



NAYA RAIPUR DEVELOPMENT AUTHORITY

**Tender Document for the
Construction of Directorate Health Department Building at
Sector- 19 in Naya Raipur**

(Following Three-Envelope Tender Procedure)

TENDER DOCUMENT (PART ONE)

NIT No.: 78 / DHB/NB S-19 / EEE-IV / CE (E) / NRDA / 2013-14, Raipur,

Dated: 04.03.2014

Issued by: Chief Executive Officer,
Naya Raipur Development Authority (NRDA)
Utility block, Capitol Complex, Sector- 19,
Naya Raipur- 492 002, Chhattisgarh
Tel No: + 91 771 2511500; Fax No.: +91 771 2511400.
Website: www.nayarapur.com

Tender Document Contains

- (a) Only schedule "A" and Section-I of schedule "D" are to be filled & signed by the tenderer
 (b) All the certificates as per pre qualification criteria shall be appended with relevant forms of schedule "D"

1. PART ONE (NRDA F-1)-(Attached herewith, to be submit along the tender)

Part (A)

- a) Press Notice
 b) Detailed NIT

Part (B)

a) Schedule-A

- (i) Cost Abstract
 (ii) Bill of Quantities

- b) Schedule-B –NIL
 c) Schedule-C –NIL
 d) Schedule-D

Section-I..... Technical tender forms

- (i) Letter of Technical Tender
 (ii) Tenderer's Information Sheet
 (iii) Annual Turnover
 (iv) Specific Construction Experience
 (v) Declaration
 (vi) Check list for Technical tender evaluation

Section –IIScope of work

Section –III..... Technical specifications of work

Section –IV..... Special Conditions of Contract

Section –V..... List of approved makes

Section –VI..... Drawings

- e) Schedule-E
 f) Schedule-F

2. PART TWO (NRDA F-2/3)-Standard form (Not Attached herewith, and not to be submitted along the tender) Important note: - Link site <http://nayaraipur.com/documents/gcc.pdf>

1. General Guidelines
2. Tender
3. General rules and directions
4. Conditions of contract
5. Clauses of contract
6. Model rules relating to labour, water supply and sanitation in labour camps safety code
7. Contract forms
 - (a) Draft Format for Performance Security
 - (b) Earnest Money Deposit Form (Bank Guarantee)
 - (c) Format of Contract Agreement
 - (d) Draft Format for Performance Guarantee for Water Proofing and Anti-termite Works
 - (e) Indemnity Bond
 - (f) Indenture Bond
 - (g) Notice for Appointment of Arbitrator
8. Proforma of schedules (Schedule 'A' to Schedule 'F')

Naya Raipur Development Authority (NRDA) Raipur, Chhattisgarh

Document details

Name of work : Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur
Name of Tenderer:

Details

- a) Cost of Tender Document : Rs
- b) EMD : Rs

Signature of Tenderer

Date: _____

Signature of Contractor.....

Signature of NRDA.....

COST ABSTRACT
Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

Sl. No.	Description of Items	Amount in Figures (In INR)	Amount in Words (In INR)
A	Civil Work	Rs. -	
B	Road Work	Rs. -	
C	Plumbing & Fire Fighting Work	Rs. -	
D	HVAC Works	Rs. -	
E	Electrical Works	Rs. -	
Total		Rs. -	

