

BILL OF QUANTITY : MAIN BUILDING					
Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
EARTH WORK:					
1	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 getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	All kinds of soil	cum	1100.00		
2	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 upto 1.5 m.	cum	1500.00		
3	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
	All kind of soil	cum	1500.00		
4	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	cum	50.00		
5	Providing and filling good earth brought from out side including ramming ,watering	cum	800.00		
6	Providing ,Lifting ,Shifting Extra Excavated earth upto 5.0 km or as directed	cum	250.00		
CONCRETE WORKS					
6	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
	1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	Cum	75.00		
7	Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand(zone-III) : 4 graded stone aggregate 20mm nominal size).	sqm	55.00		
8	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with apiece of cloth lightly soaked in kerosene oil.	sqm	55.00		
Reinforced Cement Concrete Work					
9	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including 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 Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is able/recoverable separately).				
a	All Work up to plinth level	cum	175		
	Grade slab	cum	30		
b	All Work above plinth level	cum	530		
10	Centering and shuttering including strutting, propping etc. and removal of form for :				
a	Foundations, footings, bases of columns, etc. for mass concrete	sqm	150		
b	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	sqm	265.00		
c	Suspended floors, roofs, landings, balconies and access platform	sqm	2000.00		
d	Lintels, beams, plinth beams, girders, bressumers and cantilevers	sqm	1490.00		
e	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	550.00		
f	Stairs, (excluding landings) except spiral-staircases	sqm	105.00		
11	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level..				
a	Thermo-Mechanically Treated bars of grade Fe-500D or more	Kg	24500.00		
12	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	Thermo-Mechanically Treated bars of grade Fe-500D or more.	Kg	74200.00		
	Thermo-Mechanically Treated bars of grade Fe-500D or more. In grade slab	Kg	5000.00		
Brick Work / Block work					
13	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	50.00		
14	Providing and laying autoclaved aerated cement blocks masonry with 230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	cum	255.00		

Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
15	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	45.00		
	Cladding work				
16	Providing and fixing 18 mm 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, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels. Basic rate - 900 Rs.sqm.				
	Granite of any colour and shade				
a	Area of slab upto 0.50 sqm	sqm	5.00		
b	Area of slab over 0.50 sqm	sqm	20.00		
17	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/ stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	Each	20.00		
18	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. Basic rate of tile - 350 Rs/sqm	sqm	325		
	Steel work				
19	Providing and fixing Mild steel 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 & 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-incharge, (for payment purpose only weight of mild steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	kg	1450.00		
20	Mild 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.				
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	600.00		
	Flooring work				
21	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, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of coarse sand, filling the joints with line sand etc. all complete as per the direction of Engineer-in-charge.	sqm	250.00		
22	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) :				
	25 mm thick	sqm	200.00		
23	Kota stone slabs 20 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.	sqm	110.00		

Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
24	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Basic rate 950 Rs/Sqm Polished Granite stone slab as per approved shade.	sqm	230.00		
25	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption 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), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600x600 mm, Basic rate of tile 500 Rs/Sqm	sqm	690.00		
26	Providing and laying Vitrified tiles in different sizes (thickness to be specified by the manufacturer), with water absorption less than 0.08% and conforming to IS: 15622, of approved brand & manufacturer, in all colours and shade, in skirting, riser of steps, laid with cement based high polymer modified quick set tile adhesive (water based) conforming to IS: 15477, in average 6 mm thickness, including grouting of joints (Payment for grouting of joints to be made separately). Size of Tile 600x600 mm, Basic rate of tile 500 Rs/Sqm	sqm	50.00		
Finishing					
27	12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)	sqm	1425.00		
28	15 mm cement plaster on the rough side of single or half brick wall of mix : 1:6 (1 cement: 6 fine sand)	sqm	1750.00		
29	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	2200.00		
30	Finishing walls with textured exterior paint of required shade : New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	sqm	1155.00		
31	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	10.00		
Aluminium work					
32	Providing and fixing aluminium work for windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately) :Powder coated aluminium (minimum thickness of powder coating 50 micron) 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 EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm) complete with all hardware as per approved design. Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
a	For fixed/openable portion	sqm	260		

Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
	<p>Providing and fixing aluminium work for doors and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately) :Powder coated aluminium (minimum thickness of powder coating 50 micron) 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 EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) With float glass panes of 5 mm thickness (weight not less than 12.50 kg/ sqm) & Providing and fixing 12 mm thick prelaminate 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. complete with all hardware as per approved design. Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.</p>	sqm	42		
UPVC work					
33	<p>Providing and fixing factory made uPVC white colour casement/ Casement cum fixed glazed door comprising of uPVC multichambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, zinc alloy (white powder coated) 3D hinges and one handle on each side of panel along with zinc plated mild steel multi point locking having transmission gear, cylinder with keeps and one side key, G.I fasteners 100 x 8 mm size for fixing frame to finished wall and necessary stainless steel screws, etc. Profile of frame & sash shall be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. Casement door with 3D hinges made of (big series) frame 67 x 64 mm & sash 67 x 110 mm both having wall thickness of 2.3 ± 0.2 mm and single glazing bead/ double glazing bead of appropriate dimension. (Area of door upto 2.00 sqm).sqm</p>	sqm	45		
Water proofing work					

Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
37	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying :	sqm	230.00		
	First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.				
	Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. (The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.)				
38	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:				
	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 300 mm height including cleaning the surface before treatment.				
	Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm 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 conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.				
	After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge.				
	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 3 mm deep.				
	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 120 mm and minimum thickness at khurra as 65 mm.	sqm	435.00		
	Miscellaneous work				
39	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 120 gms/ sqm(both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts, including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, Galvanised M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each with zinc coating of 120 gms/sqm(both side inclusive)) to be provided at the horizontal joints of two boards, fixed to the studs using metal to metal flat head screws, including jointing and finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.				
	75mm overall thickness partition with 12.5 mm thick double skin tapered edged plain Gypsum plaster board conforming : to IS 2095: (part 1) : 1996 (Board with BIS certification marks)	sqm	475.00		

Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
40	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's 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 drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				
a	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I) : 2011 (Board with BIS certification marks)	sqm	500.00		
41	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.				
	GI Metal Ceiling Lay in perforated Tegular edge global white color tiles of size 595x595 mm and 0.5 mm thick with 8 mm drop; made of GI sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC (Noise Reduction Coefficient) of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation, and backed with a black Glass fiber acoustical fleece.	sqm	900.00		
46	Providing & fixing frameless glazed door shutters using 12 mm thick toughened glass with all necessary hardware required & necessary floor / glass cutting, making holes etc complete as per design & detailed drawings.The door will be fixed on Dorma / Ozone/ Make fitting as top Pivot ,top patch , bottom patch ,Floor Spring , corner lock with lock keeper plate , door handle as approved etc.	each	25.00		
47	Providing & fixing single glazed partition of 12 mm thick toughened glass as per design and drawing.Rate includes the supply/ fixing of 12 mm toughened glass, silicon between glass to glass joint as per site requirement & also including concealed wooden framework & 12 mm thick painted MDF strip required to fix the section as per detail drawing. hardware & accessories.	sqm	60.00		
48	Supplying & fixing ACP cladding over façade work including all necessary framework, silicon taping & rain water coping etc. complete with hardwares, make Alstone	sqm			
49	Providing and Fixing fire door 1200x2100 incl. panic bar	each	3.00		
50	Supplying, Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment as per CPWD specification.	sqm	500.00		
51	MAKING CORE CUTS OF REQUIRED SIZE AND SHAPE IN RCC WORK at designated locations. Size of core cut above 100 mm x 100 mm, 150 mm x 150 mm & up to 300 mm x 300 mm or 300 mm dia.	no.s	30.00		

S.No.	Item No.	Items	Unit	Qty	Rate	Amount
1		ANTISTATIC ACCESS FLOOR/ VINYL & LWF WORKS				
	1.01	RAISED ANTISTATIC ACCESS FLOORING : (Range: 150mm-225mm); Panel:- The Access raised floor shall be medium grade FS 800H panel and also point load of 3.6 KN and UDL of 1350 KN/m ² ; panels manufactured from steel with lightweight cementitious core in the size 600 X 600 X 35 mm. The top panel shall be finished with high abrasion, anti-static High Pressure Laminate with PVC beading on all sides to provide protection of edges.	Sqm	10		
	1.02	TRANSITION Z PROFILE : Providing & Fixing Of AL. profile between carpet, Vinyl or other floor of size 28mmx10mm jointing as required or advised.(Transaction or equivalent)	Rm	70		
	1.03	SS L CORNER TRIM : P/F SS L shape corner trim of size 25x25 mm designed for use at all corner junction upon columns edges, to providing a neat edge and a safe transition.	Rm	30		
2		FALSE CEILING				
	2.01	TRAP DOORS : P/F Trap doors in ceiling made of 19 mm thick commercial board with concealed wooden frame section as per detail drawing & finished in laminate complete with all necessary hardware required. Size: 1200x1200	nos	20		
3.00		Panelling and Cladding				
	3.01	Fabric Panelling : P/I Fabric mounted pin-board panels using 12 mm thick tackboard surface on 12 mm thick MDF cladding duly covered in suitable fabric as selected by Architect.	Sqm	18		
	3.02	Laquered glass Cladding : Providing & pasting 5 mm thk bevelled all edges as per design planilaque glass cladding on 8 mm thick ply including cutting , edge polish& pasting complete as & where required as per design.	Sqm	18		
	3.03	50 mm Aluminium SKIRTING : Supply & installation of 50 mm high skirting with PVC cover and Corner Complete.	Rm	310		
4.00		Internal Signages				
	4.01	General Room Signage: Providing and installing General office signages made out of 6 mm thick acrylic sheet with SS Stud, with vinyl slider on top, as desired. Complete with adhesive/ 3M double sided tape etc. (250 x 75 mm)	nos	35		
	4.02	Toilet Signages: Providing and Fixing Internal signages for toilets and pantry made out of 6 mm thick acrylic sheet with SS studs, overall size to be 125 mm X 125mm. Complete with adhesive/ 3M double sided tape etc.	nos	16		
	4.03	Illuminated Fire Exit Signages: Providing and installing LED 2hr battery operated fire exit signage at locations indicated by the architect including all exit points and directional signage.	nos	20		
	4.04	Lift Lobby Signage: Fabricating and installing Main signage at Lobby of corporate logo as per company's supplied art work. Logo to be in 15/18mm Thk. 3D acrylic/MDF letter cut outs. Signage of owner's logo, Powder coated, typeface Etc. as required. Overall size of Logo to be between 600mm to 600mm Ht.	nos	5		
	4.05	Providing and Fixing of Door PUSH / PULL Signage's of S.S finish with Acid etched lettering of approved shade and of size 200 x 50 mm. The S.S signage shall be pasted using double-sided tape of 3M make on the Glass doors / Flush doors.	nos	21		
5.00		Films & Graphics				
	5.01	3M Crystal Glass Film - Frosted (7725-324 with custom plotting) :-Supply & Installation of 3M Crystal Glass film FROSTED (Sparkle effect) with approved artwork, cut using digital plotter. Self-adhesive, bubble-free installation to be done on clean glass , by Authorized Installers only.3M Interior Warranty for a period of 15 Years for interior application, 3 Years for exterior application to be submitted along with invoice.	Sqm	45		
6.00		Blinds				
	6.01	Roller Blinds with 5% openness factor:- Supply & Installation of manually operated roller Blinds. HARDWARE; TOP TUBE : Made of extruded aluminium with 38 mm Dia. and wall thickness of 1.2 mm with spline adoptable to accommodate clutch of UNISOLIL/ACMEDA make. CLUTCH MECHANISM : Moulded plastic having self lubrication with Glass fibre reinforcement, having a minimum lifting capacity of 8 lbs weight capality - 8 lbs Head adoptability - 38 mm OPERATING CHAIN : PLASTIC / STEEL ball chain adoptable to the clutch pitch for smooth operation of blinds. LOCKING MEMBER : Plastic/ steel stop locks for limit setting adoptable to the steel chain.Bonding (Fabric > Tube) : 30/36 mm wide double sided adhesive tape of 3M for strong holding capacity. SPRING BOOSTERS: provided as per the requirement	Sqm	230		
	6.02	Roller Blinds 100% opaque as projector screen:- Supply & Installation of manually operated roller Blinds. HARDWARE; TOP TUBE : Made of extruded aluminium with 38 mm Dia. and wall thickness of 1.2 mm with spline adoptable to accommodate clutch of UNISOLIL/ACMEDA make. CLUTCH MECHANISM : Moulded plastic having self lubrication with Glass fibre reinforcement, having a minimum lifting capacity of 8 lbs weight capality - 8 lbs Head adoptability - 38 mm OPERATING CHAIN : PLASTIC / STEEL ball chain adoptable to the clutch pitch for smooth operation of blinds. LOCKING MEMBER : Plastic/ steel stop locks for limit setting adoptable to the steel chain.Bonding (Fabric > Tube) : 30/36 mm wide double sided adhesive tape of 3M for strong holding capacity. SPRING BOOSTERS: provided as per the requirement Bottom Bar . to be mounted at designated area. size 5ftx 5ft.	Sqm	25		
7.00		Toilet Cubical				
	7.01	Made from solid grade compact high pressure laminate as per IS:2046 manufactured under high specific pressure > 5 MPa and temperature >120oC with bunch of kraft papers impregnated with thermosetting phenolic resin and decorative papers made of Alpha cellulose fiber impregnated with thermosetting melamine resin which provide superior scratch, abrasion, heat, chemical, impact, graffiti & moisture resistance along with anti-bacterial properties. Panels have a black core that when machined, presents a distinctive black edge. Front panel, door & divider panel to be fix vertically by using extruded grade aluminium alloy epoxy powder coated profiles. Panel thickness 12 mm. Design no. as specified by Arch. / Eneer. in suede finish. Size of panels to be as				
	7.02	Nylon Cubicles: Std Sizes (W x D x H)- 950 mm x 1350 mm x 2003 mm, (Height is including 150 mm gap from bottom) Door Size- 600 mm	Nos	12		
8.00		Carpet / Vinyl Flooring				
	8.01	Supplying & installing vinyl floor to be laid on cement screed.	Sqm	15		
	8.02	Providing and fixing Carpet tiles 5-6mm thick solution died PP VLOC construction having pile weight 750g/ sqm and 22.1 oz/sqyards with quarter ton/random plank pattern on monolithic installation, to be laid on cement screed ready to receive carpet tile. Base Rate :Rs 85/sft, ADHESIVE - PIDILITE KPS	Sqm	600		
9.00		Main Signage on Building Façade				
	9.01	DAFFPL Signage: Providing and installing of Corporate signage as per company's supplied art work. Logo in 3D acrylic with LED light modules complete framing in water proof encasing with timer control for day night on/off. Overall height of logo to be 2400mm as per DAFFPL standard & design.	nos	1		
10.00		Fire Door				
	10.01	FIRE RATED DOORS, 1200 mm WIDE: P&F Fully insulated Steel Composite light Flush Fire Doors with 1 hour fire rating in conformance with IS 3614 Part 2 and BS 476 Part 22. Door frames to be double rebate profile of 143 mm width and 57 mm height manufactured from 16 gauge galvanized steel, profile to have bending radius of 1.4 mm supplied in Knock down form for butt joint assembly at site. Door Shutter in 46 mm thick manufactured from two 18 gauge galvanized steel sheets lock seam jointed at stile edges to form a double skin fully flush shell. Infill of Propertory insulation material to be provided for structural rigidity & additional reinforcements & sound insulation for all hardware fixtures as required. Door Shutter in 46 mm thick manufactured from two 18 gauge galvanized steel sheets lock seam jointed at stile edges to form a double skin fully flush shell. Infill of Propertory insulation material to be provided for structural rigidity & additional reinforcements & sound insulation for all hardware fixtures as required.Overall door size to be 2100 x 1000 mm. Hardware set to be as follows: • Dorma Door Closer TS 91 – Standard Arm • SS Hinges, 4 Nos. • Dorset SS lever handle with mortise lock. • Panic Bar with single point rim panic latch	nos	1		
		Grand Total				

