

Electrical BOQ					
Construction of Hall of Residence No.15 for Girls (G+12) at IIT Kanpur (U.P.) (SH : Electrical Works)					
Electrical BOQ					
S.No.	Description	Unit	Qty	Rate	Amount With Out GST
1.00	Sub Head - I- WIRING				
1.01	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.				
1.02	Group A	Nos	5306.00	1091.00	5788846.00
2.00	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
2.01	Group A	Nos	1155.00	681.00	786555.00
3.00	Wiring for light/ power plug with 2X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 1 No. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Mtr	14741.00	380.00	5601580.00
4.00	Wiring for light/ power plug with 4X4 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit alongwith 2 Nos. 4 sq. mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Mtr	10.00	580.00	5800.00
5.00	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.				
5.01	2 X 1 .5 sq. mm + 1 X 1 .5 sq. mm earth wire	Mtr	10008.00	287.00	2872296.00
5.02	4 X 1 .5 sq. mm + 2 X 1 .5 sq. mm earth wire	Mtr	10008.00	573.00	5734584.00
5.03	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	Mtr	16900.00	516.00	8720400.00
5.04	2 X 10 sq.mm + 1 x 6 sq. mm earth wire	Mtr	10.00	623.00	6230.00
5.05	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Mtr	1156.00	1022.00	1181432.00
5.06	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Mtr	2942.00	1442.00	4242364.00
6.00	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing raceway/ furniture/ surface/ recessed steel/ PVC conduit as required				
6.01	2 x 1.5 sq. mm	Mtr	10.00	61.00	610.00
6.02	3 x 1.5 sq. mm	Mtr	10.00	83.00	830.00
6.03	6 x 1.5 sq. mm	Mtr	10.00	159.00	1590.00
6.04	3 x 4 sq. mm	Mtr	10.00	181.00	1810.00
7.00	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.				
7.01	1 or 2 Module (75mmX75mm)	Nos	525.00	261.00	137025.00
7.02	3 Module (100mmX75mm)	Nos	2.00	287.00	574.00
7.03	4 Module (125 mm X 75 mm)	Nos	2.00	301.00	602.00
7.04	6 Module (200 mm X 75 mm)	Nos	2.00	352.00	704.00
8.00	Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/ recessed steel/PVC conduit including dismantling as required.				
8.01	Group A	Point	12.00	503.00	6036.00
9.00	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required.	Nos	1744.00	418.00	728992.00
10.00	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 15/16 & 5/6 amps modular socket outlet and 15/16 amps modular switch, connection, painting etc. as required	Nos	1516.00	514.00	779224.00
11.00	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 Nos. 3 pin 5/6 A modular socket outlet and 2 Nos. 5/ 6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	Nos	1976.00	593.00	1171768.00
12.00	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
12.01	20 mm	Mtr	9760.00	196.00	1912960.00
12.20	25 mm	Mtr	27582.00	224.00	6178368.00
12.03	32 mm	Mtr	10.00	286.00	2860.00
12.04	40 mm	Mtr	10.00	412.00	4120.00
12.05	50 mm	Mtr	10.00	512.00	5120.00
13.00	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top along with 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet and complete with connections, testing and commissioning etc. as required.	Nos	24.00	1421.00	34104.00
14.00	Supplying and fixing 30 amps, 415 volts, TPN industrial type, socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 amps "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Nos	5.00	3601.00	18005.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
15.00	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.				
15.01	1 run of cable	Mtr	3272.00	50.00	163600.00
15.02	2 run of cable	Mtr	1636.00	84.00	137424.00
15.03	3 run of cable	Mtr	852.00	117.00	99684.00
16.00	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
16.01	Telephone socket outlet	Nos	19.00	130.00	2470.00
16.02	TV antenna socket outlet	Nos	27.00	130.00	3510.00
17.00	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Nos	864.00	41.00	35424.00
18.00	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.	Nos	2.00	637.00	1274.00
19.00	Supply and fixing of 32 x 12.5 mm DLP mini- trunking white-system with independent cover etc. as required complete.	Mtr	550.00	163.00	89650.00