BILL OF QUANTITY

Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
A	CIVIL WORKS					
1	Excavation for all types and sizes of foundations, trenches and drains or for any other purpose including disposal of excavated stuff upto 1.5 m lift and lead upto 50m (at least 5m away from the excavated area), including dressing and leveling of pits.	Cum	7517.00			Rs. -
2	Extra for every additional lift of 1.5 m or part thereof. In all types of soil 1.50 TO 3.00	Cum	2445.00			Rs. -
3	Extra for every additional lift of 1.5 m or part thereof. In all types of soil 3.00 TO 4.00	Cum	652.00			Rs. -
4	Filling from available excavated stuff (Excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering with a lead upto 50 M. and lift upto 1.5 M.	Cum	1880.00			Rs. -
5	Providing and filling in plinth with sand/ Crusher dust and hard moorum under floor in layers not exceeding 20cm in depth consolidating each deposited layer by ramming and watering, including dressing etc. complete.	Cum	1823.00			Rs. -
6	Extra rate for lead for every 50m average lead upto 500 m beyond 50 m free lead and 1.5 m free lift:	Cum	5637.00			Rs. -
7	Providing and laying damp proof course (upto 50mm thick) with plain cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded crushed stone aggregate 20mm nominal size) including formwork.	Cum	22.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
8	Providing and laying nominal mix cement concrete with crushed stone aggregate using concrete mixer in foundation, plinth and at ground level excluding cost of form work.					
	1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size).	Cum	245.00			Rs. -
9	Supplying chlorpyriphos/ Lindane emulsifiable concentrate of 20% in sealed containers including delivery as specified.	Lit	605.00			Rs. -
10	Diluting chemical emulsion (Chlorpyriphos/ lindane) in water as per manufacturers recommendation and injecting for pre-constructional curative cum preventive anti-termite treatment:(Five year service guarantee bond to be signed by contractor)					
	Surface treatment by spreading emulsion under floor, over the plinth area before laying base concrete @ 5 litres / sqm.	Sqm	605.00			Rs. -
11	Diluting chemical emulsion (Chlorpyriphos/ lindane) in water as per manufacturers recommendation and injecting for pre-constructional curative cum preventive anti-termite treatment:(Five year service guarantee bond to be signed by contractor) Treatment of inside of plinth masonry wall on using diluted chemical emulsion @ 1.5 litre per hole, including drilling 12 mm diameter holes in plinth wall below plinth protection at the intervals of 300 mm and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand).	metre	285.00			Rs. -
12	Providing and laying design mix reinforcement cement concrete with crushed graded stone aggregate 20mm nominal size using batching plant, transit mixer and concrete pump, in all works upto floor five level excluding cost of reinforcement and form work.					
	M-30 (using minimum cement 410 kg/cum concrete)	Cum	6281.00			Rs. -
13	Providing and placing in position reinforcement for R.C.C. work including straightening, cutting, bending, binding etc. complete as per drawings including cost of binding wire all complete:					
	Thermo-Mechanically treated bars (Fe 500)	Kg	882801.00			Rs. -
14	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a.	Foundations, footings, base of columns and plinth beam in any shape and size.	Sqm	1879.00			Rs. -
b.	Rectangular beams, lintels, cantilevers & Walls.	Sqm	1623.00			Rs. -
15	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
	Beams, lintels, cantilevers & walls	sqm	6101.00			Rs. -
16	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
	Columns, Pillars, Piers and likes- rectangular or square in shape	sqm	4114.00			Rs. -
17	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
	Suspended floors, roofs, access platform, balconies (plain surfaces) and shelves (cast in situ)	Sqm	8995.00			Rs. -
18	Providing and fixing formwork including centering, shuttering, strutting, staging, propping bracing etc. complete and including its removal at all levels, for:					
	Stair cases of all types excluding spiral and folded plate type, including risers and landings	Sqm	479.00			Rs. -
19	Extra for additional height every 1m or part thereof where height of staging for formwork exceeds 4.0 m, with adequate bracing, propping etc at all levels, for suspended floor, roof, landing, beam and balcony. (only plan area is to be measured)					
a	Level 4 to 5 mt.	Sqm	500.00			Rs. -
b	Level 5 to 6 mt.	Sqm	500.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	Level 6to 7 mt.	Sqm	500.00			Rs. -
20	Brick work with modular fly-ash lime bricks (FALG Bricks) confirming to IS:12894-2002 of class designation 40 in foundation and plinth:					
a	Cement Mortar 1:5 (1 cement : 5 coarse sand)	Cum	110.00			Rs. -
b	Extra for brick work in super structure					
	Cement Mortar 1:5 (1 cement : 5 coarse sand)	Cum	1057.00			Rs. -
21	Brick work with modular fly-ash lime bricks 100mm thick wall (FALG Bricks) confirming to IS:12894-2002 of class designation 35 in superstructure Above plinth and upto floor five level					
	Cement Mortar 1:4 (1 cement : 4 coarse sand)	Sqm	613.00			Rs. -
22	Extra for providing and placing in position hopping 25x1.60 mm or 2 Nos 6mm dia MS bars reinforcement at every third course of half brick masonry.	Sqm	613.00			Rs. -
23	Providing and fixing chicken mesh weighting not less than 250 gms/ sqm as per IS : specification in the required width with 10mm long steel nails on vertical and horizontal surface near R.C.C. and brick walls junctions including scaffolding and all lead and lifts etc. complete before plastering upto 10mts in height.	Sqm	328.00			Rs. -
24	6mm thick cement plaster of mix: In Cement mortar 1:3 (1 cement : 3 fine sand)	Sqm	8781.00			Rs. -
25	12mm thick cement plaster of mix: In Cement Mortar 1:4 (1 cement : 4 fine sand)	Sqm	9004.00			Rs. -
26	18mm thick cement plaster in two coats with under layer of 12mm thick plaster 1:5 (1 cement : 5 fine sand) and top layer of 6mm thick with cement plaster 1:3 (1 cement : 3 fine sand) finished rough with sponge.	Sqm	3824.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
27	Providing and fixing in position doors, windows and ventilators frames made of cold rolled pressed steel sheet framed profiles made from commercial M.S. Sheets conforming to I.S. 513 of 1973 and as per general specifications of I.S 4351 including hinges jamb, lock jamb, steel butt hinges, base tie, joints mitred and welded with 10cm long legs of size 15x3mm M.S. flat, embedded in cement concrete blocks 15x10x10cm size of grade M-10 or rawl plugs and screws or with fixing clips or with bolts and nuts including neatly compacted filling M-10 cement concrete in profile section applying a priming coat of red oxide zinc chromate primer.					
	Single rebate 100mmx50mm size, 1.6mm thick sheet.	Rmt	453.00			Rs. -
28	Providing and fixing exterior grade type & phenoformaldehyde bound flush door shutters decorative type, core of block board construction with frame of first class hard wood and well matched approved veneering with vertical grains or cross bands and face veneers on both faces with grooves of shutters excluding hinges.					
	35 mm. thick (single leaf)	Sqm	219.00			Rs. -
29	Providing and fixing lipping with second class teak wood lipping (25 x 12 mm size) on all edges of shutters.	Rmt	453.00			Rs. -
30	Providing and fixing teak wood moulded beading to doors windows frames including necessary screws and primary coat on exposed surface.					
	50x12mm	Rmt	453.00			Rs. -
31	Providing 40x5mm iron hold fast 40cm long including fixing to frame with 10mm bolts nuts and wooden plug and embedding in Cement Concrete 1:2:4 in blocks of size 30x10x15cm.	each	498.00			Rs. -
32	Providing and fixing bright finished brass butt hinges with brass polished MS screws complete:					
	125x85x5.50 mm (Heavy Type)	each	332.00			Rs. -
33	Providing and fixing bright finished brass tower bolts (barrel type) with brass polished MS screws complete:					
	250x10mm	each	83.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
34	Providing and fixing bright finished brass door handles with brass polished MS screws complete: 125mm	each	166.00			Rs. -
35	Providing and fixing bright finished brass sliding door bolt with nuts and brass polished MS screws complete: 250x16mm	Each	166.00			Rs. -
36	Providing and fixing 150mm bright finished brass floor door stopper with rubber cushion & brass polished MS screws etc complete to suit the shutter thickness.	Each	83.00			Rs. -
37	Providing and fixing of aluminium door locks including all screws.	Each	83.00			Rs. -
38	25 mm thick KOTA stone slab flooring over 20mm (average) thick base of cement mortar 1:4 laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including grinding rubbing and polishing etc. complete (Area of slab to be over 0.20 sq.m and upto 0.50 sq.m)	Sqm	141.00			Rs. -
39	15 mm thick Table rubbed polished Granite stone slab in risers and treads of steps skirting dado and pillars laid on 12mm (average) thick base of cement mortar 1:3 (1 cement : 3 coarse sand) and jointed with grey cement slurry including rubbing and polishing etc. complete (single stone is to be used for risers and treads of steps and width of stone for skirting and dado shall be equal to the height of skirting & dado and length of 1.0 m).	Sqm	740.00			Rs. -
40	Extra for nosing in Granite stone for treads.	Rmt	498.00			Rs. -
41	Providing and laying vitrified floor tiles with double charge/ multi charge printing with water absorption less than 0.5% and conforming to IS : 15622 of approved make in all colours and shades and size mentioned below (+/- 10mm), laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete:					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	Size 600x600mm	Sqm	7013.00			Rs. -
42	Providing and laying rectified ceramic glazed floor tiles 300x300mm conforming to IS : 15622 of approved make, colour, shade laid on 20 mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete.					
	In colours such as White, Ivory, Grey, Fume Red Brown,	Sqm	421.00			Rs. -
43	Providing and fixing ceramic glazed wall tiles conforming to IS : 15622 of approved make, colours, shades and size on wall 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 matching pigment complete.	Sqm	2293.00			Rs. -
44	Providing stainless steel railing/ grill made of S.S. flats, hollow S.S. pipe or square/ rectangular sections of approved design fixing in stair case, balcony or other places with metal fasteners and stainless steel bolts etc complete.	Kg	10830.00			Rs. -
45	Providing and laying water proofing treatment in sunken portion of WCs, bathroom, kitchen etc., by applying cement slurry mixed with water proofing cement compound consisting of following applications including surface preparation:i) 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.ii) 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 treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	Sqm	367.00			Rs. -
46	Providing and laying integral cement based water proofing treatment on roofs, balconies, terraces etc with average thickness of 120mm and minimum thickness at khurra as 65 mm, consisting of following operations including surface preparation: i) Applying a slurry coat of neat cement using 2.75 kg/sqm. of cement mixed with water proofing compound conforming to IS. 2645 over the RCC slab including adjoining walls upto 300mm height.					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	ii) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) mixed with water proofing compound conforming to IS : 2645 over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) mixed with water proofing compound conforming to IS : 2645 to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.					
	iii) After two days of proper curing applying a second coat of cement slurry using 2.75kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645.					
	iv) Finishing the surface with 20 mm thick joint less cement mortar of mix 1:4 (1 cement :4 coarse sand) mixed with water proofing compound conforming to IS : 2645 including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3mm deep.					
	v) 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:	Sqm	2394.00			Rs. -
47	Crazy marble stone flooring including filling the gaps with white cement marble powder mixture (3 white cement : 1 marble powder) by weight mixed with approved light shade pigment further mixed with white or black or white and black marble chips of sizes from 1mm to 4mm nominal size) in volumetric proportion of 4:7 (4 cement marble powder mix : 7 marble chips) and under layer of 25mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 mm nominal size) rubbing, polishing and cement slurry etc. complete :	Sqm	2394.00			Rs. -
48	Wall painting with acrylic luxury emulsion (plastic) paint (top most approved branded quality) to give an even shade	Sqm	17785.00			Rs. -
49	Applying priming coat on wood work with ready mixed primer.	Sqm	209.00			Rs. -
50	Painting new exterior surface (two or more coats) with PREMIUM TEXTURED paint as per manufacturer's specifications to give protective and decorative finish including cleaning washing of surface etc. complete with:	Sqm	9004.00			Rs. -
51	Providing and fixing M.S. grill of approved pattern made of M.S. flats or square or round bars welded to steel frame of windows etc. including applying a priming coat of red oxide zinc chromate primer..	Kg	3318.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
52	Applying priming coat on steel work with red oxide zinc chromate primer.	Sqm	133.00			Rs. -
53	Painting on new work (two or more coats) to give an even shade with: Satin synthetic enamel paint (top most approved branded quality)	Sqm	342.00			Rs. -
54	Providing and laying ceramic ANTISKID floor tiles 600x600mm conforming to IS : 15622 of approved make, colour, shade laid on 20 mm thick Cement Mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement mixed with matching pigment etc., complete.	Sqm	212.00			Rs. -
55	Providing and fixing at all height false ceiling including providing and fixing of frame work made of special sections power pressed from M.S. sheet and galvanised in accordance with zinc coating of grade 350 as per IS : 277 and consisting of angle cleats of size 25mm wide x 1.6mm thick with flanges of 22mm and 37mm at 1200mm centre to centre one flange fixed to the ceiling with dash fastener 12.5mm dia x 40mm long with 6mm dia bolts to the angle hangers of 25x25x0.55mm of required length, and other end of angle hanger being fixed with nut and bolts to G.I. channels 45x15x0.9mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5mm thick button wedge of 80mm with tapered flanges of 26mm each having clips of 10.5mm at 450mm centre to centre shall be fixed in a direction perpendicular to G.I. channel with connecting clips made out of 2.64mm dia x 230mm long G.I. wire at every junction					
	including fixing the gypsum board with ceiling section and perimeter channels 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450mm centre to centre with 25mm long drive-all screws @ 230mm interval including jointing and fixing to a flush finish of tapered and square edges of the board with recommended filler, jointing tapes, finisher and two coats of primer suitable for board as per manufactures specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed all complete as per drawing and specification and direction of the Engineer in Charge but excluding the cost of painting with :12.37.1 12.5 mm thick tapered edge gypsum board conforming to IS: 2095- Part I.	Sqm	4391.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
56	Add extra for sunk or raised mouldings in the plaster of paris (Gypsum anhydrous) ceiling	Sqm	128.00			Rs. -
57	Providing and applying 2mm thick ready mix exterior grade putty (Birla wall care, Alltek Superfine W/R of (NCL), J.K. wall putty) on walls to make the surface smooth and even.	Sqm	17785.00			Rs. -
58	Providing and fixing corrugated fibre glass sheet roofing in any shade/ colour fixed with G.I. 'J' hooks, bolts, nuts and washers etc. complete but excluding cost of purlins, rafters, trusses etc. with	Sqm	212.00			Rs. -
59	Providing and fixing approved pipe hand rail by welding to iron railing including applying a priming coat of red oxide zinc chromate primer.	Kg	900.00			Rs. -
60	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2mm and braced with flat iron diagonals 20x5mm size with top and bottom rails of T-iron 40x40x6mm with 38mm steel pulleys complete with bolts, nuts, locking arrangement stoppers, handles including applying a priming coat of red oxide zinc chromate primer.	Sqm	46.00			Rs. -
61	Designing, providing and fixing aluminium frame work made of special aluminium section on building face with M.S. angle iron brackets fixed on RCC structure with S.S. hold fasteners, including providing and fixing two sided structural adhesive tape of appropriate grade (NORTON or equivalent), on aluminium sections for fixing aluminium/ glass panel, sealing on periphery of frame work, by providing EPDM gasket, silicon weather sealant between aluminium frame and building structure including hire charges of double scaffolding complete.	Kg	1480.00			Rs. -
62	Providing and fixing aluminium composite panels in approved panel sizes, thickness and shape on aluminium frame work on face of building. (Frame to be paid for separately) 4mm thick	Sqm	740.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
63	Providing and fixing factory made UPVC door frame made of UPVC profile section having an overall dimension as below (tolerance ± 1 mm) with wall thickness 2.0mm ± 0.2 mm, corners of the door frame to be jointed with galvanized brackets and stainless steel screws, joints mitred and plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 X 9mm and 1mm ± 0.1 mm wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturers specification and direction of Engineer-in-charge					
	Extruded section Profile size 48x40 mm.	Rmt	312.00			Rs. -
64	Providing and fixing factory made PVC door shutters of specified thickness made of styles and rails of a UPVC hollow section of specified size 59x24 mm and wall thickness 2 mm ± 0.2 mm with inbuilt edging on both sides. The styles and rails mitred and joined at the corners by means of M.S. galvanised/ plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws					
	30 mm thick door shutters with styles and rails of size 60x30 mm	Sqm	100.00			Rs. -
65	Providing and fixing aluminium work for doors, windows, ventilators and partitions made out of extruded aluminium standard sections (main section with minimum 1.5mm thickness) conforming to IS: 733, IS: 1285 mitred and jointed mechanically including aluminium cleats, neoprene weather tripping gasket beveled edge beading, screws duly fixed in wall/ floor with fixing clips or hold fasteners or bolts and nuts as required aluminium sections shall be anodized transparent or dyed to approved shade according to IS: 1868, minimum anodic coating shall be of grade AC-15. (Glazing and panelling to be paid for separately	Kg	1723.00			Rs. -
66	For shutter of doors, windows & ventilators including providing and making provision for fixing of fitting wherever required including the cost of PVC/ neoprene gasket required (Fittings shall be paid for separately).	Kg	638.00			Rs. -
67	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete. (Cost of aluminium snap beading shall be paid in basic item):With float glass panes of 5 mm thickness	Sqm	128.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
68	Structural steel work riveted or bolted or welded in built-up sections, trusses and frames work upto a height of 5m above plinth level, including cutting, hoisting, fixing in position and applying a priming coat of red oxide zinc chromate primer	Kg	47581.00			Rs. -
69	Precast interlocking concrete paver blocks:Providing & laying factory made confirm technical specification of Bureau of Indian Standards 15658 of 2006 of heavy duty pavers resulting in consistent and uniform quality, rubber moulded, white cement based , pigmented block lacquer coating and cured through drying process mechanically vibrated and compacted precast interlocking premium concrete paver blocks in M40 grade , 60mm thickness of approved size, design and colour with providing and laying in position over 40 mm thick average complete coarse sand bed with joints of 3mm thick filled by fine sand including leveling with surface vibrator, temping and sweeping etc. complete. Coloured pigment precast interlock concrete blocks.					
	Coloured pigment precast interlock concrete blocks	Sqm	1227.00			Rs. -
70	Providing and fixing precast compressed plain cement concrete edge restraint of size 500mmx250mmx60mm of compressive strength of 200kg. per sq.cm manufactured by electro hydraulically operated block machine by excavated trench of 150mm depth etc. complete	Rmt	775.00			Rs. -
71	Providing and filling in position, blown bitumen in expansion joints per cm. depth and per cm width.	Rmt	9.00			Rs. -
72	Providing and fixing aluminium strip 1.60 mm thick on expansion joints with iron screws as per design to match the colour, shade of wall treatment .	Sqm	16.00			Rs. -
73	Providing and fixing Structural Glazing with using the 17 Micron anodised of approved colour alluminium section as transium, mullium of size 63.5mm x 38.1mm x 2 mm with using 5 mm thick reflective structural glass and fixed with silicone sealant and spacer tap and at corner sealed neoprene foam dust and Air sealed gasket mirred including scaffolding etc.complete with all necessary fitting and fixtures for openable window as per Architectural drawing and as directed by PMC.	Sqm	1505.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
74	Providing & fixing standard extruded of Aluminum section with colour Powder Coated strip of Size 63mm x 38.10mm x 1.2 mm (Jindal Section 2434 @ Wt. 0.6453 kg per fixing as per detail drawing etc. complete as per direction of Engineer-in-Charge.	Sqm	450.00			Rs. -
75	Providing, Supplying and fixing of Prefabricated (Factory made) door with all hardware, glass and gasket In all respect of fixed type doors as per Drawing given by Architect/Eng. Incharge. fabricated from Unplasticized Polyvinyl Chloride (Upvc) Profiles all four side Partitions should be welded 45 Degrees and welding corner finish from machine, Brush seals should use along with entire length of Partition for protection against dust and water ,All profile should reinforced by G.I. "C" and rectangular section of Minimum wall thickness of 1.5mm to shore any type of Impact resistance Profile should of the following specifications:	Sqm	8.00			Rs. -
	Color : White / or as directed by Architect					
	Wall Thickness:					
	2 mm or more for primary walls (visible walls).					
	Frame Dimensions - door					
	Frames : 60mmx 45 mm					
	Shutter – : 39mmX 75 mm					
	Glazing Beads:					
	The glazing bead color should be identical to that of the frames. All glazing beads should be coextruded along with gasket.					
	Gaskets:					
	Gaskets for the frames should be either EPDM or TPV of black or grey color.					
	Glass :					
	6mm Clear toughened glass thick make of Saint Gobin/AIS/Sejal or HNG Make.					
	Accessories/Hardware:					
	3D Hinges ,EPC WITH 3 KEYES,epsag rod with handle					
	Silicon Sealant:					
	White color Silicon sealant of Dowcoring /Walker Sikka seal make White color silicon sealant to seal all four side of window frame to protect Water and Insets.					
	SUB TOTAL; CIVIL WORKS					Rs. -

BILL OF QUANTITY

Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
B ROAD WORKS						
1	Construction of embankment / sub grade with Material Obtained from Borrow Pits (Construction of embankment with approved material/selected soil having C.B.R. > 5 (unless specified otherwise in the contract) obtained from borrow pits with all lifts and leads, transporting to site, spreading, grading to required slope and compacting to meet requirement of table 300-2)	Cum	1050.00			Rs. -
2	Construction of granular sub-base by providing close graded Material, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface watering, rolling and compacting with vibratory power roller at OMC to achieve the desired density, complete as per clause 401 By Mix in place method					
	Disintegrated rock i.e. moorum having CBR value not less than 20 and P.I. and L.L. not more than 6 and 20 respectively.	Cum	252.00			Rs. -
3	Dry Lean Cement Concrete Sub- base (Construction of dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.)	Cum	126.00			Rs. -

