiring for 5A light plugs with 1.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 1.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed MS conduit (including supply and recess laying of MS conduit) as per technical specifications and as required.	Point	1308			
6.04		5 A light plug wiring same as above but plug point is in the switch board itself.	Points	426			
6.05		Wiring for computer points (Three sockets & one switch) with 2.5 sq.mm. PVC insulated, FRLS copper conductor cable including one number 2.5 sq.mm. PVC insulated, copper conductor cable for earthing in surface/recessed MS conduit (including supply and recess laying of conduit) as per technical specifications and as required.	Point	206			
6.06		Wiring for 16 amp power plug with 2X4 sqmm PVC insulated, FRLS copper conductor, single core/multistrand cable in surface/recessed MS conduit (including supply and recess laying of MS conduit with all accessories) along with 4 sqmm PVC insulated, copper conductor, single core/multistrand cable for loop earthing etc per technical specifications & as required.					
	i	Directly from MCB-Distribution Board to the Socket Outlets	Point	720			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
ii	Looping from one power point to another power point (16 amp power plug)with 2X2.5 sqmm PVC insulated, FRLS copper conductor, single core/multistrand cable in surface/recessed MS conduit (including supply and recess laying of MS conduit with all accessories) along with 2.5 sqmm PVC insulated, copper conductor, single core/multistrand cable for loop earthing etc per technical specifications & as required. (Only one loop shall be permitted.)	Point	589			
6.07	Wiring for 20 amp power plug with 2X6 sq.mm. PVC insulated, FRLS copper conductor, single core/multistrand cable in surface/recessed MS conduit (including supply and recess laying of MS conduit with all accessories) along with 6 sqmm PVC insulated, copper conductor, single core/multistrand cable for loop earthing, as per technical specifications & as required.	Point	117			
6.08	Wiring for 32 amp power plug with 2X6 sq.mm. PVC insulated, copper conductor, single core cable in surface/recessed ISI marked MS conduit (including supply and recess laying of ISI marked MS conduit with all accessories) along with 1X6 sqmm PVC insulated, copper conductor, single core cable for loop earthing, as per technical specifications & as required.	Point	46			
6.09	Supply, Installation, testing & commisioning of AC mobular metal box with 25 A socket and indiacting light plug with 32 A single pole MCB.	Point	46			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
6.10	Wiring for submain/ circuit wiring with following sizes of PVC insulated, copper conductor single core/multi strand cable in recessed steel conduit (including supply & laying of recessed conduit) as required.					
i)	2X2.5 Sqmm with 1 No. 2.5 sqmm PVC insulated, copper conductor for earthing.	Metre	12724			
ii)	2X4 Sqmm with 1 No. 4 sqmm PVC insulated, copper conductor for earthing.	Metre	108			
iv)	2X10 Sqmm with 1 No. 10 sqmm PVC insulated, copper conductor for earthing.	Metre	1506			
v)	2X25 Sqmm with 1 No. 25 sqmm PVC insulated, copper conductor for earthing.	Metre	540			
vi)	4X4 Sqmm with 2 No. 4 sqmm PVC insulated, copper conductor for earthing.	Metre	48			
vii)	4X6 Sqmm with 2 No. 6 sqmm PVC insulated, copper conductor for earthing.	Metre	35			
viii)	4X10 Sqmm with 2 No. 10 sqmm PVC insulated, copper conductor for earthing.	Metre	1225			
ix	4X16 Sqmm with 2 nos 16 sq mm PVC insulated, copper conductor for earthing.	Metre	558			
6.11	Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing 5 pin 5/6 amps. modular socket outlet with shutters and 5/6 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works 'complete as required.	Each	1308			
6.12	Supplying and fixing of 5 pin 5/6 amp modular socket outlet & switch on the existing modular switch board complete as required.	Each	426			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
6.13	Supplying and fixing suitable module modular metal box on surface or in recess including providing and fixing 6 pin 15/16 A modular socket outlet with shutters and 15/16 A modular switch, base plate, modular cover plate, connections, etc. and all civil works complete as required.	Each	720			
6.14	Supply and fixing following 20 Amps, 240 volts, 2P+E, Industrial Socket Outlet (with 20amps plug top) in a metal box with 20 SP MCB in a sheet steel cover on surface or recess complete with all accessories including connections, testing and commissioning etc. as required.	Each	117			
6.15	Supply, Installation, Testing & Commissioning 63 Amps, TPN MCCB in a sheet steel enclosure, extended rotary operating mechanism complete with all accessories as required.	Each	6			
6.16	Supplying and fixing suitable Module metal box on surface or in recess including providing and fixing three nos 3 pin 5/6 amps. modular socket outlet with shutters and one no. 10 amps. modular type switch, base plate, modular cover plate, connections etc. and all civil works complete as required. (For computer Points)	Each	206			
6.17	Supplying & fixing cordless musical bell, batteries etc of approved make complete as required.	Each	231			
6.18	Supplying, providing & fixing LED aviation light (Philips XGP 400 1XLED-K2/RD 240V or approved equivalent) including wiring complete as required.	Each	6			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	TOTAL SUBHEAD: 6- WIRING					
	SUB HEAD: 7 - LIGHT FIXTURE AND FANS					
7.00	LIGHT FIXTURES AND FANS					
7.01	Supply of following light fixture with high efficiency electronic ballast, starter, capacitor, tubes/lamps, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.					
i	1X TL5 28 watt box type flourescent light fixture (Philips TMS 122M 1XTL5 28 EBT or approved equivalent) 136B/136BW	Each	1624			
ii	2X28 watt box type flourescent light fixture with reflector (Philips TMS 122M2XTL528 W EBT or approved equivalent) (236b)	Each	100			
iii	1X 36 watt surface mounted luminaire suitable for 36 watt TLD lamps with clear acrylic diffuser (GE : GETC1X36 AC S HF or approved equivalent). 136CAC	Each	12			
iv	2X36 watt surface mounted type flourescent light fixture with clear acrylic (GE TC 2X36 AC S HF or approved equivalent) (236b)	Each	8			
v	1X36watt surface mounted flourescent light fixture (Philips TCS 306 1XTLD 36W EBE or approved equivalent) 136smo1	Each	242			