20.00	Supply and fixing of following accessories suitable for 32 mm x 12.5 mm size plastic trunking white system.				
20.01	End cap	Nos	50.00	73.00	3650.00
20.02	internal / external angle	Nos	50.00	103.00	5150.00
20.03	changeable flat angle	Nos	50.00	110.00	5500.00
20.04	flat junction	Nos	50.00	140.00	7000.00
21.00	Supply and fixing of 32 x 20 mm DLP mini- trunking white-system with independent cover etc. as required complete.	Mtr	250.00	217.00	54250.00
22.00	Supply and fixing of following accessories suitable for 32 mm x 20 mm size plastic trunking white system.				
22.01	End cap	Nos	50.00	147.00	7350.00
22.02	internal / external angle	Nos	50.00	140.00	7000.00
22.03	changeable flat angle	Nos	50.00	118.00	5900.00
22.05	flat junction	Nos	50.00	140.00	7000.00
23.00	Supply and fixing of 105 x 50 mm DLP trunking white-system but without cover and partition etc. as required complete.	Mtr	1500.00	915.00	1372500.00
24.00	Supply and fixing of following accessories suitable for 105 mm x 50 mm size plastic trunking white system.				
24.01	85 mm flexible cover	Mtr	150.00	397.00	59550.00
24.02	End cap	Nos	50.00	188.00	9400.00
24.03	Internal angles- adjustable from 80°-100°	Nos	50.00	512.00	25600.00
24.04	external angles- adjustable from 60°-120°	Nos	50.00	531.00	26550.00
24.05	flat junction	Nos	50.00	904.00	45200.00
24.06	flat angles	Nos	50.00	688.00	34400.00
24.07	separation partitions	Mtr	150.00	235.00	35250.00
24.08	Joints for 85mm width cover	Nos	50.00	208.00	10400.00
24.09	base joints	Nos	50.00	87.00	4350.00
25.00	Supply and fixing MS box of suitable size including cutting, fabrication of MS sheet 2 mm thick duly powder coated with angle support/ hanging and locking arrangement etc.with common key complete as required.	Kg	300.00	166.00	49800.00
26.00	Supply, installation, testing and Commissioning of single unit CAT6 RJ45 I/O or specified make including faceplate and MS back box assembly, inclusive of termination of CAT6 cable at each IO at workstation area / device / desktop / or at a patch panel inside a rack as per tender specifications.	Nos	1165.00	668.00	778220.00
27.00	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				
27.01	5/6 amps switch	Nos	100.00	90.00	9000.00
27.02	2 way 5/6 amps switch	Nos	15.00	130.00	1950.00
27.03	15/16 amp switch	Nos	10.00	137.00	1370.00
27.04	3 pin 5/6 amp socket outlet	Nos	20.00	107.00	2140.00
27.05	6 pin 15/16 amp socket outlet	Nos	30.00	173.00	5190.00
27.06	Bell push	Nos	15.00	123.00	1845.00
28.00	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Nos	250.00	324.00	81000.00
29.00	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Nos	50.00	35.00	1750.00
30.00	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc as required.				
30.01	1 or 2 Module (75mmX75mm)	Nos	1255.00	261.00	327555.00
30.02	3 Module (100mmX75mm)	Nos	25.00	287.00	7175.00
30.03	4 Module (125mmX75mm)	Nos	35.00	301.00	10535.00
30.04	6 Module (200mmX75mm)	Nos	46.00	352.00	16192.00
30.05	8 Module (125mmX125mm)	Nos	24.00	398.00	9552.00
30.06	12 Module (200mmX150mm)	Nos	96.00	480.00	46080.00
31.00	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required.				