BILL OF QUANTITY

Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
C	PLUMBING AND FIRE FIGHTING WORKS					
	WATER SUPPLY & SANITARY					
1	Providing and fixing vitreous china water closet (European type W.C. pan) with white ISI marked plastic seat and lid, 10 litre low level white P.V.C. flushing cistern (same colour), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required :					
	Coloured wall hung type	Each	87.00			Rs. -
2	Providing and fixing Sensor type Concealed Type Flushing Valve for Urinal Complete Set with Installation Box with Control Cock including connecting spreader for individual urinals complete in all respects including cutting and making good the walls where ever required.	Each	44.00			Rs. -
3	Providing and fixing vitreous china wash basin with C.I. brackets, 32 mm C.P. brass waste of standard pattern, including painting of brackets, cutting and making good the walls wherever required :					
	White Size 630x450 mm	Each	95.00			Rs. -
4	Providing and fixing 15 mm nominal bore Brass bib/stop cock of approved quality and weighting not less than 400 grams):	Each	95.00			Rs. -
5	Providing and fixing 15 mm nominal bore C.P. brass fittings of approved make and conforming to IS:8931 including C.P. brass extension if required:					
	Two way bib cock (800gms)	Each	63.00			Rs. -
6	Stop cock (concealed) (600gms)	Each	103.00			Rs. -
7	Angle valve for basin mixer and geyser points (450gms)	Each	103.00			Rs. -
8	Bottle trap set with extension pipes	Each	103.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink with drain board as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required :					
	Kitchen sink with drain board					
	510x1040 mm bowl depth 250mm.	Each	8.00			Rs. -
10	Toilet paper holder	Each	87.00			Rs. -
11	Soap dish plate	Each	99.00			Rs. -
12	Towel rail (600mm long x 20mm dia)	Each	20.00			Rs. -
13	Providing and fixing sand cast iron S&S pipe as per IS: 1729 for soil, waste and vent pipes:					
a	100 mm dia.	Rm	416.00			Rs. -
b	75 mm dia.	Rm	353.00			Rs. -
14	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a	For 100 mm dia pipe	Each	1500.00			Rs. -
b	For 75 mm dia pipe	Each	1500.00			Rs. -
15	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete:					
a	100 mm dia.	Each	350.00			Rs. -
b	75 mm dia.	Each	200.00			Rs. -
16	Providing and fixing plain bend of required degree.					
a	100 mm dia.	Each	450.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	75 mm dia.	Each	200.00			Rs. -
17	Providing and fixing Heel rest sanitary bend					
a	Sand Cast Iron S & S as per IS :3989	Each	50.00			Rs. -
b	Sand Cast Iron S & S as per IS :3989	Each	50.00			Rs. -
18	Providing and fixing double equal junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete :					
a	100x100x100 mm	Each	600.00			Rs. -
b	75x75x75 mm	Each	300.00			Rs. -
19	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.					
a	100x100x100 mm	Each	650.00			Rs. -
b	75x75x75 mm	Each	450.00			Rs. -
20	Providing and fixing single equal plain junction of required degree.					
a	100x100x100 mm	Each	250.00			Rs. -
b	75x75x75 mm	Each	150.00			Rs. -
21	Providing fixing and push on jointing sand cast iron S&S bend with access door of required degree as per IS: 3989, insertion rubber washer 3 mm thick, bolts and nuts including EPDM rubber gasket complete:.					
a	100 mm	Each	250.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	75 mm	Each	250.00			Rs. -
22	Providing and fixing on wall face UV stabilized Unplasticised Rigid PVC pipes (single socketed) having 3.2mm wall thickness conforming to IS : 13592 (4kg/sqcm) including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.					
a	100 mm	Rm	572.00			Rs. -
b	75 mm	Rm	680.00			Rs. -
23	Providing and fixing on wall face UV stabilized Unplasticised - PVC moulded fittings/ accessories having 3.2mm wall thickness for Rigid PVC pipes conforming to IS : 13592 (heavy) jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.					
i	Coupler					
a	75 mm	each	500.00			Rs. -
b	110 mm	each	500.00			Rs. -
ii	Single tee with door					
a	75x75x75 mm	each	250.00			Rs. -
b	110x110x110 mm	each	250.00			Rs. -
iii	Single tee without door					
a	75x75x75 mm	each	200.00			Rs. -
b	110x110x110 mm	each	200.00			Rs. -
iv	Bend 45°					
a	75 mm bend	each	200.00			Rs. -
b	110 mm bend	each	200.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
v	Plain bend					
a	75 mm bend	each	250.00			Rs. -
b	110 mm bend	each	250.00			Rs. -
vi	Vent cover					
a	75 mm	each	50.00			Rs. -
b	110 mm	each	50.00			Rs. -
vii	Access door cap					
a	75 mm	each	50.00			Rs. -
b	110 mm	each	50.00			Rs. -
c	"P" trap 110mmx110mm long	each	87.00			Rs. -
d	Nahani trap 110x75mm	each	282.00			Rs. -
e	Multi floor trap 110	each	282.00			Rs. -
f	Plain reducing Tee 110x75mm	each	50.00			Rs. -
24	Providing and fixing UV stabilized Unplasticised -PVC pipe clips of approved design to Rigid PVC pipes by means of 50x50x50mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					
a	75 mm	each	2500.00			Rs. -
b	110 mm	each	2500.00			Rs. -
25	Providing and fixing flexible P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete.					
a	32 mm dia	each	95.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	40 mm dia	each	95.00			Rs. -
26	Providing and fixing cast iron grating for gully trap.					
a	100x100mm square or round	each	282.00			Rs. -
b	150x150mm square	each	282.00			Rs. -
27	Providing and fixing in position 25mm diameter mosquito proof coupling of approved municipal design.	each	50.00			Rs. -
28	Providing and fixing UV stabilized Unplasticised -PVC pipe clips of approved design to Rigid PVC pipes by means of 50x50x50mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					
a	75 mm	each	2500.00			Rs. -
b	110 mm	each	2500.00			Rs. -
29	Cutting chases in brick masonry walls for following diameter sand cast iron/ centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement : 3 coarse sand :6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement : 4 coarse sand) :					
a	100 mm dia.	metre	250.00			Rs. -
b	75 mm dia.	metre	250.00			Rs. -
30	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour over a coat of primer (of approved quality) for new work :					
a	100 mm diameter pipe	metre	416.00			Rs. -
b	75 mm diameter pipe	metre	353.00			Rs. -
31	Repainting sand cast iron/ centrifugally cast iron (spun) iron, soil, waste, vent pipes and fittings with paint of any colour such as chocolate, grey or buff etc :					
a	100 mm diameter pipe	metre	416.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	75 mm diameter pipe	metre	353.00			Rs. -
32	Providing and fixing 3 layer PP-R (Poly propylene Random copolymer) pipes U V stabilized & anti - microbial fusion welded, having thermal stability for hot & cold water supply including all PP - R plain & brass threaded polypropylene random fittings including trenching ,refilling & testing of joints complete as per direction of Engineer in Charge.					
a	PN - 16 Pipe, 63 mm OD (SDR - 7.4)	Rm	350.00			Rs. -
b	PN - 10 Pipe, 160 mm OD (SDR - 11)	Rm	350.00			Rs. -
33	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes on wall surface, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.					
a	20 mm nominal outer dia Pipes	Rm	200.00			Rs. -
b	25 mm nominal outer dia Pipes	Rm	500.00			Rs. -
c	32 mm nominal outer dia Pipes	Rm	300.00			Rs. -
d	40 mm nominal outer dia Pipes	Rm	300.00			Rs. -
e	50 mm nominal outer dia Pipes	Rm	250.00			Rs. -
34	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes in concealed in wall, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints including cutting chases and making good the walls etc complete as per direction of Engineer in Charge.					
a	15 mm nominal outer dia .Pipes.	Rm	800.00			Rs. -
b	20 mm nominal outer dia .Pipes.	Rm	500.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	25 mm nominal outer dia .Pipes.	Rm	300.00			Rs. -
d	32 mm nominal outer dia .Pipes.	Rm	200.00			Rs. -
35	Providing and laying in trenches G.I. pipes medium class complete with G.I. fittings including excavation of trenches, refilling the same and testing of					
a	80mm	Rm	150.00			Rs. -
36	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by Municipal Board complete with bolts, nuts, rubber insertions etc. (The tail pieces if required will be paid separately) :					
a	80 mm dia nominal bore	each	2.00			Rs. -
37	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):					
a	25 mm nominal bore	each	4.00			Rs. -
b	32 mm nominal bore.	each	4.00			Rs. -
c	40 mm nominal bore	each	8.00			Rs. -
d	50 mm nominal bore	each	4.00			Rs. -
e	65 mm nominal bore	each	4.00			Rs. -
f	80 mm nominal bore	each	4.00			Rs. -
38	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :					
a	15 mm nominal bore	each	15.00			Rs. -
b	20 mm nominal bore	each	200.00			Rs. -
c	25 mm nominal bore	each	50.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
39	Providing and fixing gun metal non-return valve of approved quality (screwed end).					
i	40 mm nominal bore					
a	Horizontal	Each	1.00			Rs. -
b	Vertical	Each	1.00			Rs. -
ii	50 mm nominal bore					
a	Horizontal	Each	2.00			Rs. -
b	Vertical	Each	2.00			Rs. -
iii	65 mm nominal bore					
a	Horizontal	Each	6.00			Rs. -
b	Vertical	Each	2.00			Rs. -
iv	80 mm nominal bore					
a	Horizontal	Each	6.00			Rs. -
b	Vertical	Each	3.00			Rs. -
40	Constructing brick masonry manhole with fly-ash lime bricks (FALG Bricks) crushing strength not less than 35kg/ cm ² in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation in cement concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design :					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	Inside size 90 x 80 cm and 60 cm deep including C.I. cover with frame (light duty) 455 x 610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg).	Each	10.00			Rs. -
b	Inside size 120 x 90 cm and 90 cm deep including C.I. cover with frame (medium duty) 500 mm internal diameter, total weight of cover and frame to be not less than 116 kg (weight of cover 58 kg and weight of frame 58 kg)	Each	10.00			Rs. -
41	Extra for depth for manholes					
a	Size 90 x 80 cm with F.P.S bricks with class designation 75	Metre	12.00			Rs. -
b	Size 120 x 90 cm with F.P.S bricks with class designation 75	Metre	12.00			Rs. -
42	Providing and constructing brick masonry circular arch type manhole upto 1.67m depth, 0.91m internal dia at bottom and 0.56m dia at top having brick masonry wall 190mm thick with fly-ash lime bricks (FALG Bricks) crushing strength not less than 35kg/cm ² in cement mortar 1:4 (1 cement : 4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement, providing and fixing 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, in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) all complete as per					
a	manhole of depth 0.91	Each	10.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
43	Providing orange colour safety foot rest of minimum 6mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23mm x 25mm and over all minimum length 263mm and width as 165mm with minimum 112mm space between protruded legs having 2mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138mm 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 30x20x15 cm cement concrete block 1:3:6 (1cement :3 coarse sand :6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	300.00			Rs. -
44	Providing and fixing in position precast R.C.C. manhole cover and frame L D 2.5 of required shape and approved quality					
a	Rectangular shape 600x450mm internal dimensions	Each	10.00			Rs. -
b	Square shape 450mm internal dimensions	Each	10.00			Rs. -
c	Circular shape 450mm internal diameter	Each	10.00			Rs. -
45	Providing and constructing brick masonry road gully chamber 50x45x60 cm with well burnt modular fly-ash lime bricks (FALG Bricks) crushing strength not less than 35kg/cm ² in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm precast R.C.C. horizontal grating with frame complete as per standard design :	Each	60.00			Rs. -
46	Making connection of drain or sewer line with existing manhole including breaking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete :					
a	For pipes 100 to 230 mm diameter	each	1.00			Rs. -
b	For pipes 250 to 300 mm diameter	each	1.00			Rs. -
c	For pipes 350 to 450 mm diameter	each	1.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
47	Providing and fixing M.S holder bat clamp of approved design to sand cast iron/cast iron (spun pipes) comprising of M.S flat brackets made of 50 x 5 mm flat of specified shape , projecting 75 mm Outside the wall surface and fixed on wall with 4 no.s , 6 mm dia.expansion hold fasteners including drilling necessary holes in brick wall / CC/RCC surface and the cost of bolts etc. The pipes shall be fixed to the already fixed brackets with the help of 30 mm x 1.6 mm galvanised m.S flats of specified shape and of total length 420 mm and shall be fixed with M.S nuts , bolts and washers of size 5 x 6 mm , one bolts on each side of the pipe					
(a)	Total bracket length 580 mm of approved shape and design(for single 100 mm dia pipe)	Each	325.00			Rs. -
(b)	Total bracket length 810 mm of approved shape and design (for two 100 mm dia pipe)	Each	325.00			Rs. -
(c)	Total bracket length 1040 mm of approved shape and design(for three 100 mm dia pipe)	Each	309.00			Rs. -
48	Providing and placing on terrace (at all levels) polyethylene water storage tank ISI marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.					
		Lit	80000.00			Rs. -
49	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :					
a	100 mm diameter	metre	50.00			Rs. -
b	150 mm diameter	metre	60.00			Rs. -
c	200 mm diameter	metre	250.00			Rs. -
50	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete 150mm thick as per standard design:					
a	100 mm diameter S.W. pipe	metre	100.00			Rs. -
b	150 mm diameter S.W. pipe	metre	150.00			Rs. -
c	200 mm diameter S.W. pipe	metre	45.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
51	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete.					
a	150 mm dia R.C.C. Pipe	Metre	200.00			Rs. -
b	250 mm dia R.C.C. Pipe	Metre	300.00			Rs. -
52	Providing and fixing stainless steel drain jali of approved make/quality.	Each	600.00			Rs. -
53	Providing and Fixing health faucet complete Health Faucet ABS with Double Lock 1.2 meter Stainless steel flexible hose and wall hook	Each	67.00			Rs. -
54	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. (external work).					
a	100mm	Rm	10.00			Rs. -
b	150mm	Rm	10.00			Rs. -
55	Providing and fixing gun metal gate valve with C.I wheel of approved quality.(screwed end).					
a	150mm	Each	4.00			Rs. -
b	20mm	Each	4.00			Rs. -
56	Providing and fixing ball valve (brass) of approved quality , high or low pressure , with plastic floats complete					
a	50mm	Each	10.00			Rs. -
b	40mm	Each	10.00			Rs. -
c	32mm	Each	10.00			Rs. -
57	Providing and fixing gun metal non-return valve of approved quality (screwed end).					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	100 mm	Each	2.00			Rs. -
58	Providing, fixing and testing heavy quality CI Butterfly valve Slim seal type including suitable D table flanges and nuts and bolts etc complete.					
a	80mm	Each	2.00			Rs. -
b	50mm	Each	2.00			Rs. -
c	40mm	Each	2.00			Rs. -
59	Providing, fixing and testing heavy quality CI Strainer with SS jali including suitable E table flanges and nuts and bolts etc complete.					
a	100mm	Each	2.00			Rs. -
b	80mm	Each	8.00			Rs. -
c	65mm	Each	8.00			Rs. -
d	50mm	Each	4.00			Rs. -
60	Providing, fixing and testing heavy quality CI wafer type check valve including suitable E table flanges and nuts and bolts etc complete.					
a	100mm	Each	2.00			Rs. -
b	80mm	Each	6.00			Rs. -
c	65mm	Each	3.00			Rs. -
d	50mm	Each	3.00			Rs. -
61	Providing & fixing brass float valves with brass rod and copper float suitable to withstand a pressure 2 kg/sqcm.					
a	75mm n.b	Each	1.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	65mm n.b	Each	1.00			Rs. -
62	Providing and fixing best Indian make CP brass Auto air release valves with isolation valve fixed on GI lines.					
a	15mm n.b air valve with 15mm isolation valve	Each	8.00			Rs. -
b	20mm n.b air valve with 20mm isolation valve.	Each	4.00			Rs. -
c	25mm n.b air valve with 25mm isolation valve.	Each	4.00			Rs. -
d	32mm n.b air valve with 32mm isolation valve.	Each	20.00			Rs. -
63	Supplying, testing and commissioning automatic level controller(Hi/Low) in overhead water Fire tank, Domestic and flushing water tanks as per the dimension of the water tanks including necessary electrical cabling and connection to the pump panel for the given drawings in complete.	Each	6.00			Rs. -
64	Providing and fixing in position cast iron rain water inlets with gravel guard and dome type grating specially cast generally conforming to drgs.					
	Inlet for:					
a	200mm i/d pipes	Each	10.00			Rs. -
b	100mm i/d pipes	Each	5.00			Rs. -
65	Providing and fixing cast brass clean out plug with suitable insert keys for opening in brass cap, male threaded joint with G.I. socket caulked to pipe/fitting of H.C.I. or C.I. (L.A.) pipe as required complete in all respects.					