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	vi	2X TL5 28 watt recess mounted mirror optics flourscent light fixture (Philips TBS 050 2XTLD 36W EBE MI or approved equivalent). (236RMO1/236 RMO2)	Each	40			
	vii	2 X36watt surface mounted flourescent light fixture (Philips TCS 306 2XTL5 28W EBP or approved equivalent) 236SMO1/236SMO2	Each	129			
	viii	2X TL5 28 watt surface mounted flourescent light fixture (Philips TCS 350 2XTL5 28W EBE C5 or approved equivalent) (236SMO3).	Each	80			
7.02		Supply of following compact flourescent light fixture with electronic ballast, starter, capacitor, lamps, reflector, diffuser, MS body/housing holder etc. complete with all fixing accessories as required.					
	i	1x9 watt Bulk Head light fixture (Philips FXC 101 1XPL-S/2P11ACO HPF or approved equivalent)	Each	332			
	ii	1x15 watt GLS lamp in wall recessed fixture (Decon 54VW, in die cast aluminium or approved equivalent) used as a night lamp	Each	76			
	iii	1x10 watt CFL surface mounted downlight fixture (Decon 03 UW or approved equivalent)DL1/DL2/DL3	Each	731			
	iv	2X26 watt recessed downlight fixture with CFL lamp (Philips FBH 225/226 HF ZZG 225 ALR or approved equivalent) DL2	Each	25			