31.01	1 or 2 Module	Nos	5.00	117.00	585.00
31.02	3 Module	Nos	25.00	132.00	3300.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
31.03	4 Module	Nos	35.00	139.00	4865.00
31.04	6 Module	Nos	46.00	160.00	7360.00
31.05	8 Module	Nos	24.00	185.00	4440.00
31.06	12 Module	Nos	96.00	238.00	22848.00
32.00	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	Nos	1000.00	194.00	194000.00
33.00	Providing and fixing M.S. fan clamp type I or II of 16 mm dia M.S. bar, bent to shape with hooked ends in R.C.C. slabs or beams during laying, including painting the exposed portion of loop, all as per standard design complete	Nos	20.00	198.00	3960.00
34.00	Sub Head - II- SDB, DISTRIBUTION BOARD & RISING MAINS				
34.01	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
34.02	6 way (2+6) , Double door	Nos	976.00	1934.00	1887584.00
34.03	8 way, Double door	Nos	12.00	2256.00	27072.00
34.04	12 way, Double door	Nos	5.00	2030.00	10150.00
34.05	16 way, Double door	Nos	2.00	2754.00	5508.00
35.00	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
35.01	4 way (4 + 12), Double door	Nos	3.00	3587.00	10761.00
35.02	6 way (4 + 18), Double door	Nos	1.00	4361.00	4361.00
35.03	8 way (4 + 24), Double door	Nos	6.00	5232.00	31392.00
36.00	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without CBs and incomer) as required. (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
36.01	4 way (4 + 12), Double door	Nos	2.00	6587.00	13174.00
36.02	8 way (4 + 24), Double door	Nos	99.00	8913.00	882387.00
36.03	12 way (4 + 36), Double door	Nos	64.00	11252.00	720128.00
37.00	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
37.01	Single pole	Nos	7243.00	224.00	1622432.00
37.02	Single pole and neutral	Nos	995.00	525.00	522375.00
37.03	Double Pole	Nos	10.00	575.00	5750.00
37.04	Triple pole	Nos	21.00	883.00	18543.00
37.05	Triple pole and neutral	Nos	32.00	1077.00	34464.00
38.00	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as	Nos	26.00	11.00	286.00
39.00	Supplying and fixing following rating, double pole, 240 volts, MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
39.01	40 amps	Nos	5.00	381.00	1905.00
39.02	63 amps	Nos	5.00	462.00	2310.00
40.00	Supplying and fixing following rating, four pole, 415 V, MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
40.01	40 amps	Nos	5.00	851.00	4255.00
40.02	63 amps	Nos	72.00	907.00	65304.00
40.03	100 amps	Nos	97.00	1076.00	104372.00
41.00	Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 30 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
41.01	25 amps	Nos	5.00	1778.00	8890.00
41.02	40 amps	Nos	5.00	2317.00	11585.00
41.03	63 amps	Nos	198.00	2387.00	472626.00
42.00	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
42.01	25 A	Nos	1.00	2267.00	2267.00
42.02	40 A	Nos	5.00	2795.00	13975.00
42.03	63 A	Nos	10.00	2518.00	25180.00
43.00	Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with testing and commissioning etc. as required.				
43.01	For 6 way, Double door SPN MCBDB	Nos	976.00	659.00	643184.00
43.02	For 8 way, Double door SPN MCBDB	Nos	12.00	730.00	8760.00
43.03	For 14 way, Double door SPN MCBDB	Nos	5.00	791.00	3955.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
44.00	Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required.				
44.01	For 6 way, Double door TPN MCBDB	Nos	1.00	986.00	986.00
44.02	For 8 way, Double door TPN MCBDB	Nos	6.00	1175.00	7050.00
45.00	Supplying and fixing Cable End Box (Loose wire box) suitable for triple pole and neutral, sheet steel, Vertical MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required.	Nos	165.00	1026.00	169290.00
46.00	Supplying, installation, testing and commissioning of following capacity Air Insulated compact type rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C supply with enclosure having IP-54 rating after fixing the tap off boxes and all accessories, made of 1.6mm thick steel sheet duly powder coated in convenient sections complete with 4 Nos. aluminium bus bars having current density of 130 A/ sq cm at nominal current rating, necessary joints & expansion joints, fire barrier at each floor, provision of tapping at every metre, continuous earthing with 2 Nos aluminium strip of suitable size (one on each side) including, G.I clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc.as required.				