BILL OF QUANTITY : Boundary Wall					
Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
1	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 getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	All kinds of soil	cum	5.00		
2	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, sunken floor etc., up to floor five level, excluding the cost of centering, shuttering and finishing:				
	1:2:4 (1 Cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)	Cum	5.00		
3	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	Kg	350.00		
4	Wall painting with apex paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	200.00		
5	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	sqm	200.00		
6	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 25x25 mm made of G.I. wire of dia 3 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.	sqm	55.00		
7	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	cum	10.00		
8	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
	In cement mortar	cum	150.00		

BILL OF QUANTITY : ROAD PAVED AREA					
Sl. No.	Description of item	Unit	Qty	Rate (Rs.)	Amount (Rs.)
1	Preparation and consolidation of sub grade	sqm	900		
2	Supplying and stacking at site.				
a	90 mm to 45 mm size stone aggregate	cum	90.00		
b	63 mm to 45 mm size stone aggregate	cum	90.00		
c	53 mm to 22.4 mm size stone aggregate	cum	70.00		
d	Stone screening 13.2 mm nominal size (Type A)	cum	13.00		
e	Moorum	cum	12.00		
3	Laying, spreading and compacting stone aggregate of specified sizes to WBM	cum	275.00		
4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work upto plinth level. 1:4:8 (1 Cement : 4 coarse sand :8 graded stone aggregate 40 mm nominal size)	Cum	70.00		
5	Providing and laying 60mm thick factory made cement concrete interlocking paver block	sqm	900.00		
6	Providing and laying at or near ground level factory made kerb stone	Cum	23.00		

Low Side Electrical Works

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
A.	LT Panels				
	Design and supply of the following cubicle type 2 mm/1.6 mm thick sheet steel enclosed (2 mm for body and 1.6 mm for doors), free standing / wall mounted indoor type MV Electrical Panels with dust and vermin proof, hinged and lockable doors complete with inter-connections, 75 mm MS channel, bonding to earth. (suitable for 415V, 3 Phase, 4 wire, 50 cycles supply system) including proper labeling of all panels as directed by the consultant (Panels shall be powder coated Siemens grey in colour or as approved)				
1	MDB - 1 / L+SP+AC / ST				
i.	Incoming				
-	800 Amps 4P MCCB (36 kA) (with Electronic Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital MFM (EM 6436 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	400 Amps 3P+N MCCB (25 kA) (with Electronic Trip Unit)	No.	2		
-	Spreaders	Set	4		
-	Extended Rotary Operating Mechanism	No.	2		
-	100 Amps 3P+N MCCB (25 kA) (With TMD Trip Unit)	No.	3		
-	Spreaders	Set	6		
-	Extended Rotary Operating Mechanism	No.	3		
-	80 Amps 3P+N MCCB (25 kA) (With TMD Trip Unit)	No.	2		
-	Spreaders	Set	4		
-	Extended Rotary Operating Mechanism	No.	2		
-	63 Amps 3P+N MCCB (25 kA) (With TMD Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
-	63 Amps 4P MCB (10 kA) (C - Curve)	No.	3		
-	40 Amps 4P MCB (10 kA) (C - Curve)	No.	4		
-	Digital Dual Energy Meter EM 6438 with RS 485 Port, CTs, CT shorting links and control SP MCBs.	No.	7		
iv.	Enclosure				
-	Fabrication, 800 Amps, TPN Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
2	SDB - 1 / L+SP+AC / 1F				
i.	Incoming				
-	80 Amps 4P MCCB (25 kA) (With TMD Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital V A F Meter with built in Selector Switch (EM 6459 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	40 Amps 4P MCB (10 kA) (C - Curve)	No.	3		
iv.	Enclosure				
-	Fabrication, 100 Amps, TPN Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
3	SDB - 2 / L+SP+AC / 2F (BPCL Area)				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
-	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row)	No.	1		
	DB – LP1 / 2F				
i	Incomer				
-	40A 4P Isolator	No.	1		
-	40A 2P ELCB (30mA)	No.	3		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	30		
-	Blank Plate	No.	16		
4	SDB - 3 / L+SP+AC / 2F (HPCL Area)				
-	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row)	No.	1		
	DB – LP2 / 2F				
i	Incomer				
-	40A 4P Isolator	No.	1		
-	40A 2P ELCB (30mA)	No.	3		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	30		
-	Blank Plate	No.	16		
5	SDB - 4 / L+SP+AC / 2F (BSSPL Area)				
-	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row)	No.	1		
	DB – LP3 / 2F				
i	Incomer				
-	40A 4P Isolator	No.	1		
-	40A 2P ELCB (30mA)	No.	3		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	30		
-	Blank Plate	No.	16		
6	SDB - 5 / L+SP+AC / 3F				
i.	Incoming				
-	80 Amps 4P MCCB (25 kA) (With TMD Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital V A F Meter with built in Selector Switch (EM 6459 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	40 Amps 4P MCB (10 kA) (C - Curve)	No.	3		
iv.	Enclosure				
-	Fabrication, 100 Amps, TPN Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
7	SDB - 6 / HVAC / TR				
i.	Incoming				
-	400 Amps 4P MCCB (25 kA) (with Electronic Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital V A F Meter with built in Selector Switch (EM 6459 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	63 Amps 4P RCBO (30mA)	No.	8		
-	20 Amps 4P RCBO (30mA)	No.	3		
iv.	Enclosure				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
-	Fabrication, 500 Amps, TPN Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
8	SDB - 1 / L+SP+AC / ST (CAFE AREA)				
i.	Incoming				
-	100 Amps 4P MCCB (25 kA) (with TMD Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital V A F Meter with built in Selector Switch (EM 6459 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	40 Amps 4P MCB (10 kA) (C - Curve)	No.	2		
-	32 Amps 2P RCBO (30mA)	No.	7		
-	20 Amps 4P RCBO (30mA)	No.	3		
iv.	Enclosure				
-	Fabrication, 100 Amps, FP Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
9	Feeder Pillar - 1 (Outdoor Type)				
i.	Incoming				
-	100 Amps 4P MCCB (25 kA) (with TMD Trip Unit)	No.	1		
-	Spreaders	Set	2		
-	Extended Rotary Operating Mechanism	No.	1		
ii.	Metering (Digital)				
-	Digital V A F Meter with built in Selector Switch (EM 6459 or equal), CTs, CT shorting links, R/Y/B LED indicating lamps and control SP MCBs	Set	1		
iii.	Outgoing				
-	63 Amps 4P MCB (10 kA) (C - Curve)	No.	1		
-	40 Amps 4P MCB (10 kA) (C - Curve)	No.	1		
-	25 Amps 4P MCB (10 kA) (C - Curve)	No.	2		
-	40 Amps 2P MCB (10 kA) (C - Curve)	No.	1		
-	20 Amps 2P MCB (10 kA) (C - Curve)	No.	14		
-	63 Amps 3P Contactor	No.	1		
-	On, Off, Push Buttons	Set	1		
-	Multifunction Timer	No.	1		
-	A/M Selector Switch	No.	1		
-	20A, 3 Pin, Single Phase PVC moulded Socket & Plug Top (To be fixed outside Feeder Pillar - one side).	No.	1		
-	20A, 5 Pin, Three Phase PVC moulded Socket & Plug Top (To be fixed outside Feeder Pillar - other side).	No.	1		
iii.	Enclosure				
-	Fabrication, 150 Amps, FP Aluminum Bus Bar, PVC Sleeving, Control / Power wiring & hardware.	Set	1		
10	Fixing, Testing and Commissioning of the following MDBs / SDBs (complete as required):				
a.	MDB - 1 / L+SP+AC / ST	No.	1		
b.	SDB - 1 / L+SP+AC / 1F	No.	1		
c.	SDB - 2 / L+SP+AC / 2F (BPCL Area)	No.	1		
d.	SDB - 3 / L+SP+AC / 2F (HPCL Area)	No.	1		
e.	SDB - 4 / L+SP+AC / 2F (BSSPL Area)	No.	1		
f.	SDB - 5 / L+SP+AC / 3F	No.	1		
g.	SDB - 6 / HVAC / TR		1		
h.	SDB - 1 / L+SP+AC / ST (CAFE AREA)	No.	1		
i.	Feeder Pillar - 1 (Outdoor Type)	No.	1		
11	Distribution Boards				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
-	Supplying the following 18 SWG Distribution Boards (Double Door type - IP 42) . Including proper labeling as directed along with separate Neutral Link for each Phase, Earth link and separate dedicated Earth link in case of UPS Distribution Boards as well as necessary Bus links etc. The distribution boards shall confirm to specifications. Chrome plated panel locks / finger operated knobs shall be provided as per approved GA drawings.				
a.	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row) DB – LP1 / ST, LP1 / CAFÉ / ST, LP2 / TR	No.	3		
i	Incomer				
-	63A 4P Isolator	No.	1		
-	63A 2P ELCB (30mA)	No.	3		
-	40A 4P Isolator	No.	2		
-	40A 2P ELCB (30mA)	No.	6		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	90		
-	Blank Plate	No.	48		
b	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row) DB – LP1 / 1F, LP2 / 1F	No.	2		
i	Incomer				
-	40A 4P Isolator	No.	2		
-	40A 2P ELCB (30mA)	No.	6		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	60		
-	Blank Plate	No.	32		
c.	Distribution Board 4 Rows to accommodate 39/42 MCBs + incomer (13/14 modules per row) DB – LP1 / 3F, LP2 / 3F	No.	2		
i	Incomer				
-	40A 4P Isolator	No.	2		
-	40A 2P ELCB (30mA)	No.	6		
ii	Outgoings				
-	6-32A SP MCB ('C' Curve)	No.	60		
-	Blank Plate	No.	32		
12.	Fixing, Testing & Commissioning of the following Distribution Boards (Double Door type - IP 42) . Along with Incoming & Outgoing MCBs / ELCBs / Isolators (complete as required) including duly laminated circuit charts and proper labeling.				
a.	Flush Mounting Double Door MS Enclosure with 4 Rows to accommodate 39 / 42 MCBs + Incomer (13 / 14 modules per row)	No.	7		
13	Supplying the following MCCB / Changeover Switch in Sheet Steel Enclosure along with Incoming and Outgoing Cable Boxes suitable for Termination of Aluminum Cable				
a.	63A 4 Pole MCCB (25kA) in sheet steel enclosure surface mounted on the wall (for Lift)	No.	1		
14	Fixing, Testing & Commissioning of the following MCCB / Changeover Switch in sheet steel enclosure surface mounted on the wall				
a.	63A 4 Pole MCCB (25kA) in sheet steel enclosure surface mounted on the wall (for Lift)	No.	1		
15	Supplying PVC moulded Switch Socket Plug Top along with Mounting Enclosure. (IP 66) and Surround Plate				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
a.	20A, 3 pin, single phase PVC moulded Plug and Switch Socket	No.	15		
16	Fixing, Testing & Commissioning of PVC moulded Switch Socket outlet				
a.	20A, 3 pin, single phase PVC moulded Plug and Switch Socket	No.	15		
17	Supplying the following MCCB type Isolator in suitable weather proof type enclosure surface mounted on the wall (for A/C Unit)				
a.	20A 4Pole MCB type Isolator in sheet steel enclosure	No.	2		
c.	63A 4Pole MCB type Isolator in sheet steel enclosure	No.	7		
18	Fixing, Testing & Commissioning of the following MCCB type Isolator surface mounted on the wall				
a.	20A 4Pole MCB type Isolator in sheet steel enclosure	No.	2		
b.	63A 4Pole MCB type Isolator in sheet steel enclosure	No.	7		
Total Carried Over To Summary					
B.	LT Cables, Cable Tray & Earthing				
I.	LT Cables				
1	Supplying the following 1100V grade XLPE Insulated aluminum conductor armoured cables.				
a.	4 C x 35 Sq. mm	RM		Rate Only	
b.	4 C x 25 Sq. mm	RM		175	
c.	4 C x 16 Sq. mm	RM		180	
d.	4 C x 10 Sq. mm	RM		300	
e.	4 C x 6 Sq. mm	RM		75	
f.	4 C x 2.5 Sq. mm	RM		75	
g.	3½ C x 240 Sq. mm	RM		50	
h.	3½ C x 150 Sq. mm	RM		Rate Only	
i.	3½ C x 70 Sq. mm	RM		Rate Only	
j.	3½ C x 50 Sq. mm	RM		200	
k.	2 C x 10 Sq. mm	RM		Rate Only	
l.	2 C x 6 Sq. mm	RM		500	
2	Laying and fixing of XLPE insulated aluminum / conductor armoured cables of 1.1 kV grade of size 120 Sq. mm to 240 Sq. mm on cable tray / surface mounted along with misc. accessories like Cable Ties / Saddles / Cable Tags at both ends of cable etc. including making proper connections as required. (Including providing cable marker as required)	RM		50	
3	Laying and fixing of XLPE insulated aluminum / conductor armoured cables of 1.1 kV grade of size 35 Sq. mm to 95 Sq. mm on cable tray / surface mounted along with misc. accessories like Cable Ties / Saddles / Cable Tags at both ends of cable etc. including making proper connections as required. (Including providing cable marker as required)	RM		200	
4	Laying and fixing of XLPE insulated aluminum / conductor armoured Cable of 1.1 kV grade of size 2.5 Sq. mm to 25 Sq. mm on cable tray / surface mounted along with misc. accessories like Cable Ties / Saddles / Cable Tags at both ends of cable etc. including making proper connections as required. (Including providing cable marker as required)	RM		1305	
5	Digging and back filling 600 mm wide and 750 mm deep trench for laying cable for External cables as required alongwith sand and brick lining as per IS specification	RM		200	

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
6	Supplying & Making Terminations of the following XLPE insulated aluminum conductor armoured cables of 1100V grade including cost of thimbles / lugs, Double compression nickel plated brass glands, cables sockets, insulation tape & crimping etc. complete as required				
a.	4 C x 35 Sq. mm	No.	Rate Only		
b.	4 C x 25 Sq. mm	No.	18		
c.	4 C x 16 Sq. mm	No.	6		
d.	4 C x 10 Sq. mm	No.	18		
e.	4 C x 6 Sq. mm	No.	4		
f.	4 C x 2.5 Sq. mm	No.	6		
g.	3½ C x 240 Sq. mm	No.	2		
h.	3½ C x 150 Sq. mm	No.	Rate Only		
i.	3½ C x 70 Sq. mm	No.	Rate Only		
j.	3½ C x 50 Sq. mm	No.	4		
k.	2 C x 10 Sq. mm	No.	Rate Only		
l.	2 C x 6 Sq. mm	No.	32		
7	Providing & laying the following PVC Insulated armoured copper control cables including termination				
a.	2 core 2.5 Sq mm	RM	100		
b.	2 core 1.5 Sq mm	RM	Rate Only		
8	Wiring for PVC moulded Plug & Socket with FR-LSH PVC insulated stranded copper conductor 1100 Volt grade wires in existing conduit and making suitable end connections with suitable sized lugs, sleeves etc. complete as required				
a.	2 x 4 Sq. mm + 1 x 4 Sq mm Earth	RM	250		
b.	2 x 2.5 Sq. mm + 1 x 2.5 Sq mm Earth	RM	Rate Only		
9	Providing and fixing of 25mm dia 16 SWG MS conduit on surface including cost of providing saddles, inspection boxes, tees etc as required.	RM	250		
II.	Cable Trays				
1	Providing and fixing the following 14 SWG Perforated Galvanised cable tray along with necessary suspenders (9 MM dia GI) (not more than 1000 MM long) at equal intervals of 900 MM as directed. Including cost of providing and fixing supporting steel, nuts, bolts, washers and dash fasteners as required. The installation shall be complete in all respects (Please note this is not a ladder type tray, perforated cable tray is to be considered) (All accessories like tees, bends vertical / horizontal shall be factory fabricated and cost of these to be included in the rate. Site fabricated accessories are not acceptable)				
a.	40 x 1000 x 40 MM	RM	Rate Only		
b.	40 x 750 x 40 MM	RM	Rate Only		
c.	40 x 600 x 40 MM	RM	30		
d.	40 x 450 x 40 MM	RM	25		
e.	40 x 300 x 40 MM	RM	50		
f.	40 x 200 x 40 MM	RM	100		
III.	Earthing				
1	Supplying and fixing of the following tapes / wires including all necessary fixing accessories and effecting connections including insulated supports wherever required, complete in all respects (As per specifications)				
a.	50 x 10 MM GI TAPE	RM	50		
b.	50 x 6 MM GI TAPE	RM	100		
c.	25 x 6 MM GI TAPE	RM	100		
d.	25 x 3 MM GI TAPE	RM	400		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
e.	8 SWG GI Wire	RM	Rate Only		
f.	10 SWG GI Wire	RM	500		
g.	50 x 6 MM COPPER TAPE (With heat shrinkable sleeve on tape)	RM	Rate Only		
h.	25 x 6 MM COPPER TAPE (With heat shrinkable sleeve on tape)	RM	75		
i.	25 x 3 MM COPPER TAPE (With heat shrinkable sleeve on tape)	RM	Rate Only		
2	Providing & drawing the following FR-LSH PVC Insulated Copper Conductor 1100 Volt grade Wire for Earthing including cost of thimbles / lugs insulation tape and crimping etc. complete as required including terminations				
a.	16 Sq. mm	RM	770		
b.	10 Sq. mm	RM	600		
c.	6 Sq. mm	RM	150		
d.	4 Sq. mm	RM	Rate Only		
e.	2.5 Sq. mm	RM	150		
3	Providing Maintenance free Earthing Stations (GI plate earthing) complete as per I.S. specifications (GI plate 900 x 900 x 6 mm) including digging and backfilling of earth pit. (With Heavy Duty Manhole)	No.	2		
4	Providing Earthing Stations (Copper Plate Earthing) complete as per I.S. specifications (Copper plate 600 x 600 x 6 mm) including digging and backfilling of earth pit. (With Heavy Duty Manhole).	No.	Rate Only		
5	Providing Maintenance free earthing stations (16 SWG Copper pipe earthing) complete as per I.S. specifications (Copper pipe shall be 40 MM dia) surrounded with suitable quantity of ground enhancing material (complying with IEEE clause 14.5d) (Copper pipe 16 feet and depth of pit 17 feet). (With Heavy Duty Manhole)	No.	2		
6	Providing and laying the following UPVC pipe including digging and back filling of trench up to a maximum depth of 600 mm				
a.	300 MM DIA (6 Kg per Sq cm - Class 3)	RM	25		
b.	200 MM DIA (6 Kg per Sq cm - Class 3)	RM	50		
7	Providing Manholes 1000 x 1000 x 1200 MM deep along with manholes covers suitable for vehicular movement. (Structure as per Site Conditions, specifications as per Architect)	No.	2		
Total Carried Over To Summary					
C. Point Wiring					
1	Wiring for First Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in surface mounted 25mm dia MS conduit as directed, including earthing of the Fixtures with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. (Please note MS Conduit & Wire for this item also to be included in this item) (Including providing GI Flexible conduit for 'Tee' to Fixture). (MCB to Light Point) (Cost of MCB not to be included in this item)	No.	10		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
2	Wiring for Looped Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in surface mounted 25mm dia MS conduit as directed, including earthing of the Fixtures with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. (Please note MS Conduit & Wire for this item also to be included in this item) (Including providing GI Flexible conduit for 'Tee' to Fixture).	No.	40		
3	Wiring for First Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in recess mounted 25mm dia PVC conduit as directed, including earthing of the Fixtures with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. Including cost of cutting and filling chases for recesses conduiting complete as per specifications and as required (for Staircase)	No.	8		
4	Wiring for Looped Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in recess mounted 25mm dia PVC conduit as directed, including earthing of the Fixtures with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. Including cost of cutting and filling chases for recesses conduiting complete as per specifications and as required (for Staircase)	No.	45		
5	Wiring for First Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in surface mounted 25 mm dia MS conduit as directed, including earthing of the Fixtures and Outlet Box with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. (Please note MS Conduit & Wire for this item also to be included in this item) (Including providing GI Flexible conduit for 'Tee' to Fixture). Including providing 6 Amps switches and outlet box and accessories as required	No.	155		
6	Wiring for Looped Light Point with 2 x 2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in surface mounted 25mm dia MS conduit as directed, including earthing of the Fixtures with 2.5 Sq. mm. FR-LSH PVC Insulated Copper Earth Wire. (Please note MS Conduit & Wire for this item also to be included in this item) (Including providing GI Flexible conduit for 'Tee' to Fixture)	No.	275		
7	Wiring for Exhaust Fans Point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 Volt grade wires in surface mounted 25 mm dia MS conduit as directed, including earthing with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in this item) including providing 6 Amps switch in outlet box at a suitable location as indicated in drawing and 6 Amps socket near the Exhaust Fan and accessories as required	No.	Rate Only		
8	Wiring for 6 Amps Light Plug Outlet first point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 6 Amps switch socket outlet and outlet box & accessories as required. (No circuit shall be paid extra)	No.	18		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
9	Wiring for 6 Amps Light Plug Outlet looped point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 6 Amps switch socket outlet and outlet box & accessories as required. (No circuit shall be paid extra)	No.	60		
10	Wiring for 6 Amps Light Plug Outlet first point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 6 Amps switch and 2 socket outlet and outlet box & accessories as required. circuit shall be paid extra)	No.	31		
11	Wiring for 6 Amps Light Plug Outlet looped point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 6 Amps switch and 2 socket outlet and outlet box & accessories as required. (No circuit shall be paid extra)	No.	100		
12	Wiring for 16 Amps Light Plug Outlet first point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 16 Amps switch socket outlet and outlet box & accessories as required. (No circuit shall be paid extra)	No.	35		
13	Wiring for 16 Amps Light Plug Outlet looped point with 2x2.5 Sq. mm. FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed including earthing of the third pin & outlet box with 2.5 Sq. mm. FR-LSH PVC insulated copper earth wire (Please note MS Conduit & Wire for this item also to be included in the item) including providing 16 Amps switch socket outlet and outlet box & accessories as required. (No circuit shall be paid extra)	No.	35		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
14	Wiring for 3 Pin 250V 16 Amps Single Phase & neutral , switch socket on Raw Power with 2x4.0 Sq. mm FR-LSH PVC Insulated Copper conductor 1100V grade wires in surface mounted 25 mm dia MS conduit, including earthing of the third Pin and outlet box with 1x4.0 Sq. mm FR-LSH PVC insulated copper earth wire. (Please note MS Conduit & Wire for this item also to be included in this item) Including providing 16 Amps switched socket outlet and outlet box and accessories as required. (First Point 16 Amps S.S.O.) (No circuit shall be paid extra)	No.	10		
15	Wiring for 3 Pin 250V 16 Amps Single Phase & neutral , switch socket on Raw Power with 2x4.0 Sq. mm FR-LSH PVC Insulated Copper conductor 1100V grade wires in surface mounted 25 mm dia MS conduit, including earthing of the third Pin and outlet box with 1x4.0 Sq. mm FR-LSH PVC insulated copper earth wire. (Please note MS Conduit & Wire for this item also to be included in this item) Including providing 16 Amps switched socket outlet and outlet box and accessories as required. (Second Point 16 Amps S.S.O.) (No circuit shall be paid extra)	No.	10		
16	Wiring for 16 Amps (Hand Drier Unit) On Raw Power with 2x4.0 Sq. mm FR-LSH PVC Insulated Copper conductor 1100 V grade wires in surface mounted 25 mm dia MS conduit as directed, including earthing of outlet box with 1x4.0 Sq. mm FR-LSH PVC insulated copper earth wire. (Please note MS Conduit & Wire for this item also to be included in the item.) Including providing 16 Amps Switch Socket Unit and outlet box and accessories as required (First Point 16 Amps SSO) (No circuit shall be paid extra)	No.	9		
17	Circuit wiring to First switch points / sub circuit with 2x2.5 sq. mm. FR-LSH PVC insulated copper conductor 1100 V grade wires in concealed or surface mounted 25 mm dia MS conduit as required. Including earthing with 2.5 sq. mm. FR-LSH PVC insulated copper conductor 1100 V grade green earth wire. Including cutting / chasing and making good in brick wall / concrete floor / PCC floor as directed. (Please note MS conduit / MS Tee / Saddles with Base / Accessories for this item is to be included in the item)	No.	60		
18	Providing & fixing 16 SWG single compartment GI Trunking with 16 SWG openable covers at regular intervals along with necessary cable support system as directed including providing & fixing accessories like suitable Clamps, Dash Fasteners, Cable Ties, Gaskets etc. complete in all respects. (All Trunking is to be cleaned thoroughly, before pulling any wires / cables). Including earthing of the trunking with 4 sq. mm. FR-LSH PVC insulated Yellow + Green Copper Earth Wire with proper thimbles. All joints of GI Trunking shall be provided with proper couplers as directed. Including providing 300x300x60 mm deep Junction Boxes as required. (Please note Junction Boxes shall be part of the trunking item and shall not be paid extra).				
a.	50 x 250 x 50 mm deep	RM	100		
Total Carried Over To Summary					=====
D. Voice and Data for Under floor GI trunking					=====

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
1	Providing & fixing 16 SWG GI Junction boxes with suitable knockout holes along with GI cover as per site requirement. (Please note only L x B shall be considered for measurement)				
a.	50 mm deep	Sq. Ft	12		
b.	75 mm deep	Sq. Ft	Rate Only		
2	Providing & fixing of 2 mm thick 25 mm dia PVC conduit for LV system in recess including cost of tees, clamps, cutting and filling chases as required.	RM	250		
3	Providing and fixing of 25mm dia 16 SWG MS conduit for LV system on surface including cost of providing saddles with base, inspection boxes, tees etc as required	RM	50		
4	Wiring for TV Outlet in 25 mm dia MS conduit with 75 Ohms Coaxial Cable (RG - 6) (up to Shaft Only).	RM	10		
5	Supplying of computer cable UTP CAT VI	RM	5500		
6	Laying of computer cable UTP CAT VI in existing PVC conduit	RM	5500		
7	Fixing of " Jack " for Voice / Data with 1/2/3/4 Jacks	No.	312		
8	Supplying of CAT VI I/O Jack				
a.	VD 1 (With one no. RJ 45 I/O Jack & face plate)	No.	Rate Only		
b.	VD 2 (With two no. RJ 45 I/O Jack & face plate)	No.	92		
c.	VD 4 (With four no. RJ 45 I/O Jack & face plate)	No.	32		
9	Supplying and Fixing of Outlet Box suitable to mount Voice / Data Outlet with 1/2/3/4 Jacks	No.	124		
10	Providing and fixing the following PVC Moulded front Plates				
a.	4 Module front plate	No.	5		
b.	6 Module front plate	No.	2		
c.	8 Module front plate	No.	2		
11	Providing and fixing the following Accessories				
a.	1 Module blank plate	No.	15		
b.	2 Module blank plate	No.	15		
12	Providing and fixing the following 1.2 mm thick GI outlet box				
a.	4 - 5 Module	No.	10		
b.	6 - 8 Module	No.	4		
13.	Providing & laying the following PVC insulated PVC sheathed, annealed tinned copper conductor 0.6 mm Telephone Armoured Cable				
a	20 pair cable	RM	50		
b	10 pair cable	RM	600		
14.	Supplying, fixing, testing & commissioning of 1.2 mm thick MS tag box , of approved dimension and make, with suitable knockout holes, including providing and fixing of Krone Tags as required, MS boxes may be recessed or surface mounted as directed (including termination of all cables with ferrules at both ends). (Krone make).				
a	20 pair Tag boxes.	No.	2		
b	10 pair Tag boxes.	No.	5		
15.	Supplying and Fixing following 16 SWG GI Under Floor Box along with 16 SWG Stainless Steel Cover Plate. (310 x 310mm) & (210 x 210mm) (Please note all Junction Boxes are to be covered with thick polythene sheets during construction to prevent any foreign material / 'Malba' from entering the trunking).(All cleaning of underfloor raceways is to be carried out with vacuum cleaner).				
a.	300 x 300 x 63 to less than 70 mm deep	No.	15		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
b.	200 x 200 x 63 to less than 70 mm deep	No.	50		
16	Supplying and Fixing following 16 SWG GI Under Floor Box along with 10 SWG stainless steel Cover Plate. (310 x 310mm) & (210 x 210mm) (Please note all Junction Boxes are to be covered with thick polythene sheets during construction to prevent any foreign material / 'Malba' from entering the trunking).(All cleaning of underfloor raceways is to be carried out with vacuum cleaner).				
a.	300 x 300 x 63 to less than 70 mm deep	No.	5		
b.	200 x 200 x 63 to less than 70 mm deep	No.	10		
17.	Supplying and fixing 16 SWG single compartment GI trunking with 16 SWG GI openable covers at regular intervals along with necessary cable support system as directed including providing and fixing accessories like dash fasteners cable ties etc. Complete in all respects. (All Trunking is to be cleaned thoroughly with industrial type vacuum cleaner, before pulling any wires / cables). Including earthing of the trunking with 4 sq. mm. FR-LSH PVC insulated Yellow + Green Copper Earth Wire with proper thimbles. (Cutting / chasing of Floor and making good shall be carried out by Civil Contractor). Please note all under floor GI Trunking shall be properly tapped with masking tape at all joints before PCC is filled into chased bed).				
a.	40 x 250 x 40 mm deep (for Voice / Data System)	RM	40		
b.	40 x 150 x 40 mm deep (for Voice / Data System)	RM	150		
18.	Supplying and fixing 16 SWG single compartment GI trunking with 10 SWG MS openable covers at regular intervals along with necessary cable support system as directed including providing and fixing accessories like dash fasteners cable ties etc. Complete in all respects. (All Trunking is to be cleaned thoroughly with industrial type vacuum cleaner, before pulling any wires / cables). Including earthing of the trunking with 4 sq. mm. FR-LSH PVC insulated Yellow + Green Copper Earth Wire with proper thimbles. (Cutting / chasing of Floor and making good shall be carried out by Civil Contractor). Please note all under floor GI Trunking shall be properly tapped with masking tape at all joints before PCC is filled into chased bed).				
a.	40 x 250 x 40 mm deep (for Voice / Data System)	RM	10		
b.	40 x 150 x 40 mm deep (for Voice / Data System)	RM	50		
19.	Supplying and laying the following Cables for TV				
a.	RG 11	RM	75		
b.	RG 6	RM	Rate Only		
20	Providing and fixing the following 14 SWG Perforated Galvanised cable tray along with necessary suspenders (9 MM dia GI) (not more than 1000 MM long) at equal intervals of 900 MM as directed. Including cost of providing and fixing supporting steel, nuts, bolts, washers and dash fasteners as required. The installation shall be complete in all respects (Please note this is not a ladder type tray, perforated cable tray is to be considered) (All accessories like tees, bends vertical / horizontal shall be factory fabricated and cost of these to be included in the rate. Site fabricated accessories are not acceptable)				
i.	40 x 200 x 40 MM	RM	50		
ii.	40 x 300 x 40 MM	RM	Rate Only		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
21	Providing and laying the following UPVC pipe including digging and back filling of trench up to a maximum depth of 600 mm				
a.	300 MM DIA (6 Kg per Sq cm - Class 3)	RM		Rate Only	
b.	200 MM DIA (6 Kg per Sq cm - Class 3)	RM		25	
22	Providing Manholes 1000 x 1000 x 1200 MM deep along with manholes covers suitable for vehicular movement. (Structure as per Site Conditions, specifications as per Architect)	No.		Rate Only	
Total Carried Over To Summary					
E.	Supplying & Fixing of Lighting Fixtures				
I.	Supplying of Lighting Fixtures				
1	Supplying the following light fixtures including reflectors & LED Lamps. (Samples of all lighting fixtures shall be submitted for Approval of the Owner / Architect before ordering)				
a.	1 x 7 Watts Recessed Mounted LED Light Fixture Philips Make DN 391B LED 6S-4000 PSU WH / Wipro	No	15		
b.	1 x 10 Watts Recessed Mounted LED Light Fixture Philips Make DN 392B LED 10S-4000 PSU WH / Wipro	No		Rate Only	
c.	1 x 12 Watts Recessed Mounted LED Light Fixture Philips Make DN 393B LED 12S-4000 PSU WH / Wipro	No		Rate Only	
d.	1 x 15 Watts LED Recess Mounted Light Fixture Philips make DN 394B LED 16S-6500 PSU WH or Equal	No.	260		
e.	1 x 10 Watts Surface Mounted LED Bulkhead Light Fixture Philips Make WT202 W LED 6S CW PSU S2 PC / Wipro	No	25		
f.	1 x 15 Watts Surface Mounted LED Light Fixture Philips Make DN 170C LED 10S-4000 PSU WH / Wipro	No	45		
g.	1 x 20 Watts Surface Mounted LED Light Fixture Philips Make BN 108C LED 20S - 4000 L120 PSU WH or equal	No	15		
h.	1 x 40 Watts Surface Mounted LED Light Fixture Philips Make BN 108C LED 40S - 4000 L120 PSU WH or equal	No	18		
i.	1 x 34 Watts LED Recess Mounted Light Fixture Philips make RC 380B LED 32S-6500 L 120W 30 PSU or Equal	No	23		
j.	1 x 38 Watts LED Recess Mounted Light Fixture Philips Make RC 380B LED 42S -4000 G4 L60 W60 PSU OD or equal	No	110		
k.	LED Flasher type Aviation Obstruction Lights with photo switch Bajaj - 020075 - 1 with Neon Lamp	No.	1		
l.	Rechargeable Emergency Light Fixture	No.	45		
m.	Occupancy Sensor (Philips Make LRM 1071 or equal)	No	4		
II.	Fixing of Lighting Fixtures				
1	Receiving, Unloading, Storing, Handling, Shifting to its location, Fixing, Testing and Commissioning of the following light fixtures including Reflectors and LED Lights etc. (complete with necessary fixing suspenders and connectors + accessories as directed) Fixing arrangement including providing nuts, bolts, washers and dash fasteners as required. The installation shall be complete in all respects				
a.	1 x 34 Watts, 1 x 38 Watts, 1 x 20 Watts, 1 x 40Watts Surface Mounted LED Light Fixture	No	166		
b.	1 x 7 Watts, 1 x 10 Watts, 1 x 12 Watts, 1 x 15 Watts LED Surface / Recessed Mounted Light Fixture	No	345		
c.	LED Flasher type Aviation Obstruction Lights with photo switch Bajaj - 020075 - 1 with Neon Lamp	No.	1		
d.	Rechargeable Emergency Light Fixture	No.	90		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
Total Carried Over To Summary					
F. Prime Cost Item for External Lights & Poles.					
1	<p>Prime Cost for purchase of External Lights & Poles for miscellaneous Areas, as required by Architect</p> <p>Note : Contractor shall purchase in the open market at competitive rates. External Lights & Poles of quality, size and make approved by the Engineer / Employer</p> <p>The Contractor shall quote in the prime cost item the percentage amount he would charge over the actual cost of materials. (Contractor will be paid the actual cost of materials supported by vouchers plus percentage amount over it as per the quotation for this item)</p> <p>A set of approved samples shall be lodged with the Engineer / Employer until the completion of the work. The rates for the purchase of material must be competitive. In case the Engineer / Employer is able to obtain lower quotation in the open market for any material similar in specification to the one claimed by the Contractor, he will be paid according to competitive rates obtained by the engineer / Employer plus percentage amount over it as per this item and not according to the Employer's claim</p> <p>Contractor's percentage for Overheads, Receiving, Handling, Storing, Fixing, Testing, Commissioning & Profits for Purchasing for Prime Cost Items.</p>	LS	1		
		-	10%		
Total Carried Over To Summary					
G. Addressable Fire Alarm System					
1.	Supply, fixing, testing and commissioning of the following:				
a	Multi Criteria Detector (Addressable Type)	No.	122		
b	Control Module (Addressable Type)	No.	28		
c	Manual Call Point (Addressable Type)	No.	12		
d	Hooter + Strobe (105 db) (Addressable Type)	No.	12		
e	Fault Isolator (Analogue Addressable Type)	No.	2		
f	Monitor Module (Addressable Type)	No.	10		
g	Responde Indicator	No.	70		
h	Fire Fighter's Telephone jacks complete as required (UL Listed)	No	18		
2.	<p>Supplying, Receiving, Unloading, Storing, Handling, Shifting to its location, Fixing, Testing & Commissioning of 1 loop, Microprocessor based Analogue Addressable modular expandable to 2 Loops Fire Alarm Control Panel</p> <p>complete with central processing module, Network communication card, RS 232 / RS 485 (For Networking Feature) Communication Card graphic LCD display with primary power supply as 230 Volt AC with 24 Volt SMF battery with two time more capacity than the system requires, when the entire system working including suitably battery charger. The battery shall also be able to support the system for 24 hours during normal operation and for minimum 30 minutes during an emergency condition.</p>	No.	1		
3.	Addition or deletion of 1 Loop Card.	No.	Rate Only		

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
4.	Supplying, Receiving, Unloading, Storing, Handling, Shifting to its location, Fixing, Testing & Commissioning of 1 Zone, Microprocessor based Modular expandable Main Fire Alarm Control Panel with window type annunciation to indicate fire and fault, led lamps for visual indication, audio-alarm unit, push buttons for acknowledge, test, reset, complete with power supply of 24 V DC, 7 AH from 230 V AC and backed up by a maintenance free battery system (SMF battery shall be Hitachi make or equal). including testing and commissioning of complete fire alarm installation by specialized agency supplying Fire Alarm Panel.	No.	4		
5.	Supplying, Receiving, Unloading, Storing, Handling, Shifting to its location, Fixing, Testing & Commissioning of 2 Zone, Microprocessor based Modular expandable Main Fire Alarm Control Panel with window type annunciation to indicate fire and fault, led lamps for visual indication, audio-alarm unit, push buttons for acknowledge, test, reset, complete with power supply of 24 V DC, 7 AH from 230 V AC and backed up by a maintenance free battery system (SMF battery shall be Hitachi make or equal). including testing and commissioning of complete fire alarm installation by specialized agency supplying Fire Alarm Panel.	No.	2		
6.	Wiring to Addressable Fire Alarm Devices				
a.	Wiring to Multi Criteria Detector / Control Module / MCP / Fault Isolator with 2 x 1.5 sq. mm FR-LSH PVC insulated 1100V Grade copper conductor wire in surface mounted 20 mm dia 16 SWG MS conduit / MS Tee / Saddles with Base / Accessories as directed including providing GI flexible conduit as required.	No.	Rate Only		
b.	Wiring to first addressable device and wiring from last device to Fire Alarm Panel with 2 x 1.5 sq. mm FR-LSH PVC insulated 1100V Grade copper conductor wire in surface mounted 20 mm dia 16 SWG MS conduit / MS Tee / Saddles with Base / Accessories as directed including providing GI flexible conduit as required.	RM	Rate Only		
c.	Wiring from Hooter, Flow Switch and MCC for fan / AHU with 2 x 1.5 sq. mm FR-LSH PVC insulated 1100V Grade copper conductor wire in surface mounted 20 mm dia 16 SWG MS conduit / MS Tee / Saddles with Base / Accessories as directed including providing GI flexible conduit as required.	RM	Rate Only		
d.	Wiring for Power supply to Hooter from Main Fire Alarm Panel with 2 x 2.5 sq mm FR-LSH PVC insulated 1100 V grade copper conductor wire in surface mounted 25 mm dia 16 SWG MS conduit / MS Tee / Saddles with Base / Accessories as directed including providing GI flexible conduit as required.	RM	Rate Only		
7.	Supplying, Receiving, Unloading, Storing, Handling, Shifting to its location, laying, termination, testing & commissioning of Wiring for Fire Alarm System				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
a.	Wiring to Fire Alarm Devices with Fire Survival Armoured Cable (600 / 1000 Volt) with Class-2 annealed 2 x 1.5 sq.mm copper conductor having cross linkable Halogen Free Insulation with Glass Mica (Fire barrier) tape along with Low Smoke Zero Halogen (LSZH) inner & outer sheath as per BS 7846 : 2009 should retain circuit integrity up to 3 Hours @ 950° as per BS - 6387 C.W.Z. and BS EN50200 Annexure - E (Fire Survival Armoured Cable shall be fixed by means of space bar saddles with base at intervals not more than 450mm) including necessary glands.	RM	2000		
b.	Providing, Receiving, Unloading, Storing, Handling, Shifting to its location, Laying, Termination, Testing & Commissioning of Armoured Fiber Cable 9/125 Micrometers (single mode) with suitable terminations. The single fibre optics network shall be used for Fire detection, Digital Voice & Fire Fighters Telephone for data transfer (100 Mb).	RM	500		
8.	Supplying and fixing 1.2 mm thick MS junction / outlet boxes with suitable knockout holes and 3 mm thick Hylam sheet cover.				
a.	100 x 100 x 50 mm deep.	No.	80		
9.	Testing and commissioning of complete Fire Alarm Installation be specialist agency supplying fire alarm panel.	LS	-		
Total Carried Over To Summary					
H. Conduit and Wiring for PA & Access Control					
I PA System (Conduit & Wiring)					
1.	Providing & fixing Philips make Speakers. Speakers shall be LBD 0606 (6 Watts Read Power) including line matching transformer (Ceiling Recessed with mounting clamp - White colour)	No.	64		
2.	Providing & fixing Philips make Speakers. Speakers shall be LBD 8363 metallic enclosue (4 Watts Read Power) including line matching transformer (surface mounted)	No.	Rate Only		
3.	Providing & fixing Volume Control with operating knob in GI outlet Box complete with cover plate and blank plate. (Sample to be approved by Architect)	No.	Rate Only		
4.	Wiring to speakers in existing 20 mm dia MS conduit. 24 / 0.20 mm PVC insulated twin twisted flexible annealed tinned copper wire including GI flexible conduit.	RM	Rate Only		
5.	Wiring to PA with Fire Survival Armoured Cable (600 / 1000 Volt) with Class-2 annealed 2 x 1.5 sq.mm copper conductor having cross linkable Halogen Free Insulation with Glass Mica (Fire barrier) tape along with Low Smoke Zero Halogen (LSZH) inner & outer sheath as per BS 7846 : 2009 should retain circuit integrity up to 3 Hours @ 950° as per BS - 6387 C.W.Z. and BS EN50200 Annexure - E (Fire Survival Armoured Cable shall be fixed by means of space bar saddles with base at intervals not more than 450mm) including necessary glands	RM	800		
6.	Supply & Installation of 180 watt Audio Amplifier with Aux & Mic attachment provision.	No.	1		
II Access Control System					

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
1.	Providing and laying PVC insulated, shielded and sheathed 8 core 24 AWG stranded copper conductor control cabling for Access Control System in existing MS conduit including GI flexible conduit.	RM	1050		
2.	Providing and laying PVC insulated, shielded and sheathed 6 core 24 AWG stranded copper conductor control cabling for Access Control System in existing MS conduit including GI flexible conduit.	RM	Rate Only		
3.	Providing and laying PVC insulated, sheathed 4 core 24 AWG stranded copper conductor control cabling for Access Control System in existing MS conduit including GI flexible conduit.	RM	250		
4.	Providing & fixing the following MS conduit surface mounted including MS Tee / Saddles with Base / Accessories as directed.				
i.	20 mm dia 16 SWG	RM	250		
ii.	25 mm dia 16 SWG	RM	1050		
5.	Providing & fixing 16 SWG single compartment GI Trunking with 16 SWG openable covers at regular intervals along with necessary cable support system as directed including providing & fixing accessories like suitable Clamps, Dash Fasteners, Cable Ties, Gaskets etc. complete in all respects. (All Trunking is to be cleaned thoroughly, before pulling any wires / cables). Including earthing of the trunking with 4 sq. mm. FR-LSH PVC insulated Yellow + Green Copper Earth Wire with proper thimbles. All joints of GI Trunking shall be provided with proper couplers as directed. Including providing 300x300x60 mm deep Junction Boxes as required. (Please note Junction Boxes shall be part of the trunking item and shall not be paid extra).				
a.	50 x 250 x 50 mm deep	RM	Rate Only		
b.	50 x 150 x 50 mm deep	RM	Rate Only		
6.	The Access Control System should be integrated with fire alarm system to disengage all doors in case of activation of fire alarm. Main Access controller based on Proximity card authentications. Proximity Card Readers. Proximity Cards. SITC of EM lock capacity of holding pressure of 600lbs including U Clamps. SITC of Push Button. SITC of SQL based Access Management Software. SITC of Power Supply 12 V for Locks. Except Stilt Floor, Each Floor have 1 access control at Office Entry & 2nd at Emergency exit	No.	1		
Total Carried Over To Summary					=====
I. Video Conferencing/AV Equipments					=====
1.	Video Conferencing Equipment, HD Video, HD Audio , HD Data; Inbuilt multiparty facility with 3 parties; inbuilt data sharing people+content software; one microphone array Wall speaker 16 watt-6no.s, Amplifier 80WATT, Cable Cubby-AV (HDMI+AUDIO+VGA), VGA cable-30 mtr, HDMI cable-30 mtr, Audio Cable-45 Mtr, Speaker Cable, Rack Console, Testing & Installation	No.	Rate Only		
2.	Wifi LED projector as having 5000 Lumens output (with 20000 hours warranty)	No.	Rate Only		
3.	Providing and fixing automated projector screen	No.	Rate Only		
Total Carried Over To Summary					=====
J. Lightning Protection : Conventional System					=====
1	Supplying and fixing of the following tapes / wires / clamps including all necessary fixing accessories and effecting connections (As per specifications)				

#	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
a.	25 x 6 MM GI TAPE (Vertical Runs)	RM	300		
b.	Conductor Holder at every 2 meter with reinforced Bar	No.	350		
b.	25 x 3 MM GI TAPE (Horizontal Runs)	RM	400		
2	Providing & fixing of Air Terminal 1.5 meter long, 16mm dia, Aluminium Alloy along with suitable clamp for connection with GI Strip of 25x3mm	No.	1		
3	Providing Maintenance Free Earthing Stations (B Class GI pipe Earthing) complete as per I.S. specifications (GI pipe shall be 50 MM dia) (GI pipe 16 feet & depth of pit 17 feet); surrounded with suitable quantity of Ground Enhancing Material (complying with IEEE clause 14.5d) including digging and backfilling of earth pit; 1 No. GI Flat of size 25x6mm shall be brought up to Test Link Box to restrict earth resistance to 1ohm	No.	14		
4	Supplying & Fixing of GI earth test links in 16 SWG MS enclosure with cover as directed (450x300x100 MM deep) and suitable for 25x6 MM GI strip.	No.	14		
5	Providing and laying the following HDPE pipe				
a.	50 MM DIA (HDPE Pipe)	RM	60		
Total Carried Over Summary					<hr/> <hr/>

SUB-HEAD - A (Fire Piping, Hydrants, Sprinklers and Accessories)

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	Providing, laying, jointing and testing of following sizes of pipes conforming to IS-1239 with all accessories like all fittings (upto 50mm dia threaded M.S.forged fittings and above 50 mm dia MS forged fittings with welded joints shall be used) fittings including tees, elbows, reducers, flanges, rubber gaskets, nuts bolts, washer. And fixing the pipe on floor / wall /ceiling with suitable size clamps, hangers, structural steel supports as per specification. And G.I. pipe sleeve to be provided wherever the pipes are crossing the walls/floors and sealing the sleeves as per consultants requirements including cutting holes and chases in brick, R.C.C work and making good the same to original conditions complete in all respects.Arrows showing direction of flow to be marked(with paint of approved colour) on each pipe at locations as decided at site.				
(a)	For wet riser & sprinkler System - M.S. `C' Heavy class pipe				
	a)25 mm dia(4.04mm thickness) screwed joint	170	RM		
	b)32 mm dia(4.05mm thickness)screwed joint	20	RM		
	c) 40 mm dia(4.05mm thickness)screwed joint	15	RM		
	d) 50 mm dia(4.5mm thickness)screwed joint	15	RM		
	e) 65 mm dia(4.5mm thickness)	25	RM		
	f) 80 mm dia(4.85mm thickness)	20	RM		
	g)100 mm dia(5.4mm thickness)	8	RM		
	h)150 mm dia(5.4mm thickness)	60	RM		
2	Providing two coats of synthetic enamel paint of approved shade over a coat of primer. Including painting of legends both direction arrow as per the approval of the architects / consultants.				
	a)25 mm dia	170	RM		
	b)32 mm dia	20	RM		
	c) 40 mm dia	15	RM		
	d) 50 mm dia	15	RM		
	e) 65 mm dia	25	RM		
	f) 80 mm dia	20	RM		
	g)100 mm dia	8	RM		
	h)150 mm dia	60	RM		
3	Providing, laying, jointing and testing in trenches the following sizes of M.S. class `C' (heavy class) pipes conforming to IS:1239 with accessories like fittings including tees, elbows, reducers, flanges, rubber gaskets, G.I. nuts, bolts and washers and providing 150mm thick fine sand layer all around the pipe, including excavation in all kind of soil/ hard rock, refilling, ramming and removing the excavated surplus material and making good the same complete as required.				
	a) 80 mm dia	25	RM		
	b) 100 mm dia	QR	RM		
	c) 150 mm dia	80	RM		

Estimate

4	Providing protection to embedded M.S pipes and fittings by wrapping 4mm thick pypkote protection including proper overlaps on joints.				
	a) 80 mm dia	25	RM		
	b) 100 mm dia	QR	RM		
	c) 150 mm dia	80	RM		
5	Providing and fixing gun metal ball valve suitable for pressure 15 Kg/Cm2 and conforming to IS: 778 of the following size including providing necessary union / flange.				
	a) 25 mm dia	2	NOS.		
	b) 50 mm dia	2	NOS.		
6	Providing & fixing of butterfly valve suitable for pressure 15 Kg/Sqcm. with flanges, nut bolts & gaskets complete required.				
	a) 65 mm dia	1	NO.		
	b) 80 mm dia	3	NOS		
	c) 100 mm dia	1	NOS		
	d) 150 mm dia	6	NOS		
7	Providing and fixing of C.I. wafer type check valve suitable for pressure 15 Kg/Sqcm. with flanges, Nut, bolts & washers, painting etc. complete as required.				
	a) 150 mm dia	QR	NO		
8	Providing & fixing double flanged flexicon rubber expansion joint with unit control of standard length as per maufacturers specs. Tested to a pressure of 15Kg/Sqcm including rubber gaskets, flanges, nuts, bolts and washers complete as required.				
	a) 150 mm dia	QR	NO		
9	Providing and fixing C.I.'Y' strainer with bronze perforated sheet basket tested to a pressure of 15 Kg/sqcm including rubber gasket, flanges, nuts, bolts and washers, complete as required.				
	a) 150 mm dia	QR	NO.		
10	Providing and fixing inlet breaching having C.I. body four way gun metal 63 mm dia instantaneous inlets conforming to IS 903 fitted with non return valves, 25 mm dia gun metal drain cock, blank cap, brass chains and 150 mm dia flanges with all accessories suitable for local fire tender complete as required.				
		1	NO		
11	Providing and fixing 4 mm thick glass door of size 2.1 m x 1.2 m with anodized aluminium frame of size 0.10 x 0.05 M with centre opening for fire hose cabinet. Suitably marked on the outside with the letters "FIRE HOSE" including locking arrangement. All aluminium work to be in Red P.O. colour.				
		5	NOS		

12	Approval of fire (NOC) system from local fire authority at initial & various other stages of works, including preparation of report / integration with Fire alarm system and preparation of drawings as per local fire authority. Contractor shall include cost of all liasion works which are not explicitly mentioned above but are mendatory to have fire authority approved.	L.S	L.S.		
13	Providing & fixing C.P.brass quartzoid bulb sprinklers of size 15mm dia (Pendent type)to be operated at 68Deg.C complete.				
	a) Pendant type	2	NOS.		
	b) Side wall type	2	NOS.		
	c) Concealed type	QR	NOS.		
	d) Upright type	65	NOS.		
14	Providing & Fixing of installation control valve with turbine type automatic Alarm Gong to be connected with control valve, drain & test valve as per manufacturer's specifications complete.				
	a) 100 mm dia	1	NO.		
15	Providing, fixing, testing & commissioning of MS air cushion tank on top of each riser fabricated from 6mm thick MS plate, 250 mm in diameter and 1.2 m in height with dished ends fabricated from 8mm thick MS plate with Air release valve with stop cock, flanged inlet connection and drain arrangement with 25mm dia valve, pressure guage with gun metal stop cock complete with all accessories as required.	2	NOS.		
16	Providing, jointing and testing of sprinklers through flexible connections(1000mm long,internal diameter 25mm & outlet connection15mm dia.) as per requirement at site.Make-SeungJin-Korea.The flexible connectors shall be supported through false ceiling through clamps or as directed at site.The flexible connector shall be suitable for working pressure12 kg/sqcm .	2	NOS		
17	Providing and fixing signages printed on photoluminescent U1000 aluminium sheet of 1.0 mm (+ -10%) containing lumigen II as base chemical, covered under UV stablized coating and of appropriate size (Glo-lite or eq. Make) including fixing on wall, door, ceiling etc. with proper clamps, hangers, cleats anchor fasteners etc. complete in all respects as diercted by Engineer-in-charge	5000	SQ INCH		
A-1	INSTALLATION ONLY OF ITEMS AS MENTIONED BELOW				
1	Providing & fixing gun metal fire hydrant valve with 80 mm N.B. flanged inlet, brass spindal, one no. 63 mm dia female instantaneous outlet, G.M. coupling,blank cap, chain. Conforming to IS:5290. Including tapping from wet riser complete as required.	5	NOS		

Estimate

2	Providing & fixing swinging type First Aid hose reel in red colour with 36 mts long and 20 mm dia dia heavy duty rubber water hose, 20 mm dia globe valve stop cock, terminating with G.M. coupling & nozzle of 5mm outlet with shut off valve conforming to IS 8090 - 1976 complete with drum and brackets for fixing on wall, bolts & nuts conforming to IS:884-1969 complete as required.	5	NOS		
3	Providing and Fixing Hose pipe, 63 mm dia and 15 mts long, duly reinforced, rubber lined suitable for bursting pressure not less than 22 Kg/Sqcm. conforming to IS 636-1988 type A with gun metal heavy duty instantaneous type coupling (Pair male & female parts) conforming to IS 903. Complete as required (two nos. for each hydrant)	18	NOS		
4	Providing and fixing weather proof cabinet of size not less than 0.6 x 0.6 x 0.45 mtr made out of M.S. sheet not less than 1.5 mm thick having central opening and 4 mm thick glazed glass doors (Two nos.) suitably marked on the outside 'with the letters "FIRE HOSE" including necessary locking arrangement and painting in red colour suitable to accomodate, external yard hydrant valve, 2 nos 15 mtr long Hose pipe, branch pipe, nozzle and fire man's axe. It shall be mounted on boundary wall complete as required.	2	NOS		
5	Providing, jointing and testing of automaticaly operated Halotron fire extinguishers(cap-5kg,temperature rating-5kg,temperature rating-68degc,test pressure-30bar) complete with all accessories/fittings.-Minimax make.	5	Each		
6	Providing & fixing gun metal fire hydrant valve with 100 mm N.B. flanged inlet, brass spindal, two no. 63 mm dia each female instantaneous outlets, G.M. coupling,blank cap, chain. Conforming to IS:5290. Including tapping from wet riser complete as required.	2	NOS		

HVAC-SCHEDULE OF QUANTITIES

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
A.	EQUIPMENT				
1	<p>VARIABLE REFRIGERANT VOLUME SYSTEM (Cooling & Heating type) Supply, loading, unloading, lifting, shifting, storing, Installation, testing & commissioning of Imported Variable Refrigerant Flow modular type air-conditioning system with Inverter Based Technology & stepless modulation complete with indoor and outdoor units, individual remote controller, interconnected refrigerant piping, full charge of refrigerant gas and oil, control cabling etc.. Refrigerant to be used shall be R-410A. (These items are to be given in Indian rupees with custom</p> <p>Outdoor Unit Supply, loading, unloading, lifting, shifting, storing, Installation, testing & commissioning of Modular Type Outdoor Units(Ref. charged) equipped with highly efficient Inverter compressor(s), heat exchanger, low noise condenser fan having external static pressure more than 75Pa to avoid hot air circulation & efficient heat dissipation, auto check function for connection error, and nominal capacity as mentioned below.</p> <p>The outdoor unit cost should include all loading, unloading, transportation, power cabling/wiring from isolator to the outdoor units . ODU UNIT SHALL BE BMS COMPATIBLE AT OPEN PROTOCOL, Cooling COP of VRF unit shall not be less than 3.6 @ 100% load and 6.8 @ 50% load at ARI condition. Further to above the unit shall also have feature to automatically modulate the evaporative temperature between 6 deg C to 11 deg C with respect to load for better comfort and energy efficiency.</p> <p>Cost of copper power cable with clamping along with 2 run of required sized copper wire earthing from 3 phase RCCB to ODU shall also be included. (5 MTR LENGTH). Any top up,if required, for gas charge shall be at no additional cost.</p> <p>Refer the note pertaining to the selection of indoor units and thereof the capacity of the outdoor unit in the equipment selection sheet, annexed to this document . The ODU capacity and diversity IDU vs ODU will checked and confirmed by VRF vendor . Vendor will select ODU capacity and will take stand guarantte for the performance of system. Vendor shall submit equipment selection at the time of bidding. Any upgradation of ODU to be done as per requirement shall be at no additional cost.</p>				
1.1					
i	34 HP (18 + 16 HP) - FIRST FLOOR	No.	1		
ii	38 HP (20 + 18 HP) - THIRD FLOOR	No.	1		
iii	18 HP - TFA (COMMON FOR ALL FLOORS)	No.	1		
iv	16 HP - SECOND FLOOR	No.	2		
v	8 HP - SECOND FLOOR	No.	1		
vi	6 HP - SECOND FLOOR	No.	1		
2	<p>VRV Indoor Units Supply, instalation, testing & commisionning of Indoor units equipped with pre-filter, fan section with low noise fan, multispeed motor, coil section with DX coil, outer cabinet, insulated drain pan, , drain pump, insulation, pipe connections etc. of various capacities mentioned below. The Sound Pressure level of unit at the highest operating level shall not exceed 48 dB(A), at a vertical distance of 1.5 m below the units duct connected to the unit. Cost of double layer factory fabricated non porous, anti fungal, double layered canvass connection to be included.(Top plug and Indoor Power Cable Included in the scope.)</p>				
A	Ductable Units				
i	7.55 TR, 2825 CFM	No.	4		
ii	6.36 TR, 2295 CFM	No.	5		
iii	5.48 TR, 2047 CFM	No.	3		
iv	4.55 TR, 1624 CFM	No.	R/o		
v	3.98 TR, 1377 CFM	No.	1		
vi	3.18 TR, 1130 CFM	No.	4		

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
vii	2.55 TR, 883 CFM	No.	R/o		
B	Cassette Unit				
i	4.55 TR , 1254 CFM	No.	R/o		
ii	2.08 TR , 830 CFM	No.	R/o		
iii	1.59 TR , 812 CFM	No.	3		
iv	1.28 TR , 600 CFM	No.	R/o		
C	Treated Fresh Air Unit with VRV Outdoor unit				
i	635 CFM, 3.98 TR	No.	3		
3	Hi-wall Units Installing, testing and commissioning of Hi-wall mounted/Cassette AIR COOLED SPLIT AIR CONDITIONING UNITS . The unit shall be complete with Indoor type fan coil unit and external condensing unit with supporting frame work, rotary/scroll compressor, copper refrigerant piping with insulation and refrigerant. Quoted price shall include cost of cooling thermostat, wiring, control, wiring and earthing. Cost to also include 15 RM (distance between indoor & outdoor unit)of copper refrigerant piping and cabling. The Hi wall unit must be provided with condensate drain pump . The unit shall be complete in all respects and capacities shall be as follows :				
i	1.0 TR Hiwall unit (Doctor's Room)	No.	1		
ii	1.5 TR Hi-Wall Unit (Cafeteria)	No.	6		
4	Control Cabling Supplying, installing, testing and commissioning control cabling cum transmission wiring of 3 core x 2.5 sqmm copper in suitable PVC conduits between indoor and out door unit including all accessories.	Rm	700		
5	Ref. / Y Joints Supplying, installing, testing and commissioning of Refnet joint (T-Branched) branch distributors with Variable refrigerant flow distribution couplings for refrigerant piping in copper piping. The bidder shall consider the required diameter of the refnet joint as required for the system to get connected by refrigerant piping of suitable guage for it to function satisfactorily without leakage through the joints. cost shall also include insulation of 19mm / 13mm thick nitrile rubber closed type tubular form.	No.	17		
6	Wired/ Wireless Remotes Supply of wired/wireless remote controller and system controller for units with LCD display etc.	No.	23		
7	CENTRALIZED REMOTE CONTROLLER Supply, installation, testing & commissioning of the Graphic central remote Controller (touch screen type). It must act as an advanced air conditioning management system to facilitate complete control of VRF air conditioning equipment, It should be user friendly, icon display and color LCD display. Integratable upto 64 indoor units/remote controller groups with ethernet/Wi-Fi communication protocol for remote monitoring. In addition to basic controls such as settings for ON / OFF, the operation mode & temperature, the air quantity and auto louver can be set. In case of a problem in system / equipments, an alarm code immediately shows the details of the problem. An external input terminal is provided as standard. External signals enable the following function: central operation/stop,demand control,emergency stop,central operation output,& central alarm output.	No.	1		
8	MS Structure for Outdoor Units & Equipment Installation				

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
	Supply, installation, testing & commissioning of Cost of Nylon 6 Hard PVC Stand / M.S. powder coated stand made of C channel (100x50x6mm) along with 150X150mm chequered palte with VI pads shall also be included for VRV outdoor Unit as per specification.	Kg.	900		
9	INLINE FANS				
	Supply, installation, testing and commissioning of inline ducted fans of G.I. construction complete with centrifugal fan (TEFC (IP-44) with motor, drive, canvass connection at inlet & outlet complete with MCB panel with cabling and earthing (with 5 Rm). Fan shall be suitable for operation on 220+6% volts, 50 Hz, 1 Phase AC power supply. All single phase inline fans shall be provided with factory filled speed regulation and as per specification and drawings.				
9.1	Toilet Exhaust Air Air Quantity : 900 CFM Static Pressure : 15 mm wg Fan Motor H.P: 0.15 H.P or as per actual selection meeting other technical parameters	No.	4		
9.2	Propeller Fans Supply installation, testing of propeller fan with gravity louver, single phase 240Volts 50Hz, with 3 pin top, cable etc as per specifications and drawings. 200 dia to 300 mm dia	No.	8		
10	AXIAL FLOW FANS				
	Supply ,Installation testing and commissioning of Vane Axial Fans with impeller having adjustable pitch angle blades and complete with suitable TEFC motor and drive assembly. The fan shall be suitable for ceiling/floor installation along with spring isolators or as recommended by the manufacturer. Fan motor shall be VFD compatible & shall be of high efficiency Class EFF-1(Only for normal working fans). Motor shall be suitable for 415 ± 10% V, 3 Phase, 50 ± 3%Hz electrical supply. Fan & motor shall be selected for minimum 40mm Static pressure. Total static pressure shall be checked by vendor. Change in static pressure will not attract any price implication. The complete fan assembly alongwith the motor & drive assembly shall be fire rated i.e. suitable to operate upto 250°C for 2 hours and meet the duty parameters. The fan shall be selected for low noise level and low RPM as per technical specifications. Price shall also include double sleeve fire retardant flexible connection on both sides of the fan. The fan duty shall be as follows:				
a	6500 CFM, 30 mm SP fresh air in case of fire (Non-fire rated) Liftwell Pressurization	No.	1		
11	CO/CO2 sensor for regulating fresh air	Nos.	R/o		
A.	TOTAL EQUIPMENT				
B.	REFRIGERENT PIPING & DRAIN PIPING				
12	Supplying, installing, testing and commissioning of high pressure interconnecting refrigerant copper pipe work with (19mm/13 mm thick) closed cell elastomeric nitrile rubber tubular insulation (Class-o) between each set of indoor & outdoor units as per specifications, all piping inside the building shall be properly supported with gripple supports with in auditorium and with threaded rods & MS hangers outside auditorium building.				

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
	All refrigerant pipes and fittings shall be type 'L' hard drawn copper tubes and wrought copper fitting suitable for connection silver solder. The copper thickness of wall shall be 16G/18G/20G/ 22G (0.7 to 1 mm) (as per temper grade as specified in JIS H3300).All joints in copper piping shall be swaged joints using low temperature brazing and/ or silver solder. Before jointing any copper pipe or fittings, its interior shall be thoroughly cleaned by passing a clean cloth via wire or cable through its entire length. The piping shall be continuously kept clean of dirt etc. while construction of the joints. Subsequently, it shall be thoroughly blown out using nitrogen. Refrigerant lines shall be sized to limit pressure drop between evaporator and condensing unit to less than 0.2 kg per Sq.cm. After the refrigerant piping installation has been completed the refrigerant piping system shall be pressure tested using, Freon mixed nitrogen at a pressure of 20 Kg per Sq. cm. (High side) and 10 Kg per Sq. cm (Low side). Pressure shall be maintained on the system for 24 hours. The system shall then be evacuated to a minimum vacuum of 70 cm. of mercury and held for 24 hours, during which time; change in vacuum shall not exceed 12cm of mercury.				
12.1	54.1 mm OP (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	R/o		
12.2	41.3 mm OP (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	18		
12.3	38.1 mm OP (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	R/o		
12.4	34.9 mm OD (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	23		
12.5	28.58 mm OD (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	49		
12.6	22.2 mm OD (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	45		
12.7	19.05 mm OD (insulation 19 mm) 16 Gauge (1.2-1.4mm Thick)	Rm	24		
12.8	15.88 mm OD (insulation 19 mm) 20 Gauge (0.8-1.0mm Thick)	Rm	54		
12.9	12.7 mm OD (insulation 19 mm) 20 Gauge (0.8-1.0mm Thick)	Rm	62		
12.10	9.52 mm OD (insulation 13 mm) 20 Gauge (0.8-1.0mm Thick)	Rm	250		
12.11	6.35 mm OD (insulation 13 mm) 20 Gauge (0.8-1.0mm Thick)	Rm	R/o		
13	Supplying, installing, testing and commissioning of high pressure interconnecting refrigerant copper pipe work with (19mm/13 mm thick) closed cell elastomeric nitrile rubber tubular insulation (Class-o) between each set of indoor & outdoor units as per specifications, all piping inside the building shall be properly supported with MS hanger. Refrigerant pipe exposed to sunlight shall be covered with UL certified UV protective coating with 7 mill fiber glass cloth with two Coat system. Protective Coating shall be UL classified and should conform to UL for surface burning characteristics.The Protective Coating should conform to ASTM D 5590 standard for fungal resistance.				
13.1	41.3 mm OP (insulation 19mm) 16 Gauge (1.2-1.4mm Thick)	Rm	35		
13.2	34.9 mm OD (insulation 19mm) 16 Gauge (1.2-1.4mm Thick)	Rm	R/o		
13.3	28.58 mm OD (insulation 19mm) 16 Gauge (1.2-1.4mm Thick)	Rm	43		
13.4	22.2 mm OD (insulation 19mm) 16 Gauge (1.2-1.4mm Thick)	Rm	38		
13.5	19.05 mm OD (insulation 19mm) 16 Gauge (1.2-1.4mm Thick)	Rm	36		
13.6	15.88 mm OD (insulation 19mm) 20 Gauge (0.8-1.0mm Thick)	Rm	48		
13.7	12.7 mm OD (insulation 19mm) 20 Gauge (0.8-1.0mm Thick)	Rm	26		

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
13.8	9.52 mm OD (insulation 13 mm) 20 Gauge (0.8-1.0mm Thick)	Rm	38		
14	Supplying, installing, testing and commissioning, rigid PVC (Drain) piping complete with fittings, supports as per specifications and duly insulated with 6/9 mm thick closed cell nitrile rubber insulation.				
14.1	50 mm dia (9 mm insulation)	Rm	25		
14.2	40 mm dia (9 mm insulation)	Rm	250		
14.3	32 mm dia (9 mm Insulation)	Rm	150		
14.4	25 mm dia (6 mm insulation)	Rm	75		
B.	TOTAL REFRIGERENT PIPING & DRAIN PIPING				
C.	AIR DISTRIBUTION				
	Factory Fabricated Duct				
15	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required. (It shall be as per SMACNA standards). All ducting inside the building shall be properly supported with gripple supports with in auditorium and with threaded rods & MS hangers, Slotted channel/angle as per required specifications outside auditorium building.				
	Rectangular Ducting				
a	24 gauge Galvanized Sheet Steel Ducting (0-750mm)	sqm.	682		
b	22 gauge Galvanized Sheet Steel Ducting (751-1200mm)	sqm.	71		
c	20 gauge Galvanized Sheet Steel Ducting (1201-1500mm)	sqm.	10		
d	18 gauge Galvanized Sheet Steel Ducting (1501mm - above)	sqm.	R/o		
16	Site Fabricated GI Duct				
	Supply, fabrication, Installation, testing and commissioning of site fabricated rectangular ducts using G.I Sheets (120GSM coating). The price shall include factory fabricated MS flanges (wherever required), turning vanes, splitter dampers, supports (factory fabricated, full threaded G.I rod/hangers & G.I slotted channel), sealant, neoprene gasket, access door etc.as required and as per ISI specifications.The joints shall be with least leak and shall be tested with pressure testing machine.				
a	24 gauge galvanized sheet steel	sqm.	75		
b	22 gauge galvanized sheet steel	sqm.	25		
c	20 gauge galvanized sheet steel	sqm.	5		
d	18 gauge galvanized sheet steel	sqm.	R/o		
17	Dampers				
i	Supply, installation, testing and commissioning of (18G) GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	sqm.	7		
ii	Supply, Installation and Testing of multiblade type Collar damper of galvanised steel sheet, provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of air distribution as per approved shop floor drawings and	sqm.	15		
18	SUPPLY / RETURN AIR DIFFUSERS				

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
18.1	Supply, installation, testing and balancing of powder coated extruded aluminium construction grid ceiling diffusers with removable core & collar damper/volume control dampers as per approved drawings and specifications Neck size 450x450 & 300x300	sqm.	12		
18.2	Supply, installation, testing and balancing of powder coated extruded aluminium construction grid return air diffusers with removable core & without volume control damper as per specifications. Neck size 450x450 & 300x300	sqm.	10		
18.3	Supply,Installation ,Testing and commissioning of 3 - slot supply air diffusers as per approved shop drawings and colour . Each diffuser will be equipped with removable core and a aluminum volume control damper which will be key operated.	Sqm	R/o		
18.4	Supply,Installation ,Testing and commissioning of 3 - slot supply air diffusers as per approved shop drawings and colour . Each diffuser will be equipped with removable core and a aluminum volume control damper which will be key operated.	Sqm	R/o		
19	<u>SUPPLY / RETURN AIR GRILLES</u>				
19.1	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers as per specifications.	sqm.	4		
19.2	Supplying & fixing of powder coated extruded aluminium Supply Air double louvered Grills with aluminium volume control dampers as per specifications.	sqm.	R/o		
19.3	Supplying & fixing of powder coated extruded aluminium return air grill with louvers but without volume control dampers complete as required.	sqm.	2		
19.4	Supplying & fixing of powder coated extruded aluminium return air double louvered grill but without volume control dampers complete as required.	sqm.	R/o		
20	Supply, fabrication, installation and testing the flexible connections constructed of fire resistance flexible double canvas sleeve as per the approved shop drawings.	No.	20		
21	Supply, installation, testing and balancing of powder coated /Anodised extruded aluminium construction louvers with bird screen for exhaust/fresh air as per specifications and approved drawings.	sqm.	6		
22	Supply, Installation and Testing of air transfer grilles of approved make and colour. Powder coated extruded aluminium air transfer grill	Sqm.	R/o		
23	Supplying, Fixing, testing and commissioning of motorized fire dampers with sleeve in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring, the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications. The damper to be fire rated for 120 minutes at 250 degree.				
23.1	Fire damper	sqm.	3		
23.2	Actuator (230 V)	Each	5		

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
C. TOTAL ' AIR DISTRIBUTION'					
D. THERMAL INSULATION					
24	Supply and Application of acoustic lining within the supply air duct with 15 mm thick open cell nitrile rubber with anti microbial propoerties (180-220 Kg/cum density) with UL approved as per specifications and drawings.				
24.1	15 mm thick acoustic lining	sqm.	55		
25	Supply and installation of external thermal insulation on ducts. Insulation shall be closed cell chemically cross linked polyethylene foam with thermal conductivity not exceeding 0.032 W/moK at an average temperature of 25 deg C. Density of the material shall be 25-30 Kg/m3 and shall be single layer up to 18mm thickness. The insulation material shall be fire rated for Class 1 as per BS-476 Part 7 with non-toxic smoke. Quoted price shall be inclusive of adhesive, tapes as per specification.				
25.1	13 mm thick insulation	sqm.	695		
25.2	19 mm thick insulation for supply & return air ducts.	sqm.	R/o		
D. TOTAL ' THERMAL INSULATION'					
26	KITCHEN VENTILATION				
26.1	DRY SCRUBBER UNIT - Zeco/waves/Edgeetech /Rydair Supply, Installation, testing and commissioning of Scrubber each comprising of electrostatic precipitation technology, dry type air cleaner to remove oil, DIDW Backward curves Fan with casing 25mm thick PUF insulation , smoke and fumes from exhaust air, as per the Specifications. Electrostatic Precipitator Module of following specifications with UV Ozone Lamp Electrostatic section shall be made of 16 gauge galvanised sheet, high bake epoxy powder coated, washable type aluminium mesh pre filters, Ionizing-Collecting cell(s) shall be of one-piece construction minimum 13.38" inches deep in direction of airflow. All support framing, end plates and ionizer ground electrodes shall be 0.090 inch thick aluminum. Both repelling and collector plates shall be 0.020 inch thick aluminum, 9.125 inch deep in direction of airflow and rigidly retained in place with tubular spacers and tie rods.Spacing between plates shall be no less than 0.175 inch. Ionizing electrodes shall be heavy duty tungsten wire rigidly supported both vertically and laterally. High voltage support insulators shall be of made of Teflon, including center hole, glazed to enhance dielectric strength and retard tracking. Insulators shall be mounted out of the airstream, to reduce contaminant buildup. All high voltage electrical connections within each tier of cells, shall be between cells and automatically made when cells are installed. Average efficiency of 90% for single pass base on ASHRAE test method at flow rates of 800 –1500CFM per module. Power supplies shall be 100% solid state CE Listed, Module of capacity above 3000 CFM shall be equipped with Pulse width modulating (PWM)The system should be fitted with interlock switch for safety . The system should allow connection to a fan section . All units shoud have Arc Supression & Auto Restart, Performance Indicator Lights to indicate the status of the air cleaning system. Power Consumption should not be more that 50 watts per ESP cell. Operating Voltage : 220V, 50 Hz				

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
	<p>Ionizing Voltage : 12.5 to 13 KVDC Collector Cell Voltage : 6 to 6.5 KVDC Power Consumption : Not more than 50W per cell. Air Moving Capacities shall be as follows:</p> <p>Ionizing-Collecting cell(s) shall be of one-piece construction consisting of a series of repelling & collection plates. Both repelling and collector plates shall be aluminum alloy material, rigidly retained in place with tubular spacers and tie rods. Each plate shall be corrugated, perpendicular to airflow direction. Each cell shall weigh not more than 15 kg with at least 9 ionizing wires maximum number of collection plates up 55 numbers per ESP cell.</p> <p>Minimum collection plate area per 1000 CMH of air flow thru ESP Cell Should not less than 1.8sqmt Not less than MERV 15 Exhaust air unit of following specifications</p> <p>factory fabricated double skin exhaust air unit comprising of 1No.DIDW GI fan & motor, Backward curved, complete with base frame,casing made out of 0.63mm galvanised sheet having flanged & bolted panels insulated with PUF injected between outer skin and inner skin.The exhaust air unit shall be complete with motor, belt drive package of the following capacities. The unit shall be integrated & connected with above for kitchen including all necessary accessories to complete the installation.</p>				
26.1	3500 CFM@55 mmSP	Nos.	1		
26.2	<p>DOUBLE SKINNED AIR WASHER UNITS Ambassador/Caryaire/Zeco/Edgetech Supply, installation, testing & commissioning of factory fabricated double skin Air-Washer comprising of DIDW GI fan, backward curved, complete with base frame,casing made out of 0.63mm galvanised sheet(Both skins) having flanged & bolted panels insulated with 48 MM THICK & 48KG /M3 PUF injected between outer skin and inner skin.(The inner skin shall be PVC / Fibreglass lined also), wet section & tank sump shall be made of stainless steel 18G SS 304,.The Air-washer shall be complete with fill of depth 200mm & face velocity across the fill shall be limited to152 MPM.The complete Air-washer shall be with two bend PVC eliminator.The Air -washer shall have an efficiency of 90% & shall be complete with motor, belt drive package, GI B Class interconnecting piping,valves, strainer NRV, aluminum viscous filters ,water pumps(1working +1stand by) for each air washer etc. & of the following capacities. Air washer tank to be FRP lined . Airwasher 3000 CFM @ 50mm static No Of Fan For Each Air-washer = 1 forward curve Static Pressure = 50MM Fan Speed = Not exceeding 1000 RPM Motor Rating = Not Exceed 5 KW Noise level = not exceed 70 db at 3 meter distance Monoblock Pump = 0.75 KW- Single phase No. Of Pumps = 2 (1 No. Standby)</p>	No.	1		
E.	TOTAL ' KITCHEN VENTILATION'				
F	ELECTRICAL WORKS				
27	Electrical Panels				

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
	<p>Design, manufacture, supply, installation, testing and commissioning of the following cubicle type, dead front, sheet steel, wall mounted control panels, including anchoring into the wall, wiring terminating into MCCB and copper earthing, in each panel shall be provided by the electrical contractor.</p> <p>All outgoing shall be provided with Stop /Manual /Auto selector switch to facilitate operation through BAS. All starters shall be provided with potential free Contact for Connections to Building Automation System.</p> <p>All cabling/ wiring and copper earthing of Fan unit motors from the panel shall be included.</p> <p>The panel shall include the following components & accessories.</p> <p>a. MCCB/MCB as per the ratings given below, suitable for motor duty and able to withstand fault level of 20 KA.</p> <p>b. DOL / SD starter as per HP ratings given.</p> <p>c. Terminal block for power distribution as required.</p> <p>d. Contactor, over load relay with built in single phasing protection.</p> <p>e. Phase indicating lights and indicating light for 'ON' status.</p> <p>f. 144 mm x 144 mm voltmeter and digital ammeter.</p> <p>g. Time delay relay for delayed automatic restart of motor.</p> <p>h. Wiring for microswitch for stopping the fan when fire damper closes (in case of Fan only).</p> <p>24 V supply provision to be done all panels for Mot. Damper supply</p> <p>i. For on/off/remote and local operation, 3 pole single throw switch shall be provided in each panel to facilitate override of the automatic operation.</p> <p>j. All starters shall be provided with suitable potential free contract for connections to the Building Automation System.</p> <p>Note : All terrace control panel shall be suitable for outdoor application.</p> <p>The number of control panels shall be as follows.</p>				
27.1	40A TPN MCB with 5.5 Kw TO 7.5 Kw Three phase DOL starter with overload relay and single phase preventer . Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status. For Air washer & Dry Scrubber	No.	2		
27.2	32A TPN MCB with 2.2/3.7 Kw Three phase DOL starter with overload relay and single phase preventer . Each of these compartment shall contain indicating lamp with ON/ OFF/ TRIP status. For Pr. Fan	No.	1		
28	Isolator Switches with weather proof Metal Enclosure Supply, installation, testing and commissioning of following rating Amps weater proof isolator for VRV outdoor unit 4 pole MCCB with operating handle (25 KA) breaking capacity in 1.6 mm thick MS enclosure of approved make design and painted with approved paint shade.				
28.1	63 Amps	No.	R/o		
28.1	40 Amps	No.	R/o		