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	v	1X65 watt highbay luminaire with CFL lamp, prismatic diffuser & polycarbonate reflector (Philips HPK205; 1XEHLT65 W PR or approved equivalent) DL4.	Each	16			
	vi	2X10 watt Mirror top (Decon 05UB or approved equivalent) Wtoilet	Each	427			
	vii	2X11 watt surface mounted mirror optics (Philips FCS0 31; 2XPLS/2P 11 or equivalent) 211CFLRECT	Each	198			
	viii	Surface mounted Batten holder (Plastic) with 13 watt CFL	Each	129			
	ix	1x18 watt CFL wall bracket (Decon 05 TR Single wave PL-Cor approved equivalent)	Each	403			
	x	2x13 watt CFL wall bracket (Decon 29 PZ Stairway - PL-Cor approved equivalent)	Each	333			
	xi	1x60 watt wall bracket with GLS lamp Maryland (Decon 0555; or approved equivalent)	Each	11			
	xii	1X 18/13 watt CFL surface mounted wellglass luminaire (Philips NDC 203 or approved equivalent).wellglass	Each	20			
7.03		1 hummer of 9 lamps matching with above wall bracket type 3.maryland.	Each	1			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
7.04	Supply of following ceiling fans (Crompton Greaves High Breeze plus or approved equivalent) complete with double ball bearing, motor, blades, downrod, canopies, capacitor, modular type electronic fan regulator, suitable for operation on 230 volts, 50 Hz., 1 phase, AC supply complete as required.					
	i 1400 mm sweep	Each	70			
	ii 1200 mm sweep	Each	799			
	iii 900 mm sweep	Each	24			
7.05	i Supply of 900 RPM, 230 mm exhaust fan suitable for single phase 230 volts, 50 Hz., AC supply (Crompton Greaves Trans air or approved equivalent) complete with motor, louvers/shutters etc. complete as required.	Each	664			
	ii Supply of 900 RPM, 450 mm heavy duty exhaust fan suitable for single phase 230 volts, 50 Hz., AC supply complete with motor, louvers/shutters etc. complete as required.	Each	6			
7.06	Supply of 450 mm sweep, crompton greaves model "high flow" 18" wall mounted fan complete with double ball bearing, motor, blades, capacitor etc suitable for single phase 230 volts, 50 Hz., AC supply, complete as required.	Each	30			
7.07	Installation, testing and commissioning of prewired, flourescent fittings of all types, complete with all accessories and tube etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.	Each	2235			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
7.08	Installation, testing and commissioning of prewired, compact fluorescent lamp fixture (CFL fixtures) of all types, complete with all accessories and lamp etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.	Each	2702			
7.09	Installation, testing and commissioning of prewired, decorative hanging fittings including jhummars of all types, complete with all accessories and lamp etc. directly on ceiling/wall, including connections with 1.5 sq.mm. PVC insulated, FRLS copper conductor, single core/ multi strand cable etc. as required.	Each	1			
7.10	Installation, testing and commissioning of ceiling fan and modular type electronic fan regulator (Electronic regulator to be fixed in switch board) including wiring the down rod and connection with 1.5 sqmm PVC insulated, copper conductor, single core cable as required.	Each	893			
7.11	Installation, testing and commissioning of exhaust fan up to 300 mm sweep in the opening, including making the hole to suit the size of the above fan including, fixing of louvers/ shutters with frame making good the damages etc. as required.	Each	670			
7.12	Installation, testing and commissioning of wall mounted fan up to 450 mm sweep including supply and fixing wall bracket arrangement complete as required.	Each	30			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	TOTAL SUBHEAD 7: LIGHT FIXTURE & FANS					
	SUB HEAD 8: TELEPHONE SYSTEM					
8.00	TELEPHONE SYSTEM					
8.01	Wiring for telephone point with Supply & laying two pair 0.5 Sq. mm solid, annealed copper conductor insulated with high density polythlene. The insulated cores twisted to form pairs, helically wrapped with polyster tape, over all insulation of FR PVC, unarmoured telephone cable in MS conduit (including supply & recessed laying of M.S. conduit), including providing & fixing of two module modular metal box on recess with following pair cord outlet, connections etc. complete as required. This also includes conduiting, wiring, from floor Tag blocks to individual telephone outlets.					
	i 1 pair cord outlet (Jack Type)	Point	598			
	ii 2 pair cord outlet (Jack Type)	point	28			
8.02	Supplying, Installation, testing and commissioning of following sizes of telephone distribution board in M.S. hinged type lockable box duly painted complete with Krone type tag block etc. including terminations of cable as required.					
	i 100 Pair	Each	3			
	50 Pair	Each	1			
	ii 20 Pair	Each	6			
	iii 10 Pair	Each	15			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
8.03	Supplying and drawing of following pairs .61mm dia annealed tinned copper conductor FR PVC sheathed unarmoured telephone cable in surface/recess steel conduit complete as required.					
i	20 Pair	Metre	130			
ii	10 Pair	Metre	70			
8.04	Supplying and drawing of following pairs .5 mm dia annealed bare copper conductor Polythene insulated, core twisted into pairs armoured jelly filled telephone cable in the existing trench/ hume pipe/ GI pipe etc with saddels etc. complete as required.					
i	100 Pair	Metre	1100			
ii	50 Pair	Metre	50			
iii	10 Pair	Metre	1320			
	TOTAL SUBHEAD 8: TELEPHONE SYSTEM					
	SUB HEAD 9 : FIRE DETECTION AND ALARM SYSTEM					
9.00	FIRE DETECTION AND ALARM SYSTEM					
9.01	Supply and drawing of following sizes of PVC insulated FRLS copper conductor single core cable in surface/recessed ISI marked MS conduit (including Supplying and fixing of ISI marked MS Conduit) complete as required.					
i	2X1.5 sqmm	Metre	3432			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
9.02	Supply, installation, testing and commissioning of the following addressable type fire detection and alarm accessories as per technical specification & complete with connections etc. as required.					
i	Optical type Smoke Detector	Each	150			
ii	Heat Detector	Each	66			
iii	Manual Break call point.	Each	39			
iv	Fire Alarm Hooter cum speaker of suitable range to cover the complete floor, in enclosure.	Each	31			
v	Response indicator	Each	55			
9.03	Supply, Installation, testing and commissioning of 1 loop microprocessor based addressable type networkable Fire Detection & Alarm Panel complete with inbuilt power supply, battery charger with SMF batteries for minimum 24 hours back-up. The panel shall have a communication module and HI 485 network card. The panel should have rectifier, loop card, minimum 80 character LCD unit to indicate fire/ fault signals with address including external/ internal printer to print the details complete as per technical specifications and requirement of Local Fire Authority and as required.	Set	2			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
9.04	Supply, Installation, testing and commissioning of 2 loop microprocessor based addressable type networkable Fire Detection & Alarm Panel complete with inbuilt power supply, battery charger with SMF batteries for minimum 24 hours back-up. The panel shall have a communication module and HI 485 network card. The panel should have rectifier, loop card, minimum 80 character LCD unit to indicate fire/ fault signals with address including external/ internal printer to print the details complete as per technical specifications and requirement of Local Fire Authority and as required.	Set	1			
9.05	Supply testing and commissioning of isolator module as per specifications.	Set	8			
9.06	Supply, Installation, testing and commissioning of addressable control modules.	Each	10			
9.07	Supply, Installation, testing and commissioning of addressable monitor modules.	Each	2			
9.08	Supplying, drawing, connecting, testing & commissioning of 4 core, 1.5 sq. mm ,1100 volts FRLS copper conductor with PVC armoured cable with steel brading for mechanical protection and over all shielded with aluminium myler tape complete as required.	Metre	300			
	TOTAL SUB HEAD 9 : FIRE DETECTION AND ALARM					
	SUB HEAD 10: CONDUTING FOR TV OUTLETS					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
10.00	CONDUITING FOR TV OUTLETS					
10.01	Supply and fixing of following sizes of MS conduit alongwith the accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					
	i 20 mm dia	Metre	4850			
	ii 25 mm dia	Metre	970			
10.02	Supplying and fixing 2 module modular metal box in recess with modular cover plate including fixing 1 no. coaxial TV outlet connection and all accessories complete as required	Each	485			
10.03	Supply and drawing Coaxial TV Cable RG - 6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and potected with PVC sheath in the existing surface/ recessed steel/ PVC coduit as required.	Metre	1495			
	TOTAL SUB HEAD 10: CONDUITING FOR TV OUTLETS					
	SUB HEAD 11:CONDUITING FOR COMPUTER SYSTEM					
11.00	CONDUITING FOR COMPUTER SYSTEM .					
11.01	Supply and fixing of following sizes of rigid PVC conduit alongwith the accessories in recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	i 20 mm dia	Metre	4880			
	ii 25 mm dia	Metre	1220			
11.02	Supplying and fixing two module modular plate (suitable for RJ-45 computer socket) with GI box complete as required.	Each	244			
	TOTAL SUB HEAD: 11 CONDUITING FOR COMPUTER SYSTEM					
	SUB HEAD 12: LIGHTENING PROTECTION					
12.00	LIGHTENING PROTECTION					
12.01	Earthing with 600 mm X 600 mm X 6 mm thick GI plate including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt) complete as required.	Set	12			
12.02	Providing and fixing of lightening conductor finial, made of 25mm. dia. 300mm., long GI tube, having single prong at top, with 85 mm. dia. 6 mm. thick GI base plate including holes etc. complete as required.	Each	30			
12.03	Providing and and fixing GI tape 20mm X 3 mm thick on parapet or surface of wall for lightning conductor as required. (For horizontal runs).	Metre	443			
12.04	Providing and and fixing GI tape 20mm X 3 mm thick on parapet or surface of wall for lightning conductor as required. (For vertical runs).	Metre	145			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
12.05	Providing and fixing testing joint, made of 20mmX3mm thick GI strip, 125 mm. long, with 4 no.'s of GI bolts, nuts, check nuts, bar shaddles, and spring washers etc. complete as required.	Each	12			
12.06	Providing and laying GI tape, 32 mm X 6 mm thick, from test joint upto earth electrode directly in ground as required.	Metre	180			
	TOTAL SUB HEAD 12: LIGHTENING PROTECTION					
	SUB HEAD 13 : LIFTS					
13.00	LIFT					
13.01	Design, manufacture, supply, installation, testing and commissioning of following 8 passenger (544 kg) lift , serving different floors in the lift shaft including lift well pressurization. The lift should be as per detailed specification/ drawing enclosed as required and as under:					
-	Speed : 1.5 MPS					
-	Travel: As per architectural drawing.					
-	Controller: A.C. variable voltage & variable frequency					
-	Automatic rescue device complete with dry maintenance free batteries as required.					
-	Operation: Microprocessor based single automatic push button/ simplex selective collective/duplex collective selective with / without attendant.					
-	415 V, 3 phase, 50 Hz, 4 wire system					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
-	Type of doors: a) Car : Power operated, centre opening for passenger lift horizontal sliding stainless steel scratch proof. (b) Landing doors: Stainless steel scratch proof. Lift car door and landing doors shall have a fire resistance of one hour.					
-	A hand rail guide not less than 600 mm long at 900 mm above floor level .					
-	Mirror of suitable size to be fixed inside the lift car.					
-	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.					
-	Telephone with minimum two connections one at operator's room and other at guard/ security room and the emergency signal with re-chargeable batteries as source of supply be made in the lift car.					
-	Toe guard, PA speaker, IR curtain on full height, two phase fireman's drive control/ switch and potential free contacts etc to be provided in the lift.					
	Various 10 Passenger Lift serving following floors , stops & openings as mentioned below:					
i	Floors : G+5 (Total six floors) , 6 stops & 6 openings	Each	2			
ii	Floors : B+G+6 (Total eight floors) , 8 stops & 8 openings	Each	2			
13.02	Design, manufacture, supply, installation, testing and commissioning of following 10 passenger (680 kg) lift , serving different floors in the lift shaft including lift well pressurization. The lift should be BMS compatible ie; it should have modbus/ BACnet output. The lift should be as per detailed specification/ drawing enclosed as required and as under:					
-	Speed : 1 MPS					
-	Travel: As per architectural drawing.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
-	Controller: A.C. variable voltage & variable frequency					
-	Automatic rescue device complete with dry maintenance free batteries as required.					
-	Operation: Microprocessor based single automatic push button/ simplex selective collective/duplex collective selective with / without attendant.					
-	415 V, 3 phase, 50 Hz, 4 wire system					
-	Type of doors: a) Car : Power operated, centre opening for passenger lift horizontal sliding stainless steel scratch proof. (b) Landing doors: Stainless steel scratch proof. Lift car door and landing doors shall have a fire resistance of one hour.					
-	A hand rail guide not less than 600 mm long at 900 mm above floor level .					
-	Mirror of suitable size to be fixed inside the lift car.					
-	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.					
-	Telephone with minimum two connections one at operator's room and other at guard/ security room and the emergency signal with re-chargeable batteries as source of supply be made in the lift car.					
-	Toe guard, PA speaker, IR curtain on full height, two phase fireman's drive control/ switch and potential free contacts etc to be provided in the lift.					
	Various 10 Passenger Lift serving following floors , stops & openings as mentioned below:					
i	Floors : G+6 (Total seven floors) , 7 stops & 7 openings	Each	2			
	TOTAL SUB HEAD 13: LIFTS					
	SUB HEAD 14: LT CABLES					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
14.00	LT CABLES :					
14.01	Supply of following sizes of 1.1 kV grade multicore aluminium conductor PVC sheathed armoured AYFY cable as per IS 1554.					
i	3.5C X 300 Sq.mm	Metre	1418			
ii	3.5C X 185 Sq.mm	Metre	342			
iii	3.5C X 150 Sq.mm	Metre	722			
iv	3.5C X 95 Sq.mm	Metre	274			
v	3.5C X 70 Sq.mm	Metre	802			
vi	3.5C X 50 Sq.mm	Metre	302			
vii	3.5C X25 Sq.mm	Metre	386			
viii	4C X25 Sq.mm	Metre	972			
ix	4C X 16 Sq.mm	Metre	636			
x	4C X 10 Sq.mm	Metre	672			
xi	2 Core 10 Sq mm	Metre	168			
xii	2 Core 16 Sq mm	Metre	102			
14.02	Laying of one number PVC insulated and PVC sheathed power cable 1.1kV grade direct in ground including excavation, sand cushioning, protective covering and refilling; the trench etc. as required					
i	Size not exceeding 25 sq.mm	Metre	90			
ii	Size exceeding 25 sq.mm but not exceeding 120 sq.mm	Metre	110			
iii	Size exceeding 120 sq.mm but not exceeding 300 sq.mm	Metre	97			
14.03	Laying of one number PVC insulated and PVC sheathed power cable 1.1kV grade direct in the existing RCC/Hume/Stoneware/Metal pipe as required					
i	Size not exceeding 25 sq.mm	Metre	80			

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	ii	Size exceeding 25 sq.mm but not exceeding 120 sq.mm	Metre	180			
	iii	Size exceeding 120 sq.mm but not exceeding 300 sq.mm	Metre	50			
14.04		Laying of one number PVC insulated and PVC sheathed power cable 1.1kV grade on surface or on existing cable tray complete as required.					
	i	Size not exceeding 25 sq.mm	Metre	60			
	ii	Size exceeding 25 sq.mm but not exceeding 120 sq.mm	Metre	225			
	iii	Size exceeding 120 sq.mm but not exceeding 300 sq.mm	Metre	75			
14.05		Supplying and making end termination with suitable size; Copper lugs including double compression glands of following sizes of 1.1. kv grade multicore aluminium conductor PVC insulated and PVC sheathed					
	i	3.5C X 300 Sq.mm	Each	22			
	ii	3.5C X 185 Sq.mm	Each	2			
	iii	3.5C X 150 Sq.mm	Each	6			
	iv	3.5C X 95 Sq.mm	Each	2			
	v	3.5C X 70 Sq.mm	Each	16			
	vi	3.5C X 50 Sq.mm	Each	28			
	vii	3.5C X25 Sq.mm	Each	10			
	viii	4C X25 Sq.mm	Each	18			
	ix	4C X 16 Sq.mm	Each	20			
	x	4C X 10 Sq.mm	Each	16			
		2 Core 10 Sq mm	Each	26			
		2 Core 16 Sq mm	Each	48			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
14.06	Fabricating and installing following size of perforated M.S. cable trays including horizontal and vertical bends, reducers, tees, cross members and other accessories as required and duly suspended from the ceiling with M.S. suspenders and including painting etc. as required :-					
i	150 mm. width x 50 mm. depth x 1.6 mm. thickness	Metre	70			
ii	300 mm. width x 62.5 mm. depth x 2.0 mm. thickness	Metre	70			
iii	450 mm. width x 62.6 mm. depth x 2.0 mm. thickness	Metre	70			
iv	600 mm. width x 62.6 mm. depth x 2.0 mm. thickness	Metre	20			
	TOTAL SUB HEAD 14: LT CABLES					
	SUB HEAD 15: EARTHING SAFETY EQUIPMENT AND MISC. ITEMS					
15.00	EARTHING, SAFETY EQUIPMENTS AND MISC. ITEMS					
15.01	Earthing with copper plate 600mmX600mmX3mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt) complete as required	Set	12			
15.02	Earthing with GI plate 600mmX600mmX6mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. (but without charcoal or coke and salt) complete as required	Set	52			
15.03	Extra for using charcoal and salt for GI or copper plate earth electrode as required.	Set	64			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
15.04	Supplying and laying 25mmX5mm Copper strip at 0.5m below ground level as strip earth electrode, including soldering etc. as required.	Metre	100			
15.05	Providing and fixing 25mmX5mm Copper strip on surface/on existing cable trench/RCC pipe/GI pipe or in recess for earth electrode as required.	Metre	59			
15.06	Providing and fixing 25mmx5mm copper strip in 40mm dia G.I. pipe from earth electrode as required.	Metre	40			
15.07	Supplying and laying 25mmX5mm GI strip at 0.5m below ground level as strip earth electrode, including soldering etc. as required.	Metre	25			
15.08	Providing and fixing 25mmX5mm GI strip on surface/on existing cable trench/RCC pipe/GI pipe or in recess for earth electrode as required.	Metre	59			
15.09	Providing and fixing 25mmx5mm G.I. strip in 40mm dia G.I. pipe from earth electrode as required.	Metre	25			
15.10	Providing and laying of following sizes non pressure NP2 class (light duty) RCC pipe with colar joint with stiff mixture of cement (1 cement : 2 fine sand) including testing the joints etc. as required.					
i	150mm dia	Metre	235			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
15.11	Providing and fixing M.V. danger notice plate of 200mmX150mm made of mild steel, atleast 2mm thick and vitreous enamelled white on both sides and with inscription in signal red colour on front side as required.	Each	28			
15.12	Supplying and laying of 1.1kV grade 1 metre wide anti skid chequered type rubber mat.	Metre	56			
15.13	Supplying and laying of 12kV grade 1 metre wide anti skid chequered type rubber mat.	Set	15			
15.14	Supply and fixing shock treatment chart in English, Hindi and local language mounted on 5mm thick Plywood and 3mm thick plain glass front complete as required.	Set	20			
15.15	Supplying and fixing CO2 type 4.5 Kg capacity fire extinguishers as approved by ISI complete as required.	Set	25			
15.16	Supplying and fixing CO2 type 9 Kg capacity trolley mounted fire extinguishers as approved by ISI complete as required.	Set	8			
15.17	Supplying and fixing Foam type 9 ltrs capacity fire extinguishers as approved by ISI complete as required.	Set	12			
15.18	Supplying and fixing Foam type 50 ltrs capacity fire extinguishers trolley mounted as approved by ISI complete as required.	Set	6			