a	100 dia pipes	Each	30.00			Rs. -
b	75 dia pipes	Each	15.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
66	Providing and fixing GI pipes conforming to pipes for connecting from waste appliances to floor trap including all fittings such as elbows, reducers, GI to CI adapters etc. and including making good walls and floors wherever required					
a	50 O.D. pipes	RM	50.00			Rs. -
b	40 O.D. pipes	RM	50.00			Rs. -
c	32 O.D. pipes	RM	50.00			Rs. -
67	Making core cutting in RCC slabs, beams etc for the following diameters of Pipe					
a	150 dia	Each	10.00			Rs. -
b	100 dia	Each	10.00			Rs. -
c	75 dia	Each	10.00			Rs. -
68	Supply, installation, testing and commissioning of monoblock type pumps for Domestic and fushing water transfer purpose (300 lpm @ 50 mtrs head) (1 w + 1s/b = 1set)	Set	1.00			Rs. -
	Control Panel with autochange over ,					
	All accessories required for the control of system as per control scheme.					
	All interconnection piping as shown on drawing.					
	Electrical connection to pumps ' from panel using suitable con ductors and earthing of equipment.					
	Including Required valves, foot valves etc..					
	Water Lvl sensors , etc..					
	Required cabling with terminations etc (approx 35 m) to On and OFF the pumps as per the water lvl indications in the over head tank					
	FIRE ALARM SYSTEM					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	FIRE PUMP ROOM EQUIPMENT & 'ELECTRIC HYDRANT PUMP					
69	Supply, erection, testing & commissioning of electrical motor driven main surface mounted pump suitable for automatic operation of horizontal type split casing centrifugal type with stainless shaft,CI impeller with mechanical seal to ensure min. pressure of 3.2 Kg/Cm2 at highest delivery point and capable to deliver 2280 LPM at 70 MWC. conforming to IS 1520					
	SPRINKLER PUMP	Nos.	1.00			Rs. -
70	Supply, erection, testing & commissioning of electrical motor driven main surface mounted pump suitable for automatic operation of horizontal type split casing centrifugal type with stainless shaft,CI impeller with mechanical seal to ensure min. pressure of 3.2 Kg/Cm2 at highest delivery point and capable to deliver 2280 LPM at 70 MWC. conforming to IS 1520					
	HY DRANT JOCKEY PUMP	Nos.	1.00			Rs. -
71	Supply, erection, testing & commissioning of electrical motor driven main surface mounted pump suitable for automatic operation of horizontal type multi stage split casing centrifugal type with stainless shaft,bronze impeller with mechanical seal to ensure min. pressure of 3.2 Kg/Cm2 at highest delivery point and capable to deliver 180 LPM at 70 MWC. conforming to IS 1520					
	SPRINKLER JOCKEY PUMP	Nos	1.00			Rs. -
72	Supply, erection, testing & commissioning of electrical motor driven main surface mounted pump suitable for automatic operation of horizontal type multi stage split casing centrifugal type with stainless shaft,bronze impeller with mechanical seal to ensure min. pressure of 3.2 Kg/Cm2 at highest delivery point and capable to deliver 180 LPM at 70 MWC. conforming to IS 1520					
	BOOSTER PUMP	Nos	1.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
73	Supply, erection, testing & commissioning of electrical motor driven main pump suitable for automatic operation of horizontal type multi stage split casing centrifugal type with stainless shaft with mechanical seal to ensure min. pressure of 3.2 Kg/Cm2 at highest delivery point and capable to deliver 900 LPM at 32 MWC. conforming to IS 1520	Nos	1.00			Rs. -
74	Suitable HP squirrel cage induction motor TEFC, synchronous speed of 1500 RPM suitable for operation of 415 Volts,3 Phase 50 Hz, AC with IP 55 Protection for enclosure, horizontal foot mounted type with class-F insulation conforming to IS 325.					
	M.S.Fabricated common base plate coupling, coupling gaurds, foundation bolts etc as required.					
	Suitable cemen concrete foundation duly plastered with anti-vibration pads.					
	Supplying, installing, testing and commissioning of 150 mm diacast iron foot valve (for pump suction side)	Nos.	1.00			Rs. -
75	Supplying, installing, testing and commissioning of G.I. Pipes (for suction side of pumps) confirming to IS 1239,6mm thick, with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolte, malleable specials such as Reducers, Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc, as per drawings. The quoted rate shall also include for chasing / chipping walls, making bore holes in walls / floor and making them good with filler material and finished in cement mortar etc. complete.					
a	200mm nominal dia	Rmt	6.00			Rs. -
76	Supplying, installing, testing and commissioning of GI. Pipes confirming to IS 1239 Pt - I Heavy grade with painting, suitable type of supports, anchor fasteners, bolts nuts (Galvanised), clamps, "U" bolte, malleable specials such as Reducers, Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc, as per drawings. The quoted rate shall also include for chasing / chipping walls, making bore holes in walls / floor and making them good with filler material and finished in cement mortar etc. complete.					
a	200mm nominal dia	Rmt	6.00			Rs. -
d	80mm nominal dia	Rmt	12.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
f	40mm nominal dia	Rmt	10.00			Rs. -
77	Supplying, installing, testing and commissioning of C.I. Non-return valves as per IS:5312(PN 20) swing check type with required flanges, nuts, bolts and gaskets etc. complete.					
a	200 mm nominal dia	Nos.	1.00			Rs. -
b	150 mm nominal dia	Nos.	2.00			Rs. -
c	100 mm nominal dia	Nos.	3.00			Rs. -
d	80 mm nominal dia	Nos.	2.00			Rs. -
78	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 20) slim seal standared lever operated type with required flanges, nuts, bolts etc. complete.The valve shall be fitted with Supervisory switch for monitoring.					
a	200mm nominal dia	Nos.	2.00			Rs. -
c	100mm nominal dia	Nos.	2.00			Rs. -
79	Supplying, installing and commissioning C.I.flanged "Y" type Strainer with SS mesh,suitable flanges, nuts, bolts, gaskets etc. complete.					
a	80mm dia	Nos.	4.00			Rs. -
b	100mm dia.	Nos.	1.00			Rs. -
c	150mm dia.	Nos.	2.00			Rs. -
d	200mm dia.	Nos.	2.00			Rs. -
80	Supplying, installing, testing and commissioning of Gun metal chrome finished Ball valves with fittings of screwed end type.					
b	25 mm dia	Nos.	2.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c	50 mm dia	Nos.	2.00			Rs. -
81	Supply and installation of Pressure switches of suitable range for pumpsets with Ball valves, Fittings like unions / colors / reducers etc.	Set	6.00			Rs. -
82	Supply and installation of Pressure gauges of suitable range for pumpsets with Ball valves, siphon, Fittings like unions / colors / reducers etc.	Set	12.00			Rs. -
83	Providing, fixing, testing and commissioning of air-cushion tank (air vessel) 250mm dia. & 1200mm high with dished top, made of 8 mm thick M.S. sheet and 10 mm thick dished ends with 25mm dia. brass air release valve (ball type).	Nos.	1.00			Rs. -
.	PRIMING TANK					
84	Supply ,installingOne piece moulded HDP / Fibrewater tank For -ve Suction Only having capacity 1000 ltrs. Fitted with necessary accessories .	No.	1.00			Rs. -
	DIESEL ENGINE DRIVEN PUMP					
85	Supplying, Installation, Testing and Commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following : complete in all respect as required.					
	Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm. at highest and farthest outlet at specified flow of 2280LPM at 70 metres m. head conforming to IS 1520.					
	Suitable HP, 1800-2400 RPM air cooled with radiator diesel engine conforming to relevant BS & IS standard complete with auto starting mechanism 12/24 Volts electric starting equipment, Diesel Tank, exhaust pipe extended upto 1m. outside pump house duly insulated with 50 mm. thick glass wool with 1.0 mm. thick aluminium sheet cladding, residential silencer, instruments and protection as per specification, stop solenoid for auto stop in the event of fault with audio indication, painted with post office red colour etc. as reqd.	Set	1.00			Rs. -
86	Providing & Fixing of Installation Control Valve with turbine type automatic Alarm Gong to be connected with control valve, drain & test valve and all other necessary components as per manufacturer's specifications complete as required					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	HYDRANT SYSTEM	Set	2.00			Rs. -
87	Supplying, installing, testing and commissioning of GI. Pipes conforming to IS 1239 Pt - I Heavy grade with painting, suitable type of supports (Shall be fabricated by M.S. Channel / Angle / Flat for above 50 mm dia), anchor fasteners, bolts nuts, clamps, "U" bolte, malleable specials such as Reducers,Tees, elbows, flanges. Including cutting, Welding, fixing in / on walls, ceiling by using suitable supports etc, as per drawings. The quoted rate shall also include for chasing / chipping walls, making bore holes in walls / floor and making them good with filler material and finished in cement mortar etc. complete.					
a	150 mm nominal dia	Rmt	264.00			Rs. -
b	100mm nominal dia	Rmt	12.00			Rs. -
c	80mm nominal dia	Rmt	36.00			Rs. -
88	Providing, laying, jointing and testing in trenches/Ground the following sizes of GI 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 including excavation in all kind of soil, refilling, ramming, shoring, removing the excavated surplus material, providing adequate support to the pipe and making good the same complete as required. The rate quoted should be included with anticorrosive treatment with 4 mm thick polymer corrosion resistant tape as per IS 10221, overlap shall be 15mm minimum.Rate shall include for dewatering necessary to execute the work. Provding PCC pedestals and thrust blocks to the pipes .The pipe shall not be less than 1.0 m below ground level at any point.					
a	80 mm nominal dia	Rmt	16.00			Rs. -
b	100 mm nominal dia	Rmt	16.00			Rs. -
c	150mm nominal dia	Rmt	264.00			Rs. -
	C I BUTTERFLY VALVE					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
89	Supplying, Installing, testing and commissioning CI butterfly valves as per BS 5155 (PN 20) slim seal standard lever operated type with required flanges, nuts, bolts etc. complete. The valves shall be fitted with Supervisory switch for monitoring.					
a	150mm nominal dia	Nos.	2.00			Rs. -
b	100mm nominal dia	Nos.	2.00			Rs. -
c	80mm nominal dia	Nos.	4.00			Rs. -
	INTERNAL HYDRANT & HOSES					
90	Supplying, erecting and commissioning of Landing Hydrants comprising of the following in the Fire duct; Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous outlet of 80 mm dia fanged inlet, Blank caps, chain and hand wheels etc complete.	Nos.	12.00			Rs. -
91	2 lengths of 15 M long, 63mm dia RRL hose with instantaneous couplings and Hoses shall be stored in side the hose cabinet.	Nos.	12.00			Rs. -
92	Providing & fixing indoor type hose lockable cabinet frames fabricated from 40 x 40 x 5 angle iron sections and 16 gauge MS sheet with full front glass door and locking arrangement, suitable to accommodate landing valves, 15 m long hoses, first-aid hose reel and branch pipe nozzle & fire mans' axe. The cabinet frame shall be painted with one coat of primer and two or more coats of synthetic enamel paint of approved make and shade of as required (Approx 2.1 m (high) x 0.9 m (wide) x 0.6 m (deep)). The item shall be complete of MS housing with front door. (Cost shall be inclusive of providing break glass box containing key for the cabinet along with hammer).	Nos.	12.00			Rs. -
93	1 no. Gun metal short branch pipe with nozzle.	Nos.	12.00			Rs. -
94	Hose reel drum of swinging type with 19mm dia Rubber braided hose of 40M. length with Gate valve (upstream) and Shut off nozzle, complete.	Nos.	12.00			Rs. -
	FOUR WAY FIRE BRIGADE INLET					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
95	Supplying, installing and commissioning of fire brigade Siamese connection of 4 way with 4 nos. 63 mm dia. built - in Gun metal Non- return valves instantaneous coupling type arranged on 150 mm dia. Pipe manifold and connected to wet riser main as well as to Fire water tank. Qouted rate shall be included with C.I. Butterfly valve, C.I. Non-return valve and M.S. cabinet of suitable size with mounting supports etc. complete. Piping to be considered as per the approved route at site.	Nos.	1.00			Rs. -
96	Supplying and Installing fire brigade header of dia 150 mm form main entry for supplying water in water tank piping as per route approved at site.	Nos.	1.00			Rs. -
	Qouted rate shall be included with C.I. Butterfly valve and M.S. cabinet of suitable size with mounting supports etc. complete.					
	EXTERNAL HYDRANT & HOSES					
97	Supplying, installing, testing and commissioning of yard hydrant comprising of the following,					
	Single headed hydrant valve as per IS 5290, made of gunmetal with 63 mm dia instantaneous out & 80 mm dia fanged inelt inlet,Blank cap , chain and hand wheel etc complete.	Nos.	6.00			Rs. -
98	2 lengths of 15 M long, 63mm dia RRL hose with instataneuos couplings and Hoses shall be stored in side the hose cabinet.	Nos.	6.00			Rs. -
99	1 no. Gun metal short branch pipe with nozzle.	Nos.	6.00			Rs. -
100	M.S. Hose cabinet stand mouted type fabricated out of M.S. sheet of 16 swg. with glass fronted (4mm thick glass with rubber beeding) door and size of the cabinet shall be 600mm x 750 mm x 250 mm Quoted rate shall be includes suitable stand for mounting, all fasteners etc, and cabinet shall be powder coated of approved colour both inside and out side.	Nos.	6.00			Rs. -
101	Supplying and fixing approved make 50mm dia. With automatic air release valve with unions etc. complete.	Nos.	3.00			Rs. -
102	Designing, providing and fixing Orifice plate made out of stainless stand plate (thickness as per specification) for following size of pipe to reduce pressure upto 3.5 Kg/sqcm complete in all respects.					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	65 mm dia	Nos.	3.00			Rs. -
b	80 mm da	Nos.	3.00			Rs. -
103	Providing and fixing tamper switch on butterfly valve / sluice valve / isolation valve for remote mointing of the valve open / close position. The tamper switch shall be provided with potential free contact with 2 nos. NONC. The valve shall also be provided with manual lock & chain arrangement.	Set	12.00			Rs. -
	FIRE EXTINGUISHERS					
104	Supplying, installing and commissioning Portable Fire extinguishers of following type & capacity.					
	Dry chemical powder type fire extinguisher of 10 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171.	Nos.	12.00			Rs. -
105	ISI marked water (CO2 gas Expelled) type extinguishers 9 litres capacity with discharge tube, metal cap, 60 grams carbon dioxide cartridge complete in all respects.	Nos.	2.00			Rs. -
106	Carbon dioxide type extinguisher with cylinder fully charged with 4.5 Kgs. capacity.	Nos.	2.00			Rs. -
107	ABC Type fire extinguishers of 5 kgs. capacity.	Nos.	12.00			Rs. -
108	ABC Type fire extinguishers of 10 kgs. capacity.	Nos.	12.00			Rs. -
109	sand bucket filled withdry clean sand	Nos.	6.00			Rs. -
	Control Panel for Fire pumps.					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
110	Fabrication, supplying, installation, testing & commissioning of electrical control panel of cubicle construction, floor mounted type, fabricated out of 2 mm, thick CRCA sheet, compartmentalised with hinged lokable doors, dust and vermin proof, powder coated of approved shades after 7 tank treatment process, cable alley, inter connection, having switchgear and accessories mounting and internal wiring, earth terminals, numbering etc. Complete in all respect, suitable for operation on 415 V, 3phase, 50 Hz AC supply with enclosure protection class IP42 as required.	No.	1.00			Rs. -
	Fabricating & Supply, installing, testing and commissioning of compartmentalised common control panel for Electrical motor driven pumps and Diesel engine driven pumps.					
	Star delta starter with over load relay, single phase preventor and indicating lamps with ON / OFF push buttons.					
	1 Set of RYB indicating lamps with individual HRC control fuses.					
	As per					
	Main MCCB 250 Amps (TPN) for Incoming Cable					
	75 HP Hydrant Pump Feeder with TP breaker along with Star Delta Starter (1 # 160 Amps MCCB)					
	60 HP Sprinkler Pump Feeder with TP breaker along with Star Delta Starter (1 # 125 Amps MCCB)					
	7.5 HP Jockey / Booster Pump Feeder with TP breaker along with Star Delta Starter (4 # 63 Amps MCB)					
	1100 V GRADE POWER / CONTROL CABLES					
111	Supplying, laying, testing & commissioning of FRLS, PVC outer sheath, steel armoured, aluminium conductor, 1100v grade power cables with glands etc. The cables shall be laid in tray / Hume pipe / in trenches/on walls/floor etc. as required. For cables laid out door the rate shall include earth excavation providing brick and sand protection, refilling and compacting the earth. The rate shall exclude tray & Hume pipes. The minimum size of the cables shall as mentioned below,					
a	3 core 95sq.mm	Rmt	30.00			Rs. -