ITEM	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
29	Cable Wiring				
	Supplying & laying of following 1100 volt grade XLPE insulated PVC sheathed Aluminium / Copper conductor armoured cables as per specification in existing trenches, cable trays, ducts, over bed of sand, clamped to wall with suitable clamps including, saddles fixing bolts, connecting testing and commissioning.				
a	4 C x 25 sq.mm (Copper)	Rmt	R/o		
b	4 C x 16 sq.mm (Copper)	Rmt	32		
c	4 C x 10 sq.mm (Copper)	Rmt	75		
d	4 C x 6 sq.mm (Copper)	Rmt	25		
30	Cable end termination of the following XLPE insulated PVC sheathed Aluminium /Copper conductor armoured cables of 1100 volt grade including supplying and fixing of bimettalic crimping lugs, double compression glands with earthing.				
a	4 C x 16 sq.mm	No.	5		
b	4 C x 10 sq.mm	No.	18		
c	4 C x 6 sq.mm	No.	5		
31	Cable Tray				
	Supplying, Receiving, Unloading, Storing, Handling, Shifting to its location, Laying, Fixing, Testing and Commissioning of the following 14 SWG Perforated Galvanised Cable Tray along with necessary suspenders (9 MM dia GI) (not more than 1000 MM long) at equal intervals of 900 MM as directed. Including providing nuts, bolts, washers and dash fasteners as required. The installation shall be complete in all respects (All accessories like tees, bends vertical / horizontal shall be factory fabricated and cost of these to be included in the rate. Site fabricated accessories are not acceptable)				
	Including providing, fixing & painting supporting steel structure for Perforated type Cable Tray including dash fasteners, nuts, bolts and washers etc. for suspending cable trays Including Fire sealing of openings crossing Fire Zones				
a	50 mm wide 25 mm depth.	Rmt	10		
b	100 mm wide 40 mm depth.	Rmt	25		
c	150 mm wide 40 mm depth.	Rmt	123		
d	200 mm wide 40 mm depth.	Rmt	35		
e	300 mm wide 40 mm depth.	Rmt	110		
32	Earthing				
	Double earthing continuity conductors of G.S.S. between panel boards and equipments as required.				
a	8SWG - GI Earthing Wire	Rmt	35		

LIFT

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	Design, Fabrication, Supply, Installation, Commissioning, packing, forwarding, transportation to DAFFPL site, unloading, furnishing of final drawings and manuals ,handling at site, performance demonstration and performance acceptance etc. of 8 passenger capacity lift (AS PER THE TABLE 1), to make the system complete in all respects and required civil work as per technical Specification & as per the tender document.	1	No.		
(a)	TABLE-1				
	Capacity - 8 Persons				
	Speed - 1 mps				
	Rise - 14.5 mtrs.				
	Stops - 4 Stops With (all opening on the same side)				
	Controller Type - ACD3-MR				
	Drive - VF Regenerative (Closed Loop)				
	Power Supply - 400/415 Volts (3 Phase AC) / or as per man specs.				
	Operation - Full collective operation				
	Machine - PM Gearless (Located above shaft)				
	Traction Media - Flat Coated Steel Belt / or as per manufacturers specification				
	Car Finish - Rear Panel =SS Hairline finish • Side Panels = SS Hairline finish • Front Panels = SS Hairline finish				
	False Ceiling Type - metallic with LED light fixtures				
	False Ceiling finish - Black Powder coated				
	Ventilation - Cross flow fan				
	Hand rails - Stainless Steel Mirror Finish Handrails on rear car panels				
	Flooring - Heavy duty Vinyl Tiles				
	Car Door finish - Stainless steel - Hairline finish				
	Landing Doors finish - Stainless steel - Hairline finish				
	Fire rated doors - Fire rating-60mins				
	Hoistway dimensions - (W x D mm) 2.1 m x 2.1m				
	Car dimensions - (W x D x H - mm) As per manufacturer specs				
	Car & Hoistway door type - Central opening (CO) doors				
	Door opening (W x H mm) - 800 mm W x 2100 mm H				
	Door operator - DC Door Operator				
	COP - Gien Buttons in Stainless Steel #4(Hairline)				
	Car position indicator - (RED LED) Scrolling Display				
	Hall fixtures - to				
	Hall fixtures face plate - Stainless Steel #4(Hairline)				
	Hall button arrangement - Hall Button with HPI				
	Standard features - Anti-nuisance Car Call Protection, Independent Service, Overload Device, Nudging, Emergency Firemen's Service, Emergency Car Light Unit, Infrared Curtain Door Protection, Door Time Protection, Emergency Alarm Button, Extra Door Time of Lobby & Parking, Door Open/Close Button, Manual Rescue Operation, Belt Inspection Drive, Auto Fan Cut Off				

EXTERNAL SEWAGE & STORM WATER DRAINAGE					
S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	Providing fixing, jointing and testing in position the following UPVC pipes (working pressure 10 kg/sqcm) conforming to IS: 4985 for drainage cut to required lengths including all necessary fittings and specials such as bends, junctions, offsets, making proper connections. Including providing PCC thrust block at 2 mtr. centre to centre. Pipe to be laid below ground level in trenches upto required depth including excavation in all kind of soil, dewatering, refilling, watering, ramming & removing the surplus excavated material and making good the same complete as required. For external sewer .				
	a) 110 mm dia	QR	RM		
	b) 160 mm dia	10	RM		
	c) 200 mm dia	100	RM		
	d) 250 mm dia	QR	RM		
2	Providing and laying 150 mm thick cement concrete 1:4:8 (1 cement:4 fine sand:8 graded stone aggregate 40mm nominal size) around pipes including 150 mm thick bed concrete as per standard design.				
	a) 100 mm dia pipe	QR	RM		
	b) 150 mm dia pipe	10	RM		
	c) 200 mm dia pipe	100	RM		
	d) 250 mm dia pipe	QR	RM		
3	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP2 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required. For external storm water drainage.				
	a) 150 mm dia	80	RM		
	b) 250 mm dia	250	RM		
	c) 300 mm dia	QR	RM		
4	Providing & laying 150 mm thick cement concrete 1:4:8 around RCC pipes including 150 mm thick bed concrete as per standard design, including shuttering & timbering				
	a) 150 mm dia pipe	80	RM		
	b) 250 mm dia pipe	250	RM		
	c) 300 mm dia pipe	QR	RM		

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
5	Providing and fixing stoneware gully trap grade 'A' of the following sizes with C.I. grating embedded in brick masonry chamber of required size and trap to be set in cement concrete 1:2:4, both side 12mm thick plastering with floating cast of neat cement. Making necessary connections & providing water tight C.I. cover with frame. Including necessary excavation Including necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.				
	a) 180X150 mm outlet	5	NOS		
	b) 150X100 mm outlet	QR	NOS		
6	Constructing brick masonry inspection chamber of the following sizes in brick work of class 75 in cement mortar 1:5 work in cement mortar 1:5 (1 cement:5 fine sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm. nominal size) foundation concrete 1:4:8 mix(1 cement:4 coarse sand:8 size).Inside plastering 12 mm thick with cement motor 1:3 (1 cement : 3 coarse sand) and rough plastering on outside with a floating coat of neat foot rests at 300 mm spacing, banching and making channels with 1:2:4 cement concrete neatly finished, including excavation, in all kind of soil (hard rock), dewatering, refilling, watering, ramming and removing the surplus excavated cement providing MS material making good the same complete as required.				
	a) Inside size 60x45 cm (upto 60 cm maximum depth).	1	NO		
	b) Inside size 90x80 cm (upto 90 cm maximum depth).	5	NOS		
	c) Extra over 'b'above for depth exceeding 60 cm & upto 90 cm.	1.5	RM		

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7	Constructing brick masonry circular manhole 1.22m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12mm 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 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 mix (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete all complete as per standard design:				
	1.68 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 mix (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 separately)	5			
8	Extra depth for circular type manhole 1.22 m internal dia (at bottom) with beyond 1.68 m to 2.29m	1.8			
9	Providing & fixing cast iron manhole cover with frame.				
	a) Medium duty double seal of size 500mm internal diameter.Total weight of cover & frame to be not less than 116 Kg.	6	NOS		
	b) Heavy duty double seal of size 560mm internal diameter. Total weight of cover & frame to be not less than 208 Kg.	5	NOS		
10	Construction of catch basins of the following sizes in brick work with bricks of class 75 in cement mortar 1:5 (One cement, 5 finesand) necessary foundation concrete (1:4:8). Inside plastering 12mm thick with cement Mortar 1:3 and rough plaster on outside with a floating coat of neat cement. Including the R.C.C. top slab for fixing the MS grating with frame. Including necessary excavation, dewatering, refilling, watering, ramming, removing, the surplus excavated material and making good the same complete as required.				

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	a) Internal size 600x600x450 mm	10	NOS		
	b) Internal size 450x450x450 mm	10	NO		
11	Providing & fixing SFRC heavy duty grating of size 550 x 500 mm with frame for catch basin of approved design.	10	NO		
12	Providing & fixing SFRC heavy duty grating of size 650 x 650 mm with frame for catch basin of approved design.	10	NOS		
13	Providing 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 specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30 X 20 X 15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	60	NOS		
14	Providing and fixing over straight or curved drain M.S. grating with fixed frame of angle 60mm x 60mm x 6mm size fixed to concrete with 25mm x 3 mm hold fasts approx. 100 mm long welded at interval of 600 mm and welded cross braced at 1200 mm interval by 50 mm x 6 mm thick MS flats. The removable grating shall be made of with outer frame of size 600 mm long with M.S. angle 50mm x 50mm x 6mm having welded cross members on one direction with M.S. flats of size 44 mm x 6 mm at a spacing of 30 mm c/c. Including two of synthetic enamel paints over a coat of primer complete as required.				
	a) 200 mm wide	QR	RM		
	b) 300 mm wide	QR	RM		
15	Providing and fixing in position G.I. vent with brass mosquito proof coupling and air filter including return bend, complete as required. The entire fitting shall be hot dipped galvanised.				

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	a) 50 mm dia	3	NOS		
16	Constructing open surface drain with first class bricks in cement mortar 1:4(1cement:4fine sand)including earth excavation,100mm thick bed concrete1:5:10(1cement:5fine sand: 10graded stone aggregate 40mm nominal size) and 25mm thick cement concrete1:2:4(1cement:2fine sand: 4graded stone aggregate 12.5mm nominal size),12mm cement plaster 1:4(1cement 4coarse sand)with a floating coat of neat cement inside the drain,its top & exposed sides including disposal of surplus earth as directed at site.				
	a) Size 300mmwide & 550mm average depth.	QR	RM		
17	Providing,boring,lowering and fixing 200mm dia UPVC (Working pressure-6kg/sqcm) pipes with 3mm size slots upto 5m depth as per drawing & direction of engineer in charge complete in all respects.Cost shall include approval from Ground Water Authority.	50	RM		
18	Making connection from Existing Municipal sewer/storm water manhole including necessary excavation & making good the same including all civil works. The rate for this item also includes complete services from the contractor for liasoning works such as filing necessary applications submission of forms for approval to the municipal authorities depositing the fees other amounts as required getting the premises / installations, inspected and approved and all other formalities required till the sewer connection is obtained. All the expenses incurred in authorities, following up this regard shall be borne by the Contractor except for the payments to be made for any security deposit etc. which will be reimbursed on production of original voucher.	1	JOB		

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
19	Constructing Oil & Grease Chamber size 2500x750mm internal size of 1000mm depth in brick work of class 75 with cement mortar (1:5) Inside 12mm thick with cement mortar 1:3 with floating coat of neat cement and rough plaster on outside, RCC top slab with 500mm dia medium duty manhole cover with frame (weight of cover 58 kg. & weight of frame 58 kg.), 150mm thick foundation concrete (1 :4 : 8), necessary excavation, dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required.	1	NO		
20	Providing, laying, jointing and testing socketed and spigotted RCC pipes (NP3 Class) conforming to IS:458 jointed with rubber rings & laid to correct levels below ground in trenches upto required depth including excavation in all kind of soil (hard rock) dewatering, refilling, watering, ramming and removing the surplus excavated material and making good the same complete as required. These pipes to be provided at road crossings.				
	a) 150 mm dia	QR	RM		
	b) 250 mm dia	QR	RM		
	c) 300 mm dia	QR	RM		
21	Constructing RCC Rain water harvesting tank (size 5.0mx2.5m & 3.50 m depth) complete with all associated civil works like RCC walls,RCC top slab,foundation concrete, excavation in all kinds of soil, backfilling , disposal of surplus excavated earth complete as per detail drawing & authority.	1	NO		
22	Providing & fixing in position precast R.C.C. manhole cover and frame of required shape and approved quality.				
	a) Circular shape 500mm internal diameter Medium Duty .	4	NOS		
23	Supplying and filling in Rain water harvesting tank coarse sand 1.5 to 2.0mm including all associated works.	5	Cum		
24	Supplying and filling in Rain water harvesting tank stone boulders 50 - 200 mm size including all associated works complete.	5	Cum		

Estimate

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
25	Supplying and filling in Rain water harvesting tank gravels 5 - 10 mm and down size including all associated works complete.	5	Cum		
26	Supply pea-gravel of approved quality in stacks and then packing the same into the annular space between the tubewell assembly and bore hole.	5	Cum		