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
15.19	Supplying, storing, handling and fixing in position First Aid Medical Box complete as per technical specifications as required.	Set	6			
15.20	Supply and testing of 11kV ISI marked hand gloves	Each	4			
15.21	Providing & fixing rigid PVC pipe complete with fittings, clamps including trenching & refilling/ wall cutting & plastering, etc. (for cable entry) with all minor civil & mech. Works complete as required.					
	50 mm dia nominal bore	Metre	50			
	TOTAL SUB HEAD 15: EARTHING, SAFETY EQUIPMENT AND MISC. ITEMS					
	SUBHEAD 16.00 : OUTDOOR LIGHTING :					
16.00	OUT DOOR LIGHTING					
16.01	Supply, erection, testing and commissioning of external swaged steel tubular pole with following specifications & items :					
i	9.0 Mtrs. high swaged steel tubular pole (Single arm of suitable length each around 1.5 Metre), the construction of the pole shall be as per IS 410 SP-33 with base plate 450mmX450mmX6mm complete as per requirement with two coats of spray paints (shade as approved)					

S.No.		DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1		2	3	5	6	7	8
	ii	1X150 watts street light fixture with 150watts high pressure sodium vapour (HPSV) lamp complete with control gear, acrylic cover cover etc. and its wiring with 2X4 sq.mm. PVC insulated, FRLS copper conductor and 1,5 sqmm PVC insulated, FRLS copper earth wire from control box complete as required - 1 No. (Philips SPX 086/150 or approved equivalent)					
	iii	Suitable size 32 A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 6A DP MCB complete as required - 1 Set					
	iv	Suitable number(s) 40mm dia Class-B GI Pipe(s) from above control box to upto 0.5 metre below ground level for power cable entry					
	v	Providing foundation including excavation, shuttering, alignment of poles, casting etc. including lean concrete at the bottom as per CPWD/ BIS specifications.					
	vi	The above installations shall be completed as CPWD specifications and as required					
	A.	Steet Tubular Poles(9M) Single Arm as mention above	Set	30			
	B.	Steet Tubular Poles (9M) same as above but for Double Arm as mention above	Set	25			
16.02		Supply, installation, testing and commissioning of external post top lantern with following accessories and complete as required :					
	i)	4m high (3.3m above ground) 50mm dia GI pole as approved, adopting socket at top for fixture mentioned below, base plate 300 x 300 x 6mm and provision for mounting junction box etc. - 1 set.					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	ii) Supply, installation, testing and commissioning of Post top lantern with 70W HPSV lamp (Crompton Greaves SPT 1107IL/BF or equivalent) and its wiring with 2 x 2.5 sq.mm PVC insulated copper wire and 1.5 sqmm PVC insulated copper earth wire from control box - 1 set.					
	iii) Suitable size 20A DP MS Control box with 2 no. incoming and outgoing terminals and 2 nos. tap-out terminal with 1 nos. 5A HRC fuses complete 1 set.					
	iv) Suitable number(s) 40mm dia Class-B GI Pipe(s) from above control box to upto 0.5 metre below ground level for power cable entry					
	v) Providing 400x400x1000mm deep 1:3:6 ratio cement concrete including excavation shuttering alignment of poles casting etc. including 100mm thick lean concrete shall be provided at the bottom					
	Supply, installation, testing and commissioning of external post top lantern as mentioned above	Set	20			
16.03	Supply, installation, testing and commissioning of bollard lamps 1X18 watts CFL (Philips HCS360 1XPL-C/2P 18W GR Sonara bollard in gree color or equivalent) control box - 1 set.	Each	20			
16.04	Supply, installation, testing and commissioning of bollard lamps 1X18 watts CFL (Philips HCS 370 1XPL-L 18W GR Lumos bollard in green color or equivalent) control box - 1 set.	Each	25			
16.05	Road Lighting Panel					

S.No.	DESCRIPTION	Unit.	Total Qty	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount in Rs.
1	2	3	5	6	7	8
	Supply, installation, testing and commissioning of following outdoor type with canopy, IP-54 protected M.V. cubicle type totally enclosed, free standing type, dust, damp and vermin proof, MV Panel, busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, stove enamelled painted and having following incoming and outgoing switchgears complete as required.					
	INCOMER:					
	1 No. 63 Amp 415 volts, TPN Switch Disconnecter Fuse Unit with HRC Fuses					
	1 Set of phase indicating lamp with HRC fuses					
	1 Set of photo sensor & 100A TP contactor with neutral link (for street lights control)					
	BUSBARS:					
	100 Amp TPN Aluminium busbars					
	OUTGOING:					
	10 Nos. 32 Amp 415 volts, DP MCB					
	Feeder Pillar as mention above	Set	2			
16.06	Spiral earthing made out of 6 SWG GI wire , 50mm Dia, 115 turns closely wound ,1.5 mtr below ground, earth pit of 350 Dia., 1.5 mtr depth including providing charcoal and salt for earthing at alternate layers of 300 mm depth (total 3 layers),connections etc. complete as required.	Set	15			
	TOTAL SUB HEAD 16: OUTDOOR LIGHTING					
	GRAND TOTAL FOR ALL ELECTRICAL WORKS					

	<u>ACADEMIC BLOCK, TEZPUR</u>		
	<u>SUMMARY SHEET FOR HVAC WORKS</u>		
	DESCRIPTION OF WORK	AMOUNT(Rs.) IN FIGURES	AMOUNT(Rs.) IN WORDS
	TOTAL FOR HVAC WORKS at ACADEMIC BLOCK		
	GRAND TOTAL		

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
The prices are to be quoted in the below mentioned form and shall include the supply, installation, testing & commissioning at site of all the equipments, ancillary materials as specified and all such items what so ever which may be required to fulfill the intent and purpose as laid down in the specifications and or the drawings.						
The tenderer shall quote rates in figures and in words under column 5&6 and extend amount to column 7						
1.0	SPLIT AIR CONDITIONERS					
	Supply , installation , testing and commisioning of HI wall split air conditioner comprising of the following.					
	a) Outdoor condensing Units					
	b) Indoor Evaporative Units					
	c) Interconnecting Refrigerant and drain piping with insulation wherever required, refrigerant and oil. The unit shall include refrigerant piping, power cabling and drain piping.					
	c) Safety and operational controls					
	e) Hiwall splits shall be suitable for single phase power supply and complete with voltage stablizer.					
	f) Mounting arrangement and structural supports for outdoor unit are included.					
	g) The units should have atleast 3 star rating from BEE.					
1.1	Capacity : 1.5 TR	21	Nos.			
1.2	Capacity : 2.0 TR	2	Nos.			
2.0	Window Air Conditioner					

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
	Supply , installation , testing and commisioning of Window Acs complete with transformer, electrical cabling as required along with mounting arrangement,Voltage stablizer.Complete in all respect as per specifications. The units should have 3 star rating from BEE. Capacity					
2.1	1.5 TR	7	Nos.			
2.2	2.0 TR	1	Nos.			
3.0	Propeller Fans					
	Supply, instalation, testing and commissioning of direct driven Propeller fan for exhaust air as shown in drawings. Each fan shall be complete with permanent split capacitor or shaded pole motor, mounting plate, accessories like wire guard, bird screen and fixed louvers for weather protection as required. Fan selection arrangement and Electrical characteristics shall be as follows:					
3.1	150 mm dia 900 RPM fan suitable for 220 +/- 10% volts, 50 Cycles, 1 Phase AC Supply	1	Nos			
3.2	225 mm dia 900 RPM fan suitable for 220 +/- 10% volts, 50 Cycles, 1 Phase AC Supply	9	Nos			
3.3	300 mm dia 900 RPM fan suitable for 220 +/- 10% volts, 50 Cycles, 1 Phase AC Supply	10	Nos			