46.01	500 A, Isc = 35kA for 1 second	Mtr	78.00	9767.00	761826.00
47.00	Supplying, installation, testing & commissioning of following capacity End Feed Unit for the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C. supply made with 1.6mm thick steel sheet enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete with necessary joints including clamping brackets, angle iron bracket, steel fasteners, connecting to earthing system etc. as required				
47.01	500 A, Isc=35kA for 1 sec	Nos	4.00	9927.00	39708.00
48.00	Providing and fixing following rating and breaking capacity and pole compact design type MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board/tap off box including drilling holes in cubicle panel, making connections, etc. as				
48.01	125 A, 16 KA,TPMCCB	Nos	2.00	3267.00	6534.00
48.02	200 A, 25 KA,TPMCCB	Nos	22.00	9604.00	211288.00
49.00	Supplying, installation, testing and commissioning of following capacity plug in tap on box on the existing Air Insulated Compact Type bus trunking/ rising mains for use on 3 phase 4 wire 415 volts, 50Hz A.C supply made with 1.6mm thick sheet steel enclosure (IP54) duly powder coated with provision of MCCB/ACB (but without MCCB/ACB) complete etc.as required.				
49.01	125 A, Isc=15kA for 1 sec	Nos	2.00	7603.00	15206.00
49.02	200 A, Isc=25kA for 1 sec	Nos	22.00	7603.00	167266.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
50.00	Sub Head III- LIGHTENING CONDUCTOR AIR TERMINATION SYSTEM				
50.01	Supply and Installation of 8mm dia Aluminium alloy Solid Round Conductor of material AlMgSi used in air termination and down conductor system . Cross sectional area of conductor should be 50 mm ² . Meets the requirement for IS/IEC 62305. Test Parameter: a. Lightning impulse current of 100kA for 10/350 μ s b. Electrical resistivity - 0.034 m, c. Tensile strength - 178 MPa or N/mm ² d. Salt spray - No Sign of Corrosion. Tested as per IEC 62561-2.	Mtr	1100.00	260.00	286000.00
50.02	Supply and Installation of SS Conductor Holder for Parapet wall for holding 8 mm dia Aluminium alloy round Conductor horizontal air termination and in down conductors. Meets the requirements as per IS/IEC 62305, IEC 62561-4.	Nos	1200.00	253.00	303600.00
50.03	Supply and Installation of Nylon roof conductor holder for flat roof with concrete block for fixing 8 mm dia Aluminium alloy Solid Round Conductor in the terrace flat surface at every 1 mtr.	Nos	20.00	152.00	3040.00
50.04	Supply and Installation of Adhesion Glue for fixing metal roof conductor holder over the metal surface to meet the requirement of IS/IEC 62305.	Nos	20.00	1235.00	24700.00
50.05	Supply and Installation of Stainless steel 304 Grade MP Connector for 8-10 mm dia round conductor at cross/Tee junction to meet the requirement for IS/IEC - 62305 and tested for Mechanical load as per IEC 62561-1.	Nos	144.00	469.00	67536.00
50.06	Supply and Installation of Expansion Joint with connector to compensate the expansion and contraction of 8mm dia Solid Round Al. Conductor during temperature variations. Expansion Joint should be consider at every 20 mtr length of straight horizontal air termination and connected at both the end with use of straight connector conductor.	Nos	64.00	387.00	24768.00
50.07	Supply and Installation of Aluminium Straight conductor connector for interconnecting 8mm Aluminium conductor to meets the requirement of IS/IEC 62305. Test Parametres: a) Mechanical Load b) Electrical Resistivity c) Environmental Test Tested as per IEC 62561-1	Nos	50.00	76.00	3800.00
50.08	Supply and Installation of VAT 2mtr length of material AlMgSi of diametre ϕ 16/10 mm crimped on both the ends (Tappered Type). The rod shall be mounted with stainless steel clamp and fixing accessories . Test Parameter for 2 mtr vertical air terminal a) Electrical Resistivity b) Tensile Strength c) Condition of Salt Mist Tested as per IEC 62561-2. Test Parametrer for Wall clamp a) Mechanical load as per IEC 62561-1	Nos	19.00	5157.00	97983.00
50.09	Supply of air termination rod of 3mtr length of material AlMgSi of diametre ϕ 16/10 mm crimped on both the ends (Tappered Type). The rod shall be mounted with stainless steel clamp and fixing accessories . