

**NAME OF WORK : Renovation & up-gradation of Physics Building at Gujarat University , Ahmedabad.**

**ABSTARCT SHEET**

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
1	Excavation for Foundation upto 1.5 m. depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead. (A) Loose or soft soil	Cum	1434.08	117.08	167900.80
2	Excavation for Foundation from 1.5 m. upto 3.0m. depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead. (A) Loose or soft soil	Cum	1022.55	129.81	132731.92
3	Excavation for foundation for depth from 3.0 m to 5.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead. (A) Loose or soft soil	Cum	55.00	142.52	7838.66
4	Filling available excavated earth(excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth consolidating each deposited layer by ramming & watering.	Cum	1041.57	130.39	135811.72
5	Filling in plinth with murram under floors including watering, ramming, consolidating and dressing etc. complete.complete as directed by engineer in charge.	Cum	272.08	289.06	78648.57
6	Filling in plinth with sand under floors including watering, ramming, consolidating and dressing etc. complete.complete as directed by engineer in charge.	Cum	181.39	460.19	83472.27
7	carry out RCC Core cutting- up to 100 mm dia./300mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall . Complete as directed by engineer in charge.	No.	30.00	1327.14	39814.20
8	Providing and laying cement concrete 1:3:6 (1cement : 3coarse sand : 6hand stone aggregates 40mm nominal size) and curing complete excluding cost of form work in (A) foundation and plinth	Cum	128.65	3005.76	386684.55
9	Providing & laying in position <b>READY MIXED M-200 GRADE</b> concrete for reinforced cement concrete work, using cement content as per approved design mix manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10Kms having continuous agitated mixer, manufactured as per mixed design of specific grade for reinforced cement concrete work including pumping of R.M.C from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement including the cost of admixtures in recommended proportions as per I.S:9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the engineer-in-charge <b>WITHOUT FLY ASH</b> (minimum cement level as per latest I.S:456 shall be maintained) <b>(cement level 400 kg per cum.)</b>	Cum	177.84	4841.03	860928.95
10	Providing & laying in position <b>READY MIXED M-250 GRADE</b> concrete for reinforced cement concrete work, using cement content as per approved design mix manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead upto 10Kms having continuous agitated mixer, manufactured as per mixed design of specific grade for reinforced cement concrete work including pumping of R.M.C from transit mixer to site of laying, excluding the cost of centering, shuttering, finishing and reinforcement including the cost of admixtures in recommended proportions as per I.S:9103 to accelerate/retard setting of concrete, improve workability without impairing strength and durability as per direction of the engineer-in-charge <b>WITHOUT FLY ASH</b> (minimum cement level as per latest I.S:456 shall be maintained) <b>(cement level 450 kg per cum.)</b>	Cum	1219.63	4902.10	5978724.15

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11	Providing formwork of ordinary timber planking so as to give a rough finish including centering, shuttering and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4.00 mt and removal of the same for in situ reinforced concrete and plain concrete work in foundation footing base of columns, mass concrete, slabs, beams, columns, landing, steps, cantilevers, brackets, etc.	Sqm	7345.03	254.52	1869456.76
12	Providing TMT Bar FE 500/500D. Reinforcement for R.C.C. work including bending, binding and placing in position complete	Kgs	203191.77	76.21	15486179.72
13	Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./sq.cm in foundation and plinth in cement mortar 1:6 (1- cement : 6 - Fine sand ) (B) Conventional- <u>Upto Plinth Level</u>	Cum	44.76	4021.02	179978.85
14	Masonry work using aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level upto floor two level in cement mortar 1:5(1 cement : 5 fine sand) completed as per technical specification. - <u>above plinth level</u>	Cum	269.31	4528.57	1219610.50
15	(i) Half brick masonry in common burnt clay building bricks having crushing strength not less than 35 Kg/Sq.Cm. in Cement mortar 1:4 (1- Cement : 4 -coarse sand ) in foundation and plinth (B) Conventional	Sq.Mt.	434.04	422.18	183240.98
16	Providing 10 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering up to floor two level finished even and smooth in [II] Cement mortar 1:4 (1 cement : 4 finesand)	Sqm	1399.71	115.81	162096.12
17	Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering up to <b>ANY HEIGHT/LEVEL</b> finished even and smooth in [II] Cement mortar 1:4 (1 cement : 4 finesand)	Sqm	4949.91	157.17	777957.64
18	Providing 20 mm thick double coat mala cement plaster on interior brick / concrete work for plastering comprising of base coat of 12 mm thick cement plaster in cement mortar (1 Cement : 4 coarse sand) in rough finishing and 8 mm thick top coat of cement mortar 1:2 (1 Cement : 2 Coarse sand) finished with trowel including scaffolding curing etc. complete	Sqm	3221.42	272.48	877764.09
19	Providing & Laying <b>24" x 24" vitrified</b> 8 mm thick tile flooring over 20 mm (average) base of cement mortar 1:6 ( 1 cement: 6 coarse sand) on new surface or fixing on existing flooring by adhesive material including dismantling of existing flooring and jointed with color cement slurry including finished with flush pointing & cleaning the surface etc. complete for antiskid . as directed by Consultant / Engineer -in-charge.	Sqm	1228.11	1397.83	1716686.92
20	Providing and laying Vitrified tiles 8 to 10 mm thick , 24" x 24" in skirting risers of steps and dedo on 10mm thick cement plaster 1:3 (1-cement : 3-coarse sand) and jointed with white cement slurry	Sq.Mt.	63.58	1141.45	72576.11
21	Providing and laying white glazed tiles 6 mm thick in flooring, treads of steps & landing on a bed of 12mm thick cement mortar 1:3(1-cement:3-coarsed sand) finished with flush pointing in white cement	Sqm	294.87	917.25	270471.11
22	Providing and laying Granite stone slab flooring over 20mm (Average) thick base of cement mortar 1:6 (1-cement : 6-coarse sand) or L.M. 1.1.5 (1-Lime putty :1.5 - coarse sand) laid over and jointed with grey cement slurry mixed with pigment to match the shade of slab including rubbing and polishing etc. complete. (A) 18 mm thick	Sqm	414.14	2244.16	929402.91

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23	Providing and laying 18mm thick polished granite stone machine cut in single piece (Max. available) in sill and jambs of door ,window,ventilation & lift wall cladding,staircase flooring landing, risers & treads, skirting laid over 10 mm thick cement mortar 1 : 3 (1 cement : 3 coarse sand) and jointed with grey cement slurry with matching pigment incl. rubbing and polishing,half rounding edge and incl. fixing of hilly fastener at every 1/3 span of sill as required size etc. complete colour and shed as approved by architect engineer in charge.	Sqm	165.30	1870.41	309178.76
24	Providing and laying polished kota stone slab flooring over 20mm (average) thick base of cement mortar 1:6(1-cement :6-coarse sand) or L.M 1:1.5 laid over and jointed with gray cement slurry including rubbing & polishing etc. complete. [A] 25mm. Thick	Sqm	25.50	1096.33	27959.17
25	Providing and fixing Sandwich type Granite platform including supplying and fixing granite stone 18 mm thick mirror polished 1st quality Granite stones in top and side position and vertical strip at front over 25 mm thick polished kotah stone platform fixing in top and sides and intermediates supports fixing with cement mortar and adhesive and finishing including cutting for fixing of sink any size (as directed by engineer incharge) at required position etc complete.	Sqm	15.08	3596.89	54233.93
26	Providing and laying broken china mosaic flooring for terrace using 12 mm to 20 mm broken pieces of glazed tiles to be laid over cement mortar 1:3 to plain or slope and to be tempered to bring mortar cream out upto surface using white cement including rounding off junctions and extending them upto 15 cm along the wall,clearing with water and oxalic acid etc. as directed	Sqm	796.24	747.29	595017.74
27	Terrace Water Proofing Waterproofing System :Providing and applying waterproofing membrane, solvent free, root resistant, two component, BBA (British Board of Agreement) approved for roofing & tanking, Polyurethane spray applied waterproofing system of blue pigmented of make TREMCO, on horizontal and vertical face at 2.0mm (2.1 Kg / m2) average DFT thickness via spray application ensuring total consumption directly over prepared designated surfaces with vertical upto spring bottom at least 300 mm, including pedestals, upstands and all utilities available . Waterproofing membrane should be applied post application of PU Primer . Waterproofing spray application is applied using 2 component high pressure spray machine as per manufactures specifications. Technical properties : Cured waterproofing seamless membrane shall exhibits the following properties of Resistant To Root / Microbial Attack , Density of spray applied elastomer DIN 53479 mg/m3 -: 0.85 – 0.95, Shore A Hardness BS903 Part A2 -: 80, Elongation At Break ASTM D638 -: >250% , Tensile Strength ASTM D638 -: 12.50 Mpa , Tear Strength BS903 Part A3 -: 28KN/m, Static and Dynamic Crack Bridging Test BRE tested method EN1062-7 maximised -:14mm, Pull Off/Adhesion to Concrete ASTM D4541 -: 2.5 Mpa, Pull Off/Adhesion to Steel ASTM D4541 -: 5.80 Mpa, Puncture Resistance ASTM test method E154 -: 1700 N	Sqm	796.24	615.60	490158.42
28	Wall painting (three coats) with birla putty and plastic emulsion paint of approved brand & manufacture on <b>undercoated wall</b> surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth.And remove existing color work.	Sqm	5803.15	119.58	693963.91

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29	Providing and applying exterior texture paint (Flat texture/synthetic paint) of approved make on any height. The rate includes applying one brush coats of PRIMER, On prepared surface final required coat of Semi gloss Medium Textured Flexible coating with crack bridging up to 2.6 MM and VOC content less then 100g/l, required scaffolding, jhulaa, tools and labor. The texture material shall be Pure Acrylic, Environment Friendly, Protect against Salt and Carbon dioxide, with excellent anti-Carbonation, UV Resistance, Moisture vapour trasmission coating with third party test certificate applied up to 140 Microns DFT.	Sqm	2577.13	754.98	1945670.28
30	Finishing wall with WEATHER PROOF EXTERIOR paint on wall surfaces (three coats) to give an approved brand and manufacturer & required shape even shade after thoroughly brushing the surface to remove all dirt & remains of loose powdered materials.	Sqm	2854.81	89.58	255725.21
31	Providing and fixing Three Track Domal window having extruded aluminum Colour anodized 60 micron Sliding section outer frame size 80 mm x 45 mm weight 1.555 kg/m (Jindal Section code : 21376) and shutter frame 27 mm x 65 mm weight 0.851 kg/m (Jindal Section code : 21490) and Section inner patti size 38.70 mm x 28.50 mm weight 0.303 kg/m (Jindal Section code 19453) , mosquito jali channel - 9 mm x 15 mm x1.20 mmx1.20 mm weight .118 kg/m (jindal section code 15784 ) with 5 mm clear Frosted Glass (Modi or Saint Gobain) including one additional shutter ss mosquito jali and including all accesible accesories complete etc. or as directed Engineer in charge.	Sqm	224.20	4992.13	1119214.90
32	Providing & fixing in position Domal 40 MM JINDAL Operable Series Fully paneled or Partly glazed & partly paneled coloured anodized 15 micron aluminium single/Double leaf door standard section (Jindal or Equivalent) for frame Door outer frame X2771 CODE (48.3 MM X 40 MM X1.5 MM -.756 KG /M) , mullion X2930(70.1MM X 40 MM X1.5 MM - .95KG /M) , door shutter X2773 (93 MM X 50 MM X1.5 MM - 1.133 KG /M) , bottom section -X2777(100.2 MM X 50 MM X1.5 MM -1.1375 KG /M) , bottom seal profile X2776(32.85 MM X 26.50 MM X1.25 MM -0.373 KG /M) , centre meeting profile X2775(60.75 MM X 40 MM X1.50 MM -0.901 KG /M) and clip X2932(25.30 MM X 19.25 MM X1.27 MM -0.368 KG /M) 5 mm thick laminated compact sheet , 5 mm thick glass (Modi float or saint gobain brand at Top& bottom panel fix by glazing clips including providing & fixing S.S. handle & stopper, aldrop & mortise lock, SS screw with fixture & fastening including cutting the flooring, making good etc. all required materials labours and equipments with fixing as per detailed drawing or as direct EIC.	Sqm	170.46	9810.03	1672217.54
33	Fabrication,Supply and Installation of <b>Stainless Steel (Grade 304) railing</b> using hand rail pipe section 2.5" and baluster as round/square pipe section 2" both these pipe wall thickness not less then 16 gauge; connected with SS square pipe 2" intermediate as per detail drawing of architeecture and 8mm thick toughned glass fixed in between ss vertical members by the SS fixers. SS base plate of 100 x 8mm. The railing system shall be floor mounted with anchor faster and base plate of 4" having 8 mm thk. Completed as per detail drawing or as directed by the Architect / Engineering in charge with necessary fixtures fittings, brush finished, proper buffing & cleaning the welding marks etc. Shop drawing shall be submitted for approval	Rmt	62.00	3484.50	216039.00

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34	<b>toilet water proofing</b> Providing and laying integrated cement based proofing treatment of required thickness over the roof including 10mm thick waterproofing cement plaster in cement plaster in cement mortar 1:2, and finally finishing the surface with white cement slurry and Providing and applying K2 Primecrete as primer and it has to be mixed with neat cement in proportion of 1:2 (Polymer:Cement), product has adhesion strength of 1 N/mm2 Providing and supplying K2 Brushgard two coats at a interval of 5 to 6 Hours and in Criss cross patern @65 sqft to 75 sqft/15 kg pack for 1 mm DFT Both the coat allowed to dry air curing for 6 hours and moist curing should be done in next 24 hours Technical Criteria of K2 Brushgard are as follows, Adhesion to Concrete:1.5 N/mm2, Non Toxic,Crack Bridging :2mm, Tensile Strength:1.95 N/mm2, Pull of adhesion:1.21N/mm2	Sqm	71.23	522.68	37231.08
35	<b>Light weight Filling :-</b> Providing material and labour for laying <b>Cinder filling</b> for sunk filling grade including compacting, finishing, curing etc. complete as directed by engineer in charge.	Cum	32.05	1537.60	49286.67
36	<b>Restroom Cubical</b> Providing and fixing toilet cubical systems of approved make and manufactured in standard dimensions upto 900mm width door size with 18mm thick with necessary accessories of solid (box type) Compact Laminate panels made of KRAFT paper impregnated with Phenolic resins under high pressure and temperature, including doors, pilasters & intermediate panels, which should be resistant to heat, bacteria, water, chemical, scratch and impact. Finished product should be as per approved texture, shade & drawing, detailing and developed according to IS-2046 and BS-476/97 standards. The toilet cubicle setup shall include necessary hardware fittings, made out of stainless steel (Grade-304), as per manufacturer's specifications and approved by Project Manager. Contractor shall prepare and submit Shop drawings based on concept ndrawing with all necessary hardware and accessories and get approved by Architect before execution. Mock-up (of one/ two unit) shall be executed as per approved shop drawing with all hardware for approval.	Sqm	64.68	5807.50	375629.10
37	Carrying out plinth post treatment to post construction/existing structure by spraying chemical solution for termite control treatment including labour and materials consistant with I.S.I specification.complete as directed by engineer in charge.	Sqm	906.94	105.95	96089.39
38	Providing upto floor two level precast cement concrete jali or grill 1:2:4 mix (1-Cement : 2- coarse sand : 4-graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia. Mild steel wire including roughening,cleaning, fixing and finishing in cement mortar 1:3 and curing complete. (E) 100mm thick	Sq.Mt.	128.43	806.59	103588.23
39	Providing and fixing pre-cast Rubber Dye / steel Dye inter locking concrete block 60mm thick with grade of concrete M300 pneumatic compressed / vibrated mechanically and as per approved design Confirming to IS 15658 : 2006 including 35 mm Sand layer for levelling and filling the joint with sand in proper line and level as per guidlines of IRC : SP 63- 2018 etc. Complete	Sqm	200.00	686.90	137380.20
40	Providing and fixing pre-cast concrete kerb stone of gray cement based concrete block 30cm length,30cm height and 15cm thick of M250 grade concret as per approved design and including excavation for fixing in proper line and level,filling the joint with C:M 1:3 (1cement:3fine sand) etc complete.	Rmt	180.00	361.64	65095.31
41	Steel work, welded in built up sections framed work including cutting, hoisting, fixing in position and applying a priming coat of red lead paint. (A)In beams and joists, channels angles Tees, flats, with connecting plates or angle cleats as in main and cross beams. Hip and jack rafters, purlins conneted to common rafters and the like	KG	23341.76	84.13	1963812.63
	<b>Interior Work</b>				

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42	Full ht. <b>Partly glazed partition</b> Providing and fixing full height partly glazed partition with 8mm glass installation upto ceiling or beam bottom as per drawing and the structural framing of Aluminum square pipe size of 50mm x 25mm and 1.6mm thick all vertical and horizontal member 600mm c/c both direction fixed by aluminum angle size of 25mm x 25mm x 25mm for proper finishing with both side cover with 8mm plywood with grooving detail as per design. All exposed edges shall be covered with necessary sizes wooden patti finish with melamine polish in approved shade. The plywood fixing properly without any air gap and finishing with selected laminate finish as per design. The glass shall be finished with vinyle film as per design. Before installation, make hole/face plate for conduit pipes of electrical / networking cables with openable stud from partition. Rate shall include necessary itching film, Including all materials and labour etc. complete as per detail drawing and instruction of engineer-in charge and consultant. (Mode of measurement shall be till false ceiling lvl.) (Basic Cost of laminate Rs. 475/- per Smt.)	Sqm	125.00	11905.38	1488171.88
43	<b>Gypsum Plain False ceiling work</b> Pro. And fixing single layer water proof gypsum board 12.5 mm thick sections using water proof board of size 1220 mm x 1830 mm x 8.0 mm suspended by GI suspender channel of size 25 mm x 3 mm with intermediate channel og size 18 mm x 40 mm x 0.8 mm at 1220 mm center to center ceiling section of size 40 mm x 35 mm x 0.55 mm at 457 mm c/c and perimeter channel A of size 20 mm x 27 mm x 30 mm x 0.5 mm at edges & drops incl.paper tap sand sofit cleat, anchor fastener, scoch bolt connecting cleat,joining compound top coat on ceiling incl.making necy.opening for light fitting,diffuser etc. comp. as per detail drawing as directed	Sqm	967.00	606.95	586920.07
44	<b>Grid False ceiling</b> Providing and fixing eco-friendly light weight calcium silicate false ceiling tiles having Tegular edge & 15 mm Thick Densified edges on the Tile Periphery for Extra Strength The Light weight calcium silicate ceiling tiles shall have , light reflection 85% non-combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity0.043° w/m KC.for the best thermal Insulation . The Light weight calcium Silicate tile shall be of approved texture Fine fissured/ Spintone/Cosmos having NRC value of 0.5 & Globe having NRC value of 0.75 NRC or equivalent of size 595 X 595 mm to be laid on true horizontal level suspended inter locking metal grid of hot dipped galvanized steel sections (galvanizing @120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and size of 24X38mm made from 0.30 mm thick (minimum) sheet, 1200mm centre to centre, and cross 'T' of size 24X28mm made out of 0.33mm (Minimum) sheet spaced 1200mm along spaced between main 'T' at 600mm centre to centre to form agrid of 1200X600mm and secondary cross 'T' of length 600mm and size 24x28mm made of 0.30 mm thick (Minimum) sheet, and for all heights as per complete as per instruction of engineer-in charge and consultant. complete as per instruction of engineer-in charge and consultant.	Sqm	1076.00	1648.96	1774276.98
45	<b>Roller Blind work (Black out)</b> Providing and fixing Roller Blind fixed on wall for window cover as per instruction by architect - in - charge. The Roller blind tepestry color & design as per instruction by architect - in - Charge with necessary hardware fitting, material and labour etc complete.	Sqm	475.00	2125.55	1009633.88
	<b>PLUMBING WORK-NEW BUILDING</b>		0.00	0.00	0.00

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46	Providing, laying and jointing in true line and level 110 diametre U.P.V.C (Type 'B') conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735- 1999 of approved make for water supply system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diametre x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials	Rmt	30.00	835.15	25054.46
47	Providing and fixing UPVC/SWR Nahni trap of the following nominal dia self cleaning design with top tiles and stainer including cost of cutting and making good the walls and floors 100mm inlet and 50mm outlet including 150 mm x 150mm stainless steel jali with grating.	Each	18.00	571.08	10279.52
48	Providing, laying and jointing in true line and level 160 diametre U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 160 mm diametre x 210 mm length x 196 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt	30.00	831.22	24936.60
49	Providing, laying and jointing in true line and level 110 diametre U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diametre x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials	Rmt	55.00	835.15	45933.18
50	Providing and fixing S.W. Gully trap with C.I. grating brick masonry chamber & water-tight C.I. cover with frame of 300mm x 300mm size (inside) with standard weight. [I] Square mouth trap (C) 150mm x 100mm size P or R type.	Each	9.00	1246.92	11222.24
51	Providing and fixing in position cowel went to pipes.(B) 75mm dia.	Each	8.00	389.74	3117.91
52	Providing and fixing in position cowel went to pipes.(C) 100mm dia	Each	6.00	501.87	3011.21
53	Providing & fixing in position PVC water tank of approved quality and size on terrace including making inlet and outlet. Overflow and washout arrangement with G.I.connection including using necessary material and labour for connection etc. complete with closed cover including of providing and applying two coats of oil paint on outside of water tank as per drawing and specification including intel and outlet joints shall be sealed by pipe sealent.	Ltr	16000.00	3.95	63185.60
54	Providing and fixing wash down wall hung water closet(European type) of jaquar or equivalent with integral 'P' trap jointed within C.I pipe in C:M 1:1 including matching seat cover, chair braket, Conceled metropole of jaquar or equivalent, 2 way bibcock of jaquar or equivalent, health foucet of jaquar or equivalent with 1 m extension pipe, toilet paper holder of jaquar or equivalent with all accessories etc. complete	Each	12.00	29037.50	348450.00

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55	Providing and fixing table top wash basin on 18mm thick black shade polished granite for top with 2 Nos. of C.I. Heavy brecket with 1 Nos. of wash basin Jaquar brand or equivalent, C.P. brass Jaquar pillar cock or equivalent, angle valve or equivalent, C.P. brass extension nipple 62mm long, S.S. flange water super connection pipe 60cm. long and full thread waste coupling includingm, bottle trap making hole in granite for wash basin etc. complete. (For all floor)	Each	8.00	10347.45	82779.60
56	Providing and fixing chromium plated brass half trun flush cock of approved quality including fixing in pipe line etc. complete.(ii) 25mm dia	Each	12.00	263.77	3165.26
57	Bib Tap :Providing and fixing Bib Tap Chromium plated of 15 mm with necessary concealed fitting and cover panels. All the damages incurred while fixing shall be repaired to the satisfaction of the engineer in-charge. Bib Cock shall be as approved by engineer in-charge	Each	8.00	1939.71	15517.64
58	Providing and fixing brass screw down stop tap.(A) 15mm dia	Each	32.00	205.83	6586.49
59	Providing and fixing 600mm x 450mm bevelled edge Mirror of superior glass mounted on 6mm thick A.C.sheet or plywood sheet fixed to wooden plugs with C.P.Brass screws and washe	Sqm	12.00	833.73	10004.82
60	Providing and fixing C.P. Bib cock Heavy duty with cap. (A)15mm dia	Each	8.00	514.63	4117.07
61	Providing and fixing toilet paper holder (A)C. Brass	Each	12.00	418.68	5024.10
62	Providing & fixing ball cock of approved quality as directed. (A) Copper Metal (ii) 50 mm dia	Each	10.00	132.89	1328.86
63	Providing & fixing pvc non return full way Wheel Valve / Handle Valve ISI mark only of 40 mm dia. Joints shall be sealed by pipe sealant. For Water pipeLines	Each	10.00	663.43	6634.29
64	Providing & fixing pvc non return full way Wheel Valve / Handle Valve ISI mark only of 25 mm dia. Joints shall be sealed by pipe sealant. for Water pipeLines	Each	10.00	420.63	4206.35
65	Constructing brick masonry chamber for underground C.I. Inspection chamber and bends with bricks having crushing strength not less than 35Kg/Cm2 in C.M. 1:5 C.I. cover with frame (Light duty) 455mm x 610mm intenal dimensions total weight of cover with frame to be not less than 38Kg. (Wt. of cover 23 Kg.) and Wt. of frame 15Kg. ) (R.C.C. top slabe with 1:2:4 mix (1-cement :2- coarse sand :4-graded stone aggregate 20mm size) foundation concrete 1:5:10 inside plaster 15mm thick with cement mortar 1:3 finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete.(i) Inside dimensions 455mmx 610mm and 450mm deep for single pipe line.	Each	3.00	2932.93	8798.79
66	Extra over above Item No. (NBO-24.44 Item Code:24016AA PN-177) for additional depth 0.10 mt. or part there of beyond 450 mm depth for brick masonry chamber for 455 mm x 610 mm size	Each	35.00	242.39	8483.65

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
67	Constructing R.C.C. man hole with r.c.c. top slab in (1:2;4 ) mix with foundation concrete (1:3:6)) inside plastering 15mm thick in C.M. (1;4) finished with floating coat of neat cement slurry and making channels in cement concrete (1:2:4 ) mix finished smooth complete incl curing & testing Inside size 900 m.m.x1200 m.m.and 1.5 meter deep including C.I. Manhole cover with frame size 560 mm diameter total weight of coverand frame to be not less than 128 kgs ( wt of cover 64 kg & weight of frame 64 kgs) (A) with 230 mm thick walls of brick masonry using bricks having crushing strenth not less than 35 kg/sq cm. in cement mortar (1 :5) (1) A-type depth 0.9 meter for 150 mm diameter sewer	Each	3.00	11029.97	33089.90
68	Providing and fixing ECO Drain Pipes in including supporting the ECO Drain pipe on the bricks at each joint including leakproof joints ECO Drain Pipe etc., complete 160mm dia.	Rmt	35.00	1695.79	59352.65
69	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete (150mm dia)	Rmt	10.00	248.67	2486.72
70	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes 250mm dia I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete. (250mm dia)	Rmt	10.00	348.04	3480.36
71	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes 300mm dia I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete. (300mm dia)	Rmt	10.00	665.18	6651.76
72	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes 450mm dia I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete. (450mm dia)	Rmt	10.00	1060.59	10605.91
73	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes 500mm dia I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete. (500mm Dia)	Rmt	10.00	1234.78	12347.76
74	Providing laying (to level or slopes) and jointing reinforced concrete Light duty non-pressure pipes 600mm dia I.S.class NP2 of the following internal diameter with collars and buttends prepared for collar joints including testing of joints complete. (600mm Dia)	Rmt	10.00	1381.20	13811.95
75	Providing laying and jointing in true line and level 15mm Dia U.P.V.C .Pipe 15mm Dia (SCH 40) for cold water including fittings make PRINCE /SUPREME /ASTRAL/ FINOLEX ore equivalent as approved by client and cosultant. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joint sand fixing the same with adhesive solvent, including cost of all materials.	Rmt	24.00	72.65	1743.58
76	Providing laying and jointing in true line and level 25mm Dia U.P.V.C .Pipe (SCH 40) for cold water including fittings make PRINCE /SUPREME /ASTRAL/ FINOLEX ore equivalent as approved by client and cosultant. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joint sand fixing the same with adhesive solvent, including cost of all materials.	Rmt	32.00	91.84	2938.86

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
77	Providing laying and jointing in true line and level 32mm Dia U.P.V.C .Pipe (SCH 40) for cold water including fittings make PRINCE /SUPREME /ASTRAL/ FINOLEX ore equivalent as approved by client and cosultant. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joint sand fixing the same with adhesive solvent, including cost of all materials.	Rmt	48.00	119.09	5716.28
78	Providing laying and jointing in true line and level 40mm Dia U.P.V.C .Pipe (SCH 40) for cold water including fittings make PRINCE /SUPREME /ASTRAL/ FINOLEX ore equivalent as approved by client and cosultant. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joint sand fixing the same with adhesive solvent, including cost of all materials.	Rmt	16.00	148.12	2369.86
79	Providing laying and jointing in true line and level 50mm Dia U.P.V.C .Pipe (SCH 40) for cold water including fittings make PRINCE /SUPREME /ASTRAL/ FINOLEX ore equivalent as approved by client and cosultant. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be cancelled as directed including necessary fittings etc. including testing of pipe and joint sand fixing the same with adhesive solvent, including cost of all materials.	Rmt	16.00	195.67	3130.68
80	Providing,laying and jointing in true line and level 110mm Dia U.P.V.C (TypeB) conforming to IS13592-1992 with one end plain and other end socketed with rubbering, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipeline, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp every 2000mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all material	Rmt	16.00	835.15	13362.38
81	Providing,laying and jointing in true line and level 160mm Dia U.P.V.C (TypeB) conforming to IS13592-1992 with one end plain and other end socketed with rubbering, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipeline, pipe shall be jointed with each other with rubber lubricant, pipe shall be fixed on wall using of PVC clamp every 2000mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all material	Rmt	8.00	831.22	6649.76
82	Providing and fixing S.W. gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300mm x 300mm size (inside) with standard weight.(i) Square mouth traps.(B) 150mm x 100mm size P or R type	Rmt	20.00	1246.92	24938.31
83	Providing and fixing urinals of jaquar or equivalent with integral drain pipe jointed within C.I pipe in C:M 1:1, Conceled cock, all accessories etc. complete.	No	16.00	15680.25	250884.00
84	Providing and Fixing autoclosing concealed urinal flush valve with wall flange complete. As directed by EIC.	No	16.00	8362.80	133804.80
	<b>ELECTRICAL</b>		0.00	0.00	0.00
85	Point wiring for Light / Bell with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in/ on surface on wall/ceiling complete with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic box, single mounting base frame covered with textured/metallic front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed. (e) in existing pipe erected flushed on wall/ceiling complete Cat. III	Pt.	301.00	350.47	105491.47

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
86	Point wiring for secondary light point with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in / flushed on wall/ceiling, complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC box covered with 3 mm thick PC(Polycarbonet) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed. Note:- Maximum up to 6 mtrs length, excess will be considered as Mains for Secondary Point. (e) in existing pipe erected flushed on wall/ceiling complete	Pt.	130.00	76.76	9978.80
87	Point wiring for FAN with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in / flushed on wall/ceiling complete with 6A Modular type switch and hum free EME four or more step type electronic fan regulator with separately mounted and accessories with earth continuity of following type erected on PVC / Metallic box, single mounting base frame covered with textured/metallic front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed. (e) in existing pipe erected flushed on wall/ceiling complete Cat. III	Pt.	99.00	489.85	48495.15
88	Point wiring for Individual Plug with & earthwire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of to be erected concealed in / on surface of wall / ceiling complete with Modular type switch & 5 pin Plug erected on PVC / Metallic box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories. [I] For 6A Plug with 2-1.5 sq.mm Cu. Wire (e) in existing pipe erected flushed on wall/ceiling complete Cat. III	Pt.	45.00	364.61	16407.45
89	...do...[III] For 16A Plug with 2-4 sq.mm Cu. Wire (e) in existing pipe erected flushed on wall/ceiling complete Cat. III	Pt.	34.00	629.23	21393.82
90	Point wiring for Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic box, single mounting base frame covered with textured / metallic front plate modules erected on / in wall / ceiling with following type accessories Cat. III	Pt.	130.00	241.39	31380.70
91	Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earthwire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires, in following type of pipe to be erected concealed in / flushed on wall/ceiling ,complete with 6A Modular type switches and following type of accessories erected on PVC / Metallic box, single mounting base frame covered with textured / metallic front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed. (e) in existing pipe erected flushed on wall/ceiling complete Cat. III	Pt.	65.00	449.45	29214.25
92	Conduits & Pipes Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (b) 25 mm	Mtr.	9000.00	32.32	290880.00
93	...do...(c) 32 mm	Mtr.	345.00	52.52	18119.40
94	Providing & erecting PVC Corrugated Flexible Conduit with required nos. of coupling, PVC bushes, Check-nuts etc. complete of following sizes. (2) 25 mm	Mtr.	563.00	20.20	11372.60

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
95	Mains & Wires Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (a) with medium class Rigid PVC pipe and accessories (a) 2 wire 1.5 sq. mm	Mtr	703.00	59.59	41891.77
96	...do...(b) 2 wire 2.5 sq. mm	Mtr	3655.00	78.78	287940.90
97	Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (a) with medium class Rigid PVC pipe and accessories (a) 2 wire 4 sq. mm	Mtr	3514.00	107.06	376208.84
98	Mains with ISI marked, 1.5KV grade electrolyte multi stranded, annealed copper conductor with heat resistant PVC insulated conforms to IS 694, IEC - 227 erected in existing pipe of following size (Specifically for control panel, relays, power switchgears, motor starters & control wiring) with required size of copper lugs, nuts and bolts if required. (e) One wire 6.00 sq. mm	Mtr.	700.00	53.53	37471.00
99	...do...(f) One wire 10.00 sq. mm	Mtr.	422.00	87.87	37081.14
100	...do...(g) One wire 16.00 sq. mm	Mtr.	422.00	135.34	57113.48
101	<b>MOULDED CASE CIRCUIT BREAKERS</b> Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. at 415 V. having normal current rating up to 125A. with Fixed thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections & complete erected in existing 16 G.M.S. housing. ICS=100% of ICU only Cat III	Ea.	2.00	8055.76	16111.52
102	Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. at 415 V. having Normal current rating up to 200A.with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections & complete erected in existing 16 G.M.S.housing ICS=100% of ICU only Cat III	Ea.	3.00	16221.61	48664.83
103	Approved make standard manually operated fixed type 4 Pole Air circuit breaker. Having following KA breaking capacity with ICU=ICS=ICW (1 sec), with following type of relay and accessories. (2) with microprocessor Release with over load, short circuit, earth fault protection (L.S.I.G.) and metering display in modular design with LED display and Test Trip button facility, CTs and auxiliary contacts, of following current ratings. (B) 1000Amp , 50 kA Cat III	Ea.	2.00	82719.00	165438.00
104	<b>PANEL MOUNTING BUSBARS</b> Supplying and erecting triple pole & neutral 440V/ 500V panel mounting Aluminium Busbars with four equal Nos. of bus having current density not more than 0.8 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulating tape for phase sequence of following current carrying capacity, erected with necessary bus bar supports /insulators, main cable socket to each busbar,erected in existing cubical panel with necessary connections. (B) Suitable for 200 Amp. Capacity	Rn.Mtr	15.00	1037.27	15559.05
105	...do...(G) Suitable for 1200 Amp.capacity	Rn.Mtr	15.00	7957.79	119366.85
106	<b>MINIATURE CIRCUIT BREAKERS.</b> Miniature circuit breaker single pole 6A to 32A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark Cat.III	Ea.	72.00	112.11	8071.92

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
107	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b)40 Amp. Cat.III	Ea.	18.00	668.62	12035.16
108	...do... (b)63 Amp. Cat.III	Ea.	6.00	737.30	4423.80
109	<b>MCB DISTRIBUTION BOARDS</b> Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, confirming to IS 13032 and BS 5486-1986 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) (B) Three phase 8 way SS Double door for horizontal single phase outgoing	Ea.	6.00	3412.79	20476.74
110	<b>EARTH LEAKAGE CIRCUIT BREAKERS</b> Approved make ELCBs / RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 6 KA and suitable for operation on single phase 240 V. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (ii) 40Amps. DP Cat. III	Ea.	17.00	2235.13	37997.21
111	<b>DANGER NOTICE BOARDS.</b> Providing and erecting metallic vitrified danger notice board for MEDIUM VOLTAGE installation to be erected as per IS.	Ea.	3.00	69.69	209.07
112	Providing & erecting Medium Voltage Danger Notice Board sticker of standard size	Ea	3.00	26.26	78.78
113	<b>EARTHINGS</b> Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	Kg.	71.00	77.77	5521.67
114	Providing and erecting required size Copper strip for earthing of H.T. OCB / ACB/ Transformer, LT panel board, Motors etc. using copper clamp.	Kg.	71.00	794.87	56435.77
115	Providing and erecting Annealed bare Copper wire 8 to 16 SWG.	Kg.	71.00	794.87	56435.77
116	Supplying & erecting in earthpit of minimum bore dia. 225mm size ASH or approved make Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free G.I.Pipes having Outer pipe dia of 80 mm having 80-200 Micron galvanising, Inner pipe dia of 40 mm having 200-250 Micron galvanising, connection terminal dia of 14 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications. [C] For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA)i.e. independent Earthing located in other than normal soil i.e. Soft Rock, Marshy Soil etc.. -Length of Pipe : 3 Mtrs. -Back filling Compound :2 nos Bags of 25 Kg.	Ea.	9.00	10593.89	95345.01

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
117	<p>Providing &amp; erecting weather proof, dust &amp; vermin proof, floor mounted front operated indoor type cubical panel board having IP-64 protection made from 14 SWG thick CRC M.S. sheet for outer body &amp; doors, 16 SWG thick CRC M.S. sheet for internal partitions with necessary supporting angles, flats including cutting, bending, drilling, welding, riveting with internal partitions &amp; cable alley as per requirements &amp; instruction of engineer-in-charge with erection of supplied switch gears, BUSBARS, with suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses for measuring instruments, earth bus &amp; earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket complete. The Panel shall be painted with epoxy powder coating.</p> <p>(The rates excludes the cost of switchgears, bus bars, inter connecting mains &amp; Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.</p> <p>(A) The standard companies switch gear shall be used and only manufacturers at CPRI approved factory and shall be certified by that company whose switch gears are used after fabrication for beneficial use</p> <p>(i) with 350mm depth</p>	Sq.Mtr	9.00	10468.65	94217.85
118	...do...(iv) with 1000 mm. depth	Sq.Mtr	9.00	27134.66	244211.94
119	<p>CABLES &amp; WIRES</p> <p>Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables</p> <p>(F) 3 1/2 core 150 Sq. mm ( 70 Sq. mm 1/2 core)</p>	Mtr.	141.00	534.29	75334.89
120	(H) 3 1/2 core 240 Sq. mm( 120 Sq. mm 1/2 core)	Mtr.	141.00	899.91	126887.31
121	Making trench in soft soil of suitable width of 90 cms deep for laying cable or locating the fault all over the run and backfilling the same and making the surface as normal ground.	Mtr.	141.00	46.46	6550.86
122	Covering of cable with second class bricks or cement tiles laid cover the cable crosswise & also on both sides with covering of 7.5 Cms. layer of sand above & below cable (16 bricks per meter)	Mtr.	141.00	134.33	18940.53
123	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.(H) 3 & 1/2 core 240 Sq. mm	Ea.	6.00	247.45	1484.70
124	<p>CABLE LUGS.</p> <p>Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool &amp; connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.</p> <p>(H) 120 Sq.mm.</p>	Ea.	15.00	61.61	924.15
125	...do...(K) 225 Sq.mm.	Ea.	15.00	98.98	1484.70
126	<p>Solderless crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool &amp; connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.</p> <p>(A) 1.5/2.5 to 6 Sq.mm</p>	Ea.	15.00	8.08	121.20
127	...do...(B) 10 Sq.mm	Ea.	8.00	10.10	80.80
128	<p>EXHAUST FANS &amp; ACCESSORIES</p> <p>Supplying &amp; erecting single phase approved make industrial exhaust fan suitable for medium duty ring mounted low noise operation suitable for medium duty having following dia size and maximum speed in RPM</p> <p>[A] 305 mm dia 900 RPM</p> <p>Cat.II</p>	Ea.	15.00	2054.34	30815.10