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	3 core 50 sq.mm	Rmt	30.00			Rs. -
c	3 core 35 sq.mm	Rmt	20.00			Rs. -
d	3 core 10 sq.mm	Rmt	150.00			Rs. -
e	3core 6 sq.mm	Rmt	45.00			Rs. -
112	Supply and laying of control wiring with multicore copper stranded conductor of following sizes PVC insulated.PVC sheathed armoured under ground cable between various sensors and system controller/starter/etc in pump house & outside on surfaces/existing cable tray complete with connections at both end with glands etc as required.					
	2 x 1.5 sq.mm	Rmt	45.00			Rs. -
113	Supplyin and making en termination with brass compression gland & alu lugs for following sizes of PVC insulated,PVC sheathed/XLPE al.conductor cables of 1.1 Kv grade as required.					
a	3 core 95sq.mm	Nos	2.00			Rs. -
b	3 core 50 sq.mm	Nos	2.00			Rs. -
c	3core 6 sq.mm	Nos	6.00			Rs. -
114	Supplying,installation and testing of earthing station with G.I.plate of 600 mm X 600 mm X 6 mm thk including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe including charcoal/coke and salt complete as per specification.	Nos	1.00			Rs. -
115	Providing and fixing 50 mm x 5 mm GI Strip on surfaces or in recess for earth connections as per specifications complete as required.	Nos	12.00			Rs. -
116	Providing and fixing 25 mm x 5 mm GI Strip on surfaces or in recess for earth connections as per specifications complete as required.	Rmt	125.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
117	Providing and fixing 6 SWG G.I. wire on surface or in recess for loop earthing complete as required.	Rmt	15.00			Rs. -
	SUB TOTAL; PLUMBING AND FIRE FIGHTING WORKS					Rs. -

BILL OF QUANTITY

Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
D	HVAC WORKS					
	VRF SYSTEM					
1	Supply ,Installation, Testing and commissioning of new factory supplied air cooled VRV / VRF System .Outdoor units including the electrical cabling and control cabling ,interconnecting refnet , copper piping ,the transport and lifting and complete structural frame work plat forms as per site conditions. Supply of variable Refrigerant Flow modular type air-conditioning system complete with indoor & outdoor units with individual corded controller as per the following capacities of the IDU and ODU.Refrigerant used shall be R 410A					
	Outdoor Units					
	Supply, installation, Testing & Commissioning of Modular type outdoor units complete with hermetically sealed inverter scroll type compressors, heat exchanger/condenser coil, microprocessor controller, etc. as per enclosed technical specifications. The outdoor ambient temperature range to be considered shall be 10 deg centigrade to 48 deg centigrade. The unit shall be complete with refnut joints .Any derating of the compressor has to be considered if any.					
a	50 HP	Nos	2.00			Rs. -
b	30 HP	Nos	2.00			Rs. -
c	36 HP	Nos	4.00			Rs. -
d	20 HP	Nos	2.00			Rs. -
	Indoor Units for above mentioned outdoor unit					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
2	Supply ,Installation, Testing and commissioning of new factory supplied air cooled Variable Refrigerant Flow/VRV System .Indoor units including the transport and lifting and complete structural frame work plat forms as per site conditions.Indoor units with compact cooling coil, electronic expansion valve and multispeed fan motor, The blower shall be dynamicaly balanced and designed for silent operation, the filters shall be Plasma and synthetic washable media type arranged for convenient cleaning and replacement, built in drain pump, the drain pan shall be fabricated out of heavy sheet steel insulated with 6mm' expanded polythylene sheet.The Unit should also include the cost of cabling 5 RMT and the socket to be attached to the nearest power point.The cost should also include the cost of flexible connections for the ductable units.					
a	6 TR -Ductable type	Nos	37.00			Rs. -
b	4 TR -Ductable type	Nos	10.00			Rs. -
c	1.5 TR -Cassette type	Nos	34.00			Rs. -
d	3.0 TR -Cassette type	Nos	9.00			Rs. -
3	Wireless Remote controls for all Ductable units which shall be sleek and self diagnostic type.	Nos	90.00			Rs. -
4	Simple Central Controller Unit capable of controlling all the Indoor and outdoor units					
	As per the no of outdoor units	Nos	4.00			Rs. -
5	BMS Controller to control all the Inndor and outdoor units.Should be conbatible with Lonworks/Modbus control.The convertor should be the part of the kit . The system should be complete with all accessories ,Control cabling ,power cablingand controls	Nos	1.00			Rs. -
	Ref nut Joints/Branch Distributors for Indoor & Outdoor units.					
6	1 No Each for suction line , 1 no each for liquid line (= 1 set)	Sets	90.00			Rs. -
	INLINE EXHAUST FANS					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
7	Supply, installation, testing and commissioning of approved make duct mounted IN-LINE FAN for exhaust air as shown in drawings. Fan shall be complete with motor, mounting flanges, accessories like bird screen, fixed louvers and GI sheet canopy for weather protection as required. Fan shall be suitable for 2.5 inch (65 mm) static pressure. The complete fan should be with Casing, impeller & motor of appropriate rating. The fan should be tested for 300 Deg C for 2 hours operation. Test certificate for the same shall be submitted. The work shall be inclusive of required cabling from Fan to the power point and from power point to the control panel. The control panel shall consist of required starter, contactors and all other provisions required for Auto/Manual operation through BMS and with operation through Fire alarm control panel. The above mentioned work also include control cables of required size and rating. The location of Fan and the control panel and route of cable are indicated on the drawing.					
	Fan selection arrangement shall be as follows :					
	Air Quantity					
	CFM					
a	1500	Nos	1.00			Rs. -
b	2000	Nos	1.00			Rs. -
	PROPELLER FANS					
8	Supply, installation, testing and commissioning of direct driven PROPELLER FANS for exhaust air as shown in drawings. Each fan shall be complete with permanent split capacitor or shaded pole motor, mounting plate, accessories like wire guard, bird screen and fixed louvers for weather protection as required. All toilet exhaust fans shall be interlocked with fire alarm systems. Quoted price shall be inclusive of required cabling from Fan to the Power point. All toilet exhaust fans shall be interlocked with fire alarm system.					
	100 CFM fan	Nos	20.00			Rs. -
	Treated Fresh Air AHU - Connected to VRF					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9	Supply, installation, testing and commissioning of Sectionalized, Double Skin Air Handling Units constructed of Extruded Aluminum hollow sections framework, Preplasticised GS Sheets of 24G on the outer and 22G on the inside with 50mm thick injected PUF/25 kg/cu.m + 5% density and with thermal break. AHU's costing of Fan Section with belt driven DIDW forward curved blower & motor, Spring type vibration isolators, Coil section with 4/6 Row-12 FPI, DX cooling coil, insulated drain tray of SS with liberal drain connections on either side, Prefilters should of EU-3 rating & Bag filters of EU-5 rating. Fire retardent Double canvass connections, access doors with limit switch, maintenance lamp inside the fan section, etc. to be included as Per general technical specifications and drawings. AHU's should be suitable for Floor mounting. Fan outlet velocity not to exceed 9 m/s. Coil Face Velocity not to exceed 2.5m/s. Motor, vibration isolators, coil Section with Ahu panel. Total static pressure of AHU shall be checked byer standard design (excavation and foot rests shall be paid for separately) :					
	8000 cfm /20 TR for fresh Air	Nos	4.00			Rs. -
	Refrigerant Piping for VRF system					
10	Refrigerant Piping for VRF system with 19 mm thick Class "O" Nitrile rubber Armaflex Insulation complete with all fittings, flow divertors etc and all accessories to make the installation complete for all the required sizes- suction LINE	RMT	3000.00			Rs. -
11	Refrigerant Piping for VRF system with 19 mm thick Class "O" Nitrile rubber Armaflex Insulation complete with all fittings, flow diverters etc and all accessories to make the installation complete for all the required sizes- Liquid LINE	RMT	3000.00			Rs. -
12	Communication cabling between Outdoor/indoor units in 25 mm rigid PVC conduit complete complete with all accessories and supports	RMT	3500.00			Rs. -
13	Treatment of exposed Piping with Woven Glass cloth , =100gsm, finished in UV treated pigmented epoxy for out door piping as per code.	RMT	300.00			Rs. -
14	UPVC heavy class drain piping of the following diameters of the pipes. The pipes shall be insulated with the Armaflex insulation of 10 mm with Clas "O" type insulation as per technical specifications. The scope should also include chasing in walls and connecting to the nearest NAHI trap with a "U" Trap connection					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
a	32 mm	RMT	45			Rs. -
b	25 mm	RMT	15			Rs. -
15	Fabrication, supply, installation, testing & commissioning of following duct gauges complete with splitter dampers, turning vanes supports etc.as per drawings and technical specifications					
a	24 guage galvanized sheet steel	Sqmt	800			Rs. -
b	22 guage galvanized sheet steel	Sqmt	600			Rs. -
c	20 guage galvanized sheet steel	Sqmt	200			Rs. -
d	18 guage galvanized sheet steel	Sqmt	200			Rs. -
16	Supply, installation and testing & commissioning of fire resistant sheet metal ducts in accordance with the approved shop drawings and as required by the specifications.Fabricationof duct gauges complete with splitter dampers, turning vanes supports etc.as per drawings and technical specifications (FOR KITCHEN VENTILATION) 1.2mm (18G) galvanized sheet steel	Sqmt	90.00			Rs. -
17	Supply, installation, testing of 90 mimutes fire resistant return Air grilles without volume control dampers accordance with the approved shop drawing.(FOR KITCHEN)	Sqmt	8.00			Rs. -
	VOLUME CONTROL DAMPER					
18	Supply, installation and testng of GI construcion Louver dampers within ducts to be provided with suitbale ducts lever and quadrants for manual control of volume of air flow and for proper balalncing of the air distribution system.	Sqmt	20.00			Rs. -
	COLLAR DAMPER					
19	Supply, installation and testng of GI construcion Louver dampers within ducts to be provided with suitbale ducts lever and quadrants for manual control of volume of air flow and for proper balalncing of the air distribution system.	Sqmt	20.00			Rs. -
	MOTORIZED FIRE DAMPER					Rs. -
20	Supply, installation, testing and commissioning of Motorized combined fire damper complete with control panel , inter connecting wiring at locations shown in approved shop drawings and as per specifications.					
a	Fire dampers	Sqmt	19			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
b	Control panel and wiring	Nos	45			Rs. -
c	Motor and Actuator	Nos	45			Rs. -
S.S.GRILLE						
21	Supply, installation, testing of supply Air grilles accordance with the approved shop drawing and as per technical specification.	Sqmt	15.00			Rs. -
22	Supply, installation, testing of return Air grilles without volume control dampers accordance with the approved shop drawing and as per technical specification.	Sqmt	10.00			Rs. -
23	Supply, installation, testing and balancing of Powder coated/anodized extruded aluminium construction inlet air louvers with bird screen and volume damper for fresh air as per specifications and approved shop drawings	Sqmt	15.00			Rs. -
Constant Air flow regulators						
24	Supply installation testing and commissioning of Constant air flow regulators in the TFA duct to maintain a contain flow inside the rooms . The CAR shall come with Modulation orifices with belows to maintain the required fresh air in the room as per the following CFM requirement.					
a	50 CFM	No	50			Rs. -
b	75 CFM	No	50			Rs. -
THERMAL INSULATION FOR DUCTING						
25	Supply and installation of 19mm thk Nitrile rubber / Cross linked polyethylene (density-40-60 Kg/m3). External thermal insulation on ducts as per the approved specifications. Quoted price shall be inclusive of adhesive, tapes as per technical specification, UV protective coating over exposed ducts.	Sqmt	1500.00			Rs. -
ACOUSTIC LINING OF DUCT						
26	Acoustic lining of duct work with 25mm thick Twiga 300 fiberglass stick using shalikota primer hot bitumen and mechanically fastened, covered with RP tissue and 30 G aluminium perforated sheet as per specs. Acoustic lining shall be rigid board	Sqmt	300.00			Rs. -
ACOUSTIC INSULATION-FOR AHU'S						
27	Acoustic insulation in AHUS rooms around AHUs using 50mm thick rigid board stick using shalikota primer and GI frame work , Insulation to be covered with 24 G perforated Al. sheet	Sqmt	250.00			Rs. -
UNDERDECK INSULATION						
28	Underdeck insulation of the 50 MM THK EXTRUDED POLYSTRENE (FOMULAR MATRIX) ALONG WITH ADHESIVE , ANCHOR FASTENERS AND ALL ACCESSORIES TO COMPLETE THE WORK	Sqmt	2304.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
29	Supply, installation and testing of kitchen exhaust duct insulation as per BS 7346 pt 2 1990 (TO 650 ° C).	Sqmt	90			Rs. -
	ELECTRICAL PANELS FOR VRF UNIT					
30	ELECTRICAL PANELS FOR VRF UNIT (With Required cabling and control cabling as per specification)	No	1			Rs. -
	SUB TOTAL; HVAC WORKS					Rs. -