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
4.0	Axial Flow fans					
	Supply, installation,testing and commisioning of tube axial flow fans as shown in drawings, Each fan shall be direct driven.. Fan motor shall be suitable for 3 Phase, 415+/- 10% V, 50Hz AC supply . Fan shall be complete with gravity louvers. Fan shall be 250 deg C, 2hrs fire rated.					
4.1	Duty : Liftwell Pressurisation					
	Air Quantity : 6000 CFM	2	Nos.			
	Static Pressure : 25 mm					
4.2	Duty : Lift lobby					
	Air Quantity : 4550CFM	2	Nos.			
	Static Pressure : 25 mm					
4.3	Duty: Academic Basement Ventilation					
	Air Quantity :10700 CFM, 25 mm st. pr.	2	Nos.			
4.4	Duty: Academic Basement Ventilation					
	Air Quantity :16000 CFM, 25 mm st. pr.	2	Nos.			
5.0	DUCTING					

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
5.1	GSS DUCTING					
	Supply, installation, testing and balancing of G.S.S ducting of following thickness including necessary supports, hangers, nut bolts, gaskets, splitter dampers, vanes canvass connections etc. complete as per specifications & drawings:					
5.1.1	24 gauge	200	Sqm.			
5.1.2	22 gauge	100	Sqm.			
5.1.3	20 gauge	80	Sqm.			
5.1.4	18 gauge	50	Sqm			
6.0	VOLUME CONTROL DAMPERS					
	Supply, installation and testing of volume control dampers of GI sheet, box type to be provided in ducts complete with suitable links, levers and quadrants for manual control of air volume and air balancing as per specifications and drawings.	3	Sqm			
7.0	GRILLES					
	Supply, installation, testing and balancing of supply/return air grilles with/without volume control dampers of powder coated extruded aluminium construction suitable for installation in walls, false ceiling boxing etc as per specifications and drawings.					

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
7.1	Supply air grilles in single louvers with volume control dampers.	2	Sqm			
7.2	Return air grilles in single louvers without volume control dampers.	2	Sqm			
8.0	FAN STARTER PANELS					
	Supply, installation, testing and commissioning of cubicle type totally enclosed wall/floor mounted free standing type, dust, damp and vermin proof for AHU made of 2mm thick CRCA sheet steel in compartmentalized design as per specification and drawings. These distribution boards shall be mounted on 50x50x6 MS angle frame work grouted to floor/walls of recessed. The rate includes the angle iron frame, support, painting, numbering, earthing etc. as required					
8.1	FAN STARTER PANEL					
	OUTGOING :					
	1 No. 63 Amps MCCB 15 KA for 7.5 HP Motor with suitable Starters for motor with thermal overload protection, single phase preventor, spare NO_NC contacts for interlocking, ON-OFF indication lamps with push button, ammeter with ASS and CTs for fan motor as required.	2	Nos.			
8.2	FAN STARTER PANEL					
	OUTGOING :					
	1 No. 32 Amps MCCB 15 KA for 5 HP Motor with suitable Starters for motor with thermal overload protection, single phase preventor, spare NO_NC contacts for interlocking, ON-OFF indication lamps with push button, ammeter with ASS and CTs for fan motor as required.	2	Nos.			

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
8.3	FAN STARTER PANEL OUTGOING : 1 No. 16 Amps MCCB 10 KA for 1/1.5/2 HP Motor with suitable Starters for motor with thermal overload protection, single phase preventor, spare NO_NC contacts for interlocking, ON-OFF indication lamps with push button, ammeter with ASS and CTs for fan motor as required.	4	Nos.			
9.0	CABLING Supplying, laying, effecting proper connections, testing & commissioning of following size of 1.1 kv PVC insulated aluminium conducting armoured cables along with necessary cable tray as per IS 1554 Part- 1 laid on surface of wall/ceiling etc. & termination with brass compression glands as required.					
9.1	4 C X4 sq. mm. Cable	100	Rmt			
9.2	4 C X6 sq. mm. Cable	80	Rmt			
9.3	4 C X10 sq. mm. Cable	40	Rmt			

B.O.Q. FOR HVAC WORKS AT ACADEMIC BLOCK, TEZPUR

ITEM NO 1	DESCRIPTION OF ITEM 2	TOTAL QTY 3	UNIT 4	RATE IN FIGURES (Rs.) 5	RATE IN WORDS (Rs.) 6	AMOUNT (Rs.) 7
10.0	Supply & installation of following sizes of perforated MS cable trays including horizontal & vertical bends, reducers, tees, cross members and other accessories as required and duly supported from the ceiling/wall/floor with MS suspenders/supports and including painting etc. as required					
10.1	150 mm widthx50 mm deep x1.6 mmthickness	15	Rmt			
10.2	100 mm widthx50 mm deep x1.6 mmthickness	15	Rmt			
11.0	EARTHING					
11.1	Providing and fixing GI earth strip on walls/ trenches complete as per specifications and as required.					
11.1.1	25mm x 3mm	25	Rmt			
12.0	Providing and fixing earth wire of complete as per specifications as required.					
12.1	6 SWG wire	20	Rmt			
12.2	8 SWG wire	50	Rmt			
TOTAL FOR HVAC WORKS						