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
129	<p>LED LUMINARIES</p> <p>Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA polyester powder coated and high U.V. &amp; corrosion resistance with diffuser and/or Polycarbonate optics with company mark/name</p> <p>120 to 300 V, Power Factor more than 0.9, THD &lt; 10 %,</p> <p>CCT 4000 K to 6500K, Uniformity ratio &gt;0.7,</p> <p>Luminaire efficiency &gt; 85 lumens/watt ,</p> <p>LED driver efficiency &gt; 85 %</p> <p>CREE / OSRAM / PHILIPS Lumileds / NICHIA / SEOUL/Bridgelux(U.S.A.) make LED used for luminaire. (Each fitting required LM-79 &amp; LM-80 Certificates)</p> <p>(A) Tube Light with integral/ non-integral driver</p> <p>(D) 20-22 Watts, Surge - 4KV, IP-20</p> <p>Cat-III</p>	Each	29.00	373.70	10837.30
130	<p>...do...(C) Square/ Circular Surface/Recessed Mounted Downlight with provision for spring loaded mounting clips complete.</p> <p>(b) 10-15 watts, Surge-4 KV</p> <p>Cat-III</p>	Each	29.00	427.23	12389.67
131	<p>...do...(C) 20-24 watts, Surge-4 KV</p> <p>Cat-III</p>	Each	79.00	758.51	59922.29
132	<p>...do...(D) LED Panel Light with provision for Plane front frame with translucent cover fixed to housing complete.</p> <p>(g) upto 45 to 48 watts, 600 x 600 mm, Surge-4 KV</p> <p>Cat-III</p>	Each	189.00	2091.71	395333.19
<b>HVAC WORK</b>					
133	<p>Supply Installation, Testing &amp; Commissioning of modular type Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), microprocessor based Controller, top discharge type condensing unit(s), with R410 A Refrigerant (Or Eco Friendly Green Gas if any), vibration isolators, with suitable foundation, MS Stand for Unit with necessary paint etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5. (Design should be got approval before execution from engineer in charge)</p>	PER HP	112.00	23836.00	2669632.00
134	<p>Supply, installation, testing and commissioning of following minimum capacity 4-way/2 way/radial flow as per approval VRV Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply, max noise level 60dB @ 400 cfm per TR(minimum) complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature fresh air provision compatible for Remote Operation System</p> <p>(A) 2.8 TR</p>	Ea.	4.00	32320.00	129280.00
135	<p>...DO...(B) 4.0 TR</p>	Ea.	24.00	34340.00	824160.00

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
136	Supply, installation, testing and commissioning of following minimum capacity VRV High wall type Indoor unit equipped with washable synthetic media pre-filter, fan section with noise level maximum 60 dB @min 400 cfm /dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, outer cabinet, cord less remote control, drain pan, necessary accessories etc., suitable for operation on 230 V $\pm$ 10%, 50 Hz, single phase AC supply, complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature. (A) 2 TR	Ea.	4.00	22220.00	88880.00
137	Supply, installation, testing and commissioning of following minimum capacity 1 way/radial flow as per approval VRV Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V $\pm$ 10%, 50Hz AC supply, max noise level 60dB @ 400 cfm per TR(minimum) complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature fresh air provision compatible for Remote Operation System(A) 1 TR	Ea.	2.00	52520.00	105040.00
138	...DO...(B) 1.2 TR	Ea.	2.00	54540.00	109080.00
139	...DO...(C) 2 TR	Ea.	2.00	60600.00	121200.00
140	All refrigerant Joints and Ref Header for the system	Lot	1.00	409959.00	409959.00
141	Central Control System (A) Cord type remote control with thermostat, LED Display and internal wiring for Cassette, FCU & CSU	Nos.	40.00	1858.40	74336.00
142	(B) Central wired Remote Control System	PER HP	112.00	1666.50	186648.00
143	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-0 tubular insulation/with Class-0 closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc with necessary refrigerant joint as required : (A) 6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	28.00	272.70	7635.60
144	.....(do).....(B) 9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	30.00	373.70	11211.00
145	.....(do).....(C.) 12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	40.00	515.10	20604.00
146	.....(do).....(D) 15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	50.00	666.60	33330.00
147	.....(do).....(E) 19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	57.00	787.80	44904.60
148	.....(do).....(F) 22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	69.00	969.60	66902.40
149	.....(do).....(G) 25.4 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	89.00	1141.30	101575.70
150	.....(do).....(H) 28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	93.00	1212.00	112716.00
151	.....(do).....(I) 31.8 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	107.00	1120.09	119849.63
152	.....(do).....(J) 34.9 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	115.00	1343.30	154479.50
153	.....(do).....(K) 38.1 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	120.00	1383.70	166044.00

SR NO	ITEM DESCRIPTION	UNIT	Total Qty	Tender Rate	TOTAL AMT
154	.....(do).....(L) 41.27 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	136.00	1464.50	199172.00
155	M.S.Structure for installing VRV outdoor units duly Painted with synthetic enamel paints.	Kg.	800.00	127.26	101808.00
156	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation.A) 32 MM DIA.	Rmt	304.00	90.90	27633.60
157	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation.B) 25 MM DIA.	Rmt	240.00	90.90	21816.00
158	Testing & Commissioning Charges along with topping-up of R-410a refrigerant.	Kgs.	112.00	1010.00	113120.00
159	Supply installation testing commissioning Shielded Shielded Control Cables for VRV System with necessary ISI mark Medium class rigid PVC pipes with necessary accessories with termination in machine and control equipments..	Rmt	1280.00	151.50	193920.00
160	Supplying & fixing 50mm thick TF quality expanded polystyrene for underdeck insulation on slab/wall /shaft exposed to sun/atmosphere as per specifications.	Sqmt	192.00	419.15	80476.80
161	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables. (C) 4 core 25 Sq. mm	Rmt	112.00	1500.86	168096.32
162	Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	KG	69.60	77.77	5412.79
163	Providing and erecting HOT deep Galvanised iron strip wire 8 to 16 SWG.	Kg.	24.00	131.30	3151.20
164	ELECTRICAL PANEL BOARD VRV SYSTEM IN COMPARTMENTALISED AND WEATHER PROOF CONSTRUCTION WITH COPPER BUS BAR, STAR DELTA STARTER, SFU, TPN MCB, PUSH BUTTONS, INDICATING LAMPS, A METERS, V METERS, DIGITAL LOAD MANAGER, INDICATING LAMPS, DELAY TIMERS, RYB LED LAMPS, CONTROL WIRING AND PROTECTION SYSTEM ETC.	Nos.	3.00	90900.00	272700.00
			<b>Total Amount</b>		<b>57870597.46</b>