BILL OF QUANTITY

Construction of Directorate Health Department Building at Sector- 19 in Naya Raipur

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
E	ELECTRICAL WORKS					
1	Supplying, intallation, testing and commissioning of indoor type floor mounted metal clad 11kV, 3 Phase, 500MVA HT panel with VCBs, CTs, PT's, microprocessor based relays for protection, multifunctional metering unit and adopter panel if required for having extenion with exsisting HT panel, complete with all internal and control wiring, required dismantalling, rearrangements of existing panels, foundation, supports builtin trenches etc.. and with accessories as stated in the SLD and in the specification.					
	630A, 35kA, 3P, VCB , draw out type breaker-2 nos.					
	630/5 CTs - 20VA,CL 0.5					
	630/5 CTs - 20VA,CL 5P20					
	630/5 CTs - 40VA,CL PS					
	11kV/1.732, 110V/1.732 PTs - 150VA ,CL 1.0- 2 nos.					
	The work shall be completed in all respect with all required labour, materials, meeting standards, IE rules, regulation and local supply authority requirements etc..	Each	1.00			Rs. -
2	BATTERY : Designing, manufacturing, supplying, unloading, handling, intalling, commissioning & testing of Sealed maintenance free battery consisting of 12 cells each of 2V, 40 AH capacity of 10 hour rate of discharge to an end voltage of 1.85V per cell supplied complete with intercell connectors and acid level indicating floats, duly charged. The cells will generally confirm to IS:1652:1991 ammended to date + Rubber Matt + battery intallation rack.	set	1.00			Rs. -
3	BATTERY CHARGER - SUITABLE FOR 24V/40AH BATTERY SET FOR HT RM: Designing, Manufacturing, Supplying, unloading, handling, intalling, commissioning & testing of Self-contained battery charger intended to operate on a single phase AC supply of 200/250V 50 cycles and wooden enclosure suitable for accommodating 12V sealed Maintenance free battery of 40 AH capacity. The battery to be floated at 2.23V per cell and can also be charged upto 2.65V per cell. The charger should be designed for a continuous DC output of 20 Amps in an average ambient temperature of 40 deg C.	set	1.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
4	Supplying, laying, testing and commissioning of 11kV grade, 3C x 120 sq.mm. , stranded aluminium conductor XLPE inulated, extruded PVC sheathed, round aluminium armoured cable, earthed type as detailed in technical specification and drawings complete with all materials, labour , meeting IE rules, regulation and local supply authority requirements.	Rmt	100.00			Rs. -
5	Supplying and termination of 11kV, 3C X 120 sq.mm. XLPE, round armoured cable complete with outdoor / indoor heat shrinkable cable end termination kits & accessories as detailed in technical specification and drawings complete with all required materials, standards, meeting IE rules, regulation and local supply authority requirements.	Each	4.00			Rs. -
6	Supplying, erection, testing & commissioning of 3 phase, 50Hz , 1000kVA, 11kV/0.433kV delta/star , DYn 11, ONAN, OFF load tap changer in the range of +2.5% to -5% in step of 2.5% , indoor type tranformer, with cable end box as detailed in technical specification, IS: 2026 complete with labour, all required accessories, foundation, base rails, meeting IE rules, regulation and local supply authority requirements etc..	Each	1.00			Rs. -
7	Supplying, intallation, testing and commissioning, copper plate type 600 x 600 x 3mm thick including all accessories & masonry enclosure with cover plate having locking arrangement & watering pipe etc.. as required in accordance with IS: 3043 and as detailed in technical specification, drawings etc.. complete with required labour, materials, meeting standards , regulation and local supply authority requirements.	Each	24.00			Rs. -
8	Providing, intallation & connecting earthing strip between earthing station and equipments of sub station, Tranformer, DG Sets, AMF, Synchronisation Control Panel, power distribution panels, Lifts etc.. as detailed in technical specification complete with required labour, materials, meeting standards, IE rules, regulation and local supply authority requirements.					
a)	Copper srtip (25 x 5mm)	Rmt	350.00			Rs. -
b)	GI strip (25x 6mm)	Rmt	400.00			Rs. -
c)	8 SWG CU wire	Rmt	650.00			Rs. -
d)	6 SWG GI wire	Rmt	650.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
9	Supply, intallation, testing & commissioning of 2000A, metal clad enclosed insulated TPN , AL busbar 25kA for 1sec suitable to operate at 1.1kV complete with fixing arrangement supports bends termination at tranformer & panel end, earthing all as per IS:8623	Rmt	200.00			Rs. -
10	Supplying, fabricating, intallation, testing and commissioning free standing type MS powder coated cubicle three/single phase power distribution/control panel fabricated from 12 SWG MS sheet complete with required MS angle supports, tinned electrolytic copper bus bar chamber with required rating, control switchgear and meter fixing plate, compartments for switch gear, meters and cables as per approved general arrangement plan, including 7 tank processing, approved shade powder coating, neoprene rubber gasket, internal wiring required foundation, earthing terminal, detachable gland plate, required size and rating rubber mating in front of each panel etc.. as specified and shown in SLD complete with following:					
a)	MAIN LT PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	All ACB shode be SCADA enable					
	1250A, 4P, 35kA, ACB, EDO - 2nos.					
	Buscoupler					
	2000A, 4P, 35kA, ACB, EDO - 1no.					
	OUTGOINGS					
	1250A, 4P, 35kA, ATS - 1no.					
	630A, 3P, 35kA, MCCB, - 1no. (APFC panel)					
	160A, 4P, 35kA, MCCB - 1no.(PWR)					
	315A, 4P, 35kA, MCCB - 1no (LTG)					
	800A, 4P, 35kA, ACB ,EDO - 1no.(AC panel)					
	100A, 4P, 35kA, MCCB - 1no. (Emergency panel)					
	100A, 4P, 35kA, MCCB - 1no. (Lift panel)					
	500A, 4P, 35kA, MCCB - 1no. (UPS panel)					
	630A, 4P, 35kA, MCCB - 1nos.(spare)					
	400A, 4P, 35kA, MCCB - 2nos.(spare)					
	125A, 4P, 35kA, MCCB - 2nos.(spare)					
b)	APFC PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	630A, 4P, 35kA, MCCB - 1no.					
	OUTGOINGS					
	125A, 4P, 35kA, MCCB - 7nos.					
	63A, 4P, 35kA, MCB - 2nos.					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	40A, 4P, 35kA, MCB - 1nos.					
	12 STEP P.F.Relay - 1nos.					
	50kVAR Capacitor bank -7nos.					
	10kVAR Capacitor bank -2nos.					
	5kVAR Capacitor bank -1nos.					
c)	EMERGENCY PANEL	Each	1.00			Rs. -
	INCOMING					
	100A, 4P, 35kA, MCCB - 1no.					
	OUTGOINGS					
	100A, 4P, 35kA, MCCB - 1no.					
	SUB OUTGOING					
	40A, 4P, MCB - 06nos.					
	32A, 4P, MCB - 2nos.					
d)	MAIN AC PANEL	Each	1.00			Rs. -
	INCOMING					
	800A, 4P, 35kA, ACB, EDO - 1no.					
	OUTGOINGS					
	160A, 4P, 35kA, MCCB+ELCB - 3nos.					
	125A, 4P, 35kA, MCCB +ELCB- 8nos.					
	100A, 4P, 35kA, MCCB +ELCB- 4nos.					
	63A, 4P, MCB - 2no.					
	125/160A, 4P, 35kA, MCCB - 3nos. Spare					
	63A, 4P, MCB - 5nos spare					
e)	MAIN LIGHTING PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	400A, 4P, 35kA, MCCB - 1no.					
	OUTGOINGS					
	100A, 4P, 35kA, MCCB+ELCB - 4nos.					
	50A, 4P, MCB - 2nos					
	40A, 4P, MCB - 2nos.					
	32A, 4P, MCB - 2nos.					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
f)	MAIN POWER PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	160A, 4P, 35kA, MCCB - 1no.					
	OUTGOINGS					
	100A, 4P, MCCB - 4nos					
	50A, 4P, MCB - 2nos					
	40A, 4P, MCB - 1no.					
g)	UPS PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	500A, 4P, 35kA, MCCB - 1no.					
	OUTGOINGS					
	125A, 4P, 35kA, MCCB - 4 Nos.					
	40A, 4P, MCB - 4nos.					
	125A, 4P, 35kA, MCCB - 2Nos. Spare					
h)	LIFT PANEL comprising of	Each	1.00			Rs. -
	INCOMING					
	63A, 4P, 25kA, MCCB - 1no.					
	OUTGOINGS					
	63A, 4P, 10kA, ELMCB - 4nos.					
	16A, DP, 10kA, ELMCB - 4nos.					
	10A, DP, 10kA, ELMCB - 1nos.					
i)	FLOOR PANEL FOR LTG	Each	4.00			Rs. -
	INCOMING					
	100A, 4P, 25kA, MCCB - 1no.					
	OUTGOINGS					
	40A, 4P, MCB - 4nos.					
	40A, 4P, MCB - 2nos.					
j)	FLOOR PANEL FOR POWER	Each	4.00			Rs. -
	INCOMING					

Sl. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
	100A, 4P, 25kA, MCCB - 1no.					
	OUTGOINGS					
	40A, 4P, MCB - 4nos					
	32A, 4P, MCB - 2nos					
i)	FLOOR PANEL FOR AC	Each	4.00			Rs. -
	INCOMING					
	63A, 4P, 25kA, MCCB - 1no.					
	OUTGOINGS					
	40A, 4P, MCB - 4nos.					
	40A, 4P, MCB - 2nos.					
	EMERGENCY LIGHTING PANEL comprising of	Each	8.00			Rs. -
	INCOMING					
	40A, 4P, MCB - 1nos					
	OUTGOINGS					
	32A, DP, MCB - 4nos					
	32A, DP, MCB - 2nos					
i)	500 A 4P MCCB in suitable power coated Enclosure with Rotary handle	Each	2.00			Rs. -
j)	160 A 4P MCCB in suitable power coated Enclosure with Rotary handle	Each	3.00			Rs. -
k)	100 A 4P MCCB in suitable power coated Enclosure with Rotary handle	Each	8.00			Rs. -
l)	63 A 4P MCB in suitable power coated Enclosure	Each	15.00			Rs. -
m)	40 A 4P MCB in suitable power coated Enclosure	Each	10.00			Rs. -
n)	32 A 4P MCB in suitable power coated Enclosure	Each	10.00			Rs. -
o)	25 A 4P MCB in suitable power coated Enclosure	Each	10.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
q)	20 A DP MCB in suitable power coated Enclosure	Each	50.00			Rs. -
r)	16 A SP MCB in suitable power coated Enclosure	Each	25.00			Rs. -
s)	10 A SP MCB in suitable power coated Enclosure	Each	10.00			Rs. -
11	Supplying, intallation, testing & commissioning of single phase or three phase, surface or flush mounted lighting/power, MCB distribution boards as per the approved general arrangement plan and the specification enclosed. The distribution board shall be of approved manufacturer and shall in general consists of adequate rating copper bus bar set/s together with tapped neutral and earth bar for individual phase , arrangement for mounting MCB's of rating & curve 'C' characteristics with details as below or as shown in SLD, phase to phase barrier , double door enclosuers,fixing supports, earthing studs etc..The distribution boards shall be fixed in an approved manner complete with all supports, MCBs, internal wirings, proper termination of all incoming and outgoing wires/cables through lugs, ferrules etc.. The work includes all materials, labour, completion in all respect by meeting IE rules, regulation and standards etc..					
	Lighting / Power / UPS / AC Distribution Board as specified:					
	Double Door					
a)	8 Way TPN DB (Lighting D.B+OUTDOOR D.B) comprising of	Each	18.00			Rs. -
	Incomer :					
	40A, 4P, 10kA, MCB - 1no.					
	Outgoing :					
	40A, DP, 100mA, ELMCB - 3nos.					
	6/10A, SP, 10kA, MCB - 18nos.					
b)	8 Way TPN DB (Power D.B) comprising of	Each	16.00			Rs. -
	Incomer :					
	40A, 4P, 10kA, MCB - 1no.					
	Outgoing :					
	40A, DP, 100mA, ELMCB - 3nos.					
	6/10A, SP, 10kA, MCB - 18nos.					

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
c)	8 Way TPN DB (U.P.S D.B) comprising of	Each	16.00			Rs. -
	Incomer :					
	32A, 4P, 10kA, MCB - 1no.					
	Outgoing :					
	25A, DP, 100mA, ELMCB - 3nos.					
	6/10A, SP, 10kA, MCB - 18nos.					
c)	8 Way TPN DB (A.C D.B) comprising of	Each	16.00			Rs. -
	Incomer :					
	32A, 4P, 10kA, MCB - 1no.					
	Outgoing :					
	25A, DP, 100mA, ELMCB - 3nos.					
	6/10A, SP, 10kA, MCB - 18nos.					
d)	8 Way SPN DB (ELDB) comprising of	Each	24.00			Rs. -
	Incomer :					
	32A, 2P, 10kA, MCB - 1no.					
	Outgoing :					
	25A, DP, 30mA, ELCB - 1nos.					
	6A, SP, 10kA, MCB - 6nos.					
12	Supplying and laying following sizes one number, steel armoured aluminium conductor power cable of 1.1 KV grade on surface/ existing cable tray with M.S flat clamp and steel dash fastener/ G.I. bolts and nuts as required.					
a)	Alumunium XLPE cables					
i)	3.5 x 400 sq. mm.	Rmt	300.00			Rs. -
ii)	3.5 x 300 sq. mm.	Rmt	400.00			Rs. -
iii)	3.5 x 240 sq. mm.	Rmt	50.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
iv)	3.5 x 185 sq. mm.	Rmt	200.00			Rs. -
v)	3.5 x 150 sq. mm.	Rmt	120.00			Rs. -
vi)	3.5 x 120 sq. mm.	Rmt	80.00			Rs. -
vii)	3.5 x 95 sqmm	Rmt	200.00			Rs. -
viii)	3.5 x 70 sqmm	Rmt	200.00			Rs. -
ix)	3.5 x 50 sqmm	Rmt	120.00			Rs. -
b)	Copper XLPE cables					
i)	4C x 16 sqmm	Rmt	750.00			Rs. -
ii)	4C x 10 sqmm	Rmt	640.00			Rs. -
iii)	4C x 6 sqmm	Rmt	400.00			Rs. -
iv)	4Cx 4 sqmm	Rmt	200.00			Rs. -
v)	4C x 2.5 sqmm	Rmt	200.00			Rs. -
vi)	3.5C x 16 sqmm	Rmt	200.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
vii)	3.5C x 10 sqmm	Rmt	600.00			Rs. -
viii)	3.5C x 6 sqmm	Rmt	400.00			Rs. -
ix)	3.5C x 4 sqmm	Rmt	500.00			Rs. -
x)	3.5C x 2.5 sqmm	Rmt	400.00			Rs. -
xi)	3.5 C x 1.5 sqmm	Rmt	400.00			Rs. -
13	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					
a)	3½ X 400 sq. mm	Each	28.00			Rs. -
b)	3½ X 300 sq. mm	Each	14.00			Rs. -
c)	3½ X 240 sq. mm	Each	6.00			Rs. -
d)	3½ X 185 sq. mm	Each	6.00			Rs. -
e)	3½ X 150 sq. mm	Each	6.00			Rs. -
f)	3½ X 120 sq. mm	Each	4.00			Rs. -
g)	3½ X 95 sq. mm	Each	6.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
h)	3½ X 70 sq. mm	Each	6.00			Rs. -
i)	3½ X 50 sq. mm	Each	4.00			Rs. -
l)	4C x 16 sqmm	Each	54.00			Rs. -
m)	4C x 10 sqmm	Each	32.00			Rs. -
n)	4C x 6 sqmm	Each	6.00			Rs. -
o)	4Cx 4 sqmm	Each	4.00			Rs. -
p)	4C x 2.5 sqmm	Each	10.00			Rs. -
q)	3C x 16 sqmm	Each	16.00			Rs. -
r)	3C x 10 sqmm	Each	30.00			Rs. -
s)	3C x 6 sqmm	Each	16.00			Rs. -
t)	3C x 4 sqmm	Each	16.00			Rs. -
u)	3C x 2.5 sqmm	Each	20.00			Rs. -
v)	3C x 1.5 sqmm	Each	20.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
14	Supplying, fabricating and intallation of below given size perforated MS hot dip galvanised cable trays complete with horizintal, vertical bends, reducers, tees, cross members, support structure required for suspenion from celing or on wall in an approved manner for cables as specified or as shown in drawings.					
a)	1 NOS # 600 X 50 X 2 mm thickness trays	Rmt	50.00			Rs. -
b)	1 NOS # 450 X 50 X 2 mm thickness trays	Rmt	150.00			Rs. -
c)	1 NOS # 300 X 50 X 1.6 mm thickness trays	Rmt	50.00			Rs. -
d)	1 NOS # 200 X 50 X 1.6 mm thickness trays	Rmt	20.00			Rs. -
e)	1 NOS # 150 X 50 X 1.6 mm thickness trays	Rmt	150.00			Rs. -
15	Excavation in all types of soil murrum, hard rock etc.. for making trench of depth 1200mm & width as required for laying of HT/LTcables complete with sand cushioning of 75 mm depth above and below the cable and thereafter covering the same with buried	Rmt	1200.00			Rs. -
16	Supply & fixing of cable route marker of 10cm x 10cm x 5mm thick GI plate with incription thereon bolted/welded to 35mmx35mmx6mm angle and frame 60cm long and fixing the same in ground as required	Each	60.00			Rs. -
17	Supply, intallation, testing & commisioning of point wiring for lights, fan, plug points or any other utilitiy / equipment in heavy duty PVC conduit of 25/32mm surface or recessed mounted complete with junction box, joints, bends & including stranded 1.1kV grade PVC inulated CU multi-stranded FRLS wires including inulated earth wires as per the specification & with modular surface / recessed mounted switches/MCB of rating as specified. The work shall be completed with all material, labour & shall comply with IE rules, regulation, standards & local supply authority requirements.The fan point shall include electronic modular regulator in switchboard besides the switch.					
a	Primary circuit wiring for all light, fan points, plug points or any other utility/equipment shall be with 2x2.5 + 1x1.5 PE CU PVC inulated FRLS wires LDB to switchboard & from switchboard to first point complete as per above specification.Primary point controlled by 6A switch	Each	250.00			Rs. -
b	Primary point controlled by SPMCB	Each	550.00			Rs. -
c	5/6 Amp independent switch-socket point	Each	320.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
d	Exhaust fan	Each	48.00			Rs. -
18	Secondary wiring points extending from primary circuits to additional light, fan, plug points in the group with 2x2.5 + 1x1.5 PE CU PVC inulated FRLS wires complete as per specification.					
a	Secondary point controlled by 6A switch	Each	550.00			Rs. -
b	Secondary point controlled by SPMCB	Each	1500.00			Rs. -
19	Primary circuit wiring for all light, fan points, plug points or any other utility/equipment shall be with 2x2.5 + 1x1.5 PE CU PVC inulated FRLS wires from SCUPSDB to switchboard & from switchboard to first point complete as per above specification.	Each	30.00			Rs. -
20	Secondary wiring points extending from primary circuits to additional light, fan, plug points in the group with 2x2.5 + 1x1.5 PE CU PVC inulated FRLS wires complete as per specification.	Each	35.00			Rs. -
21	Power point wiring using 2x4 + 1x2.5 PE CU PVC inulated FRLS Wires, 16A Modular switch + 6/16A Modular socket & required accessories complete as per specification.	Each	200.00			Rs. -
22	Power point wiring using 2x4+ 1x2.5 PE CU PVC inulated FRLS Wires, 6A Modular switch + 6A Modular socket & required accessories complete as per specification.	Each	200.00			Rs. -
23	Supply, intallation, testing and commissioning of weatherproof type 20A switch socket Power point for outdoor application.	Each	25.00			Rs. -
24	Supplying & fixing of following sizes of PVC conduit along with accessories in surface/recess complete with junction box, joints, bends as directed 32mm	Rmt	300.00			Rs. -
25	40mm	Rmt	300.00			Rs. -
26	50 mm	Rmt	300.00			Rs. -
27	Supplying and drawing following sizes of FR LS PVC inulated copper conductor, single core cable in the existing surface/recessed PVC conduit as directed					
	3C x 6 sq.mm.	Rmt	400.00			Rs. -
28	4C x 6 sq.mm.	Rmt	400.00			Rs. -
29	Supply, intallation, testing and commissioning of UPS of rating as specified below with required standard features necessary Sealed Maintenance Free batteries with 30min backup complete with the required accessories safety features etc..120kVA 3Phase input & 3Phase output					
		Each	1.00			Rs. -

SI. No	Description	Unit	Quantity	Rate [In INR]	Rate in Words [In INR]	Amount [In INR]
30	Supply, intallation, testing & commissioning of light fixtures complete with required mounting bracket, connecting wire etc.. as per specification.1X28W T5 FTL, Recess mounted matt finishing mirror optics luminaire. (CAT. NO. BTn 128 T5 MAKE:- BAJAJ OR EQUIVALENT)	Each	150.00			Rs. -
31	1x36W FTL, Surface/pendant mounting FTL industrial luminaire (CAT. NO. BCIR 136 MAKE:- BAJAJ OR EQUIVALENT))	Each	20.00			Rs. -
32	1X36W FTL, Wall mounted decorative luminaire with opal acrylic diffuser. (CAT. NO. WRF 21136 MAKE :- WIPRO OR EQUIVALENT))	Each	10.00			Rs. -
33	2x36W CFL, Recess mounted indirect light luminaire. (CAT. NO. BCLA 2X36 CFL SP MAKE:- BAJAJ OR EQUIVALENT))	Each	500.00			Rs. -
34	2X36W FTL, Surface/ Recess mounted luminaries with white powder coated CRCA sheet housing. (CAT. NO. BLnA 236 TD MAKE:- WIPRO OR EQUIVALENT)	Each	150.00			Rs. -
35	2x18W CFL, Recess horizontal mounting CFL downlighter with spun aluminium anodies lector with fostret glass below the lamp. (CAT. NO. BJDR 65 C 218 AG MAKE:- BAJAJ OR EQUIVALENT)	Each	600.00			Rs. -
36	1X26W CFL, Recess floor mounted polyester powder coated die-cast aluminium housing. (CAT.NO. BEWOL 126 CFL MAKE:- BAJAJ OR EQUIVALENT)	Each	10.00			Rs. -
37	Flexible LED strip in tranparent silicon enclosure. (CAT. NO. BGFL 180 RGB MAKE:- BAJAJ OR EQUIVALENT)	Rmt	25.00			Rs. -
38	Recess mounted 7x1W/7x3W LED spot luminaire in cast aluminium housing with eye ball swiwel arrangement. (CAT.NO. BG SL 07 01/03 NB/WB RGB MAKE:- BAJAJ OR EQUIVALENT))	Each	5.00			Rs. -
39	1X11W CFL, Recess mounted low glare mirror optics luminaire. (CAT. NO. WVP 50111 MAKE:- WIPRO OR EQUIVALENT)	Each	50.00			Rs. -
40	Recess / surface mounted 4nos.70W Metal Hallide downlighter (CAT NO. GCH35470 MAKE:- WIPRO OR EQUIVALENT))	Each	8.00			Rs. -
41	2x18W CFL, Semi recessed mounting luminare. (CAT. NO. CNRL 141820-00 745 PRATICA MAKE:- DISANO OR EQUIVALENT)	Each	20.00			Rs. -
42	Exit light with 1x11W CFL maintained 3hrs. backup, SLA recharging battery. (CAT. NO. PEL 111E/M/A (R) MAKE:- PROLITE OR EQUIVALENT)	Each	2.00			Rs. -
43	1x13W CFL, Surface mounted light. (CAT. NO. BEPL 113 MAKE:- BAJAJ OR EQUIVALENT)	Each	12.00			Rs. -
44	2x11W CFL , area lighting with opal glass diffuser.(CAT NO. BEOWL 211 MAKE:- BAJAJ OR EQUIVALENT))	Each	10.00			Rs. -
45	1x18W PL, Bollard Luminaire (CAT. NO. HCS360 1xPL-C 18 MAKE:- PHILIPS OR EQUIVALENT))	Each	50.00			Rs. -
46	1x150W CDM-TT post top luminare with 2.5-3M HT pole. (CAT. NO. HPS360 1xCDM-TT 150 MAKE:- PHILIPS OR EQUIVALENT))	Each	50.00			Rs. -
47	1x150W landscape lighting luminare. (CAT NO BESBL 150 DH MAKE:- BAJAJ)	Each	10.00			Rs. -

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48	Supply, intallation, testing & commissioning of ceiling fan 1400mm sweep complete with required mounting bracket/ down rod of required size, connecting wires etc.. as per specification.	Each	25.00			Rs. -
49	Supply, intallation, testing & commissioning of exhaust fan 300mm sweep complete with all accessories etc.. as per specification.	Each	5.00			Rs. -
50	Supplying & intallation of Advanced lightening protection system comprising of Early streamer emission terminal using Low resistance EC grade copper strip. The system shall be mounted on the required height SS 304 L Mast, complete with earthing (crow foot) using 250 micron molecular copper bonded steel rod etc.. The work shall be completed as per the specification with all materials, labour, meeting IE rules, regulation and standards etc..	Each	1.00			Rs. -
51	75 (3 x 25) sq.mm Cu strip	Rmt	40.00			Rs. -
52	Protection sheath	Job	1.00			Rs. -
53	DC Tape Clip	Each	40.00			Rs. -
54	Maintenance Free earthing System shall include 'Earth gel 10kg kit, '50 x 0.5 mm Copper Earth Strip, 'Copper Bounded Ground Rod (4"x5/8" dia) , 'Earth Rod Clamp, 'Terec Earthing system	Each	1.00			Rs. -
55	Supply, laying, fixing telephone jelly filled armoured cable with 0.5mm dia in PVC concealed or recessed conduit complete with all accessories junction box fixing arrangements supports etc..					
a)	10 pair Cat 6 cable	Rmt	350.00			Rs. -
b)	20 pair Cat 6 cable	Rmt	150.00			Rs. -
c)	50 pair Cat 6 cable	Rmt	350.00			Rs. -
56	Supply & intallation of telephone tag block with KRONE terminal connectors, G.I.J.B as specified & complete with all interconnection and jumper connection between the two tag blocks on all floors as shown in drgs complete with termination of all incoming & outgoing cables as per standards with all accessories etc..					
a)	10 pair tel. tag block	Each	1.00			Rs. -
b)	20 pair tel. tag block	Each	1.00			Rs. -
c)	50 pair tel. tag block	Each	2.00			Rs. -
57	Supply, intallation, testing & commissioning of MDF box 250x250 pairs KROHNE module with silver plated terminal contacts fixed to the wall or free standing type with required material, foundation etc..	Each	1.00			Rs. -

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58	Supply, intallation, testing & commissioning of 8 X 250 extenion digital EPABX with caller line identification, call billing system, dynamic STD locking, direct inward dialling with voice guidance facility, dynamic STD locking, conference facility for specified extension & with battery backup for power failure complete with all equipments as approved by Telephone Engineering Certificate(TEC)	Each	1.00			Rs. -
59	Supplying, laying, terminating, testing & commissioning of CAT 6 UTP cables suitable for LAN/WAN in the Conduits recessed or surface mounted complete with bends, junction boxes etc .. including termination of cable as per standards & regulation	Rmt	8500.00			Rs. -
60	Supply, erecting of rosette box RJ type bakelite box with LED connection dually connected with all accessories.	Each	240.00			Rs. -
61	Supply, intallation, testing & commissioning of GB managed ethernet switch as below with 2 SFP combo slots and webview, rack as required complete with required accessories & termination Cat 6 UTP cable including required conduit for data outlet with necessary ends connection, tool-less keystone jacks, workstation identification, marking in an approved manner.					
a)	12 port patch panel	Each	3.00			Rs. -
b)	24 port patch panel	Each	16.00			Rs. -
62	Supply, intallation, testing & commissioning of 4 Pair Cat 6 UTP cable including required conduit from jack panel to patch panel with necessary ends connection, workstation identification, marking in an approved manner.	Rmt	100.00			Rs. -
63	Supply, intallation, testing & commissioning of 4 Pair Cat 6 UTP cable including required conduit from patch panel to data points with necessary ends connection, workstation identification, marking in an approved manner.	Rmt	8000.00			Rs. -
64	Supplying, intallation, testing & commissioning of fire alarm control panel (4 loop) generally conforming to the intents of specification complete with the following:	set	1.00			Rs. -
	i)Analogue addressable FACP with all in-built modules & displays.					
	ii)Battery and battery charger.					
	iii)Public address microphone primary amplifier, section switches, talk-back features etc..					
	iv)15" Video display terminal, graphic user interface, key board and printer.					
	v)Terminal strips for receiving & terminating all external cabling.					
	vi)All internal wiring.					
	vii)Programming & setting up.					
	viii) Programme diskettes.					

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	ix) Fault isolator module for every 15 detectors.					
	The control panel, battery charger etc.. shall be UL listed/FM approved.					
	The panel shall be 4 loops capacity and it shall be capable to extend up to 6 loops.					
	The panel shall consist with 80 character LCD display and RS 485 for networking.					
65	Supplying, installation, testing & commissioning of signal initiating devices complete with control module, monitor modules, other elements, galvanised steel, back box, detector base, detector etc.. complete as specified and as required taking into account the following:					
a)	Control modules / Monitor Module with relays for AHU as required.	Each	150.00			Rs. -
b)	Microprocessor based intelligent Addressable smoke detectors.(Below false ceiling)	Each	350.00			Rs. -
c)	Microprocessor based intelligent Addressable smoke detectors.(Above false ceiling)	Each	150.00			Rs. -
d)	LED type Response indicator having at least 2 nos. coloured LED lamps including connection etc.. complete as per specification	Each	150.00			Rs. -
e)	Microprocessor based intelligent Addressable heat (fixed cum rate of rise) detectors.	Each	4.00			Rs. -
f)	Microprocessor based Addressable intelligent break glass unit with talk back facility.	Each	25.00			Rs. -
g)	Microprocessor based Addressable hooters.	Each	25.00			Rs. -
66	Supplying, installation, testing & commissioning of Auto paging system to provide the facility to signal all text messages or alarm / fault messages from a local transmitter to the pagers for following condition					
	l) Fire detection	Set	1.00			Rs. -
67	Supplying, installation, testing & commissioning of a Auto dialer to signal pre-recorded text messages (fault etc..) for different events to atleast six telephone mobile numbers for the above given condition	Set	1.00			Rs. -
68	Supplying, installation, testing & commissioning of Fire MIMIC Panels along with termination of all Control / Signal cables complete with the following:					
	i) Architect/Consultant/PMC approved floor plan neatly printed on the fire Mimic Panel.					
	ii) Panel to have all Zones marked in distinguishable colors with individual LED's.					
		set	4.00			Rs. -

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69	Supplying, intallation, testing & commissioning of General Mimic Panels along with termination of all control signal cables complete with the following:	Each	1.00			Rs. -
70	Supplying, intallation, testing & commissioning of software for programming (mapping) the Fire detection and voice alarm system through FACP / Lap top. The software shall consist with facility like Upload / down load of information to FACP, Graphics compatible to AutoCAD, detectors information with change in address / sensitivity etc.. as required.	Each	1.00			Rs. -
71	Supplying and laying 2C x 1.5 sq.mm (14SWG), 1.1kV grade flame retardant copper conductor armoured twisted cable with steel braided and overall shielded with aluminium mylar tape, including connection, PVC conduit etc.. as required	Rmt	14080.00			Rs. -
72	Supplying and intalling the following items:					
a)	Printed intruction chart both in english,Gujrati , marathi	Each	6.00			Rs. -
b)	Pair of rubber hand gloves suitable for 11kV or above	Each	1.00			Rs. -
c)	6mm thick rubber mat suitable for 11kV & above	sq.mtr	20.00			Rs. -
d)	Standard first aid box	Each	1.00			Rs. -
e)	Fire bucket round bottom of 9 lites capacity	Each	4.00			Rs. -
f)	Floor mounted stand for keeping 4 nos. of fire buckets	Each	1.00			Rs. -
g)	11kV DANGER Caution Board made from vitreous enameled steel and to be fixed on door/ shutter.	Each	4.00			Rs. -
h)	Approved make (ISI) CO2 type fire extinguisher 5 kg. capacity complete with horn and bend, 3 Mtr. hose.	Each	4.00			Rs. -
73	Supply of hot dipped galvanized (in single dip to average 70 micron) octoganal pole made of 3mm thick steel plate having base plate 200x200x12mm, window and flush cover with locking arrangement at suitable height from base for cable termination block, pole suitably reinforced with welded steel section at window cut section to make the strength of pole unaffected, including template and anchor plate 240x240x3mm with 4 nos 450mm long, 16mm dia foundation bolts bolts (EN8 grade).					
	5 metre high, minimum dia 129mm at bottom and 75mm at top	Each	12.00			Rs. -

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74	Supply and fixing following street light pole bracket on existing pole made out of 50 mm dia MS "B" class pipe welded to 300 mm long MS pole canopy of suitable dia at a angle of 102.50 including having MS triangular stiffner of size 150 X 50 X 5 mm thick, making arrangement for tightening the bracket with pole by providing suitable size heavy duty nuts and bolts in canopy, painting with one coat of approved steel primer etc. as required.					
	Single Over Hang 0.75 metre Long	Each	12.00			Rs. -
75	Erection of GI octagonal pole on existing cement concrete foundation having grouted bolts and nuts, aligning in true vertical position as required.					
	5 metre high	Each	12.00			Rs. -
76	Designing and providing suitable RCC foundation for 3m to 12 metre high GI octagonal pole including steel reinforcement (minimum 90kg per cum), form work, embedding 2 nos 50mm dia PVC pipe for cable entry in each foundation, excavation disposal of surplus soil and curing etc. as required. (size: 400 x 400 x 1200mm)	cum	12.00			Rs. -
77	Supply of 45W IP65 LED streetlight Luminaire complete with pressure die cast aluminum housing. The fixture shall be designed so as to have lumen maintenance of at least 70% at the end of 50,000 hours. Power Factor of the electronic driver should be at least 0.95 with THD<10% and efficiency of the luminaire to be more than 85%. Effective lumen package of greater than 3600 Lumen, LED colour temperature should be 5500 K and CRI greater than 75. Impact Resistance Level should be IK05.	each	12.00			Rs. -
78	Supplying and drawing following sizes of FR PVC inulated copper conductor, single core cable in the existing surface/ concealed, steel/ PVC conduit/ PVC casing capping as required.					
	3x1.5 sq mm	mtr	50.00			Rs. -
79	Earthing with GI earth pipe 4.5 mtr long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal and salt as required.	Nos.	12.00			Rs. -
80	Supplying and laying 6 SWG G.I. Wire at 0.50 meter below ground level for conductor earth electrode, including soldering, excavation and refilling the trench etc. as required.	mtr	300.00			Rs. -
81	Supplying and laying following sizes one number PVC inulated, PVC sheathed, steel armoured, aluminium conductor power cable of 1.1 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required					
	4 x 10 sq mm.	mtr	300.00			Rs. -
82	Supplying and making end termination with brass compression gland and aluminum lugs for following size armoured aluminum conductor power cable of 1.1 KV grade as required.					

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	4x10 sq mm	Each	50.00			Rs. -
	SUB TOTAL; ELECTRICAL WORKS					Rs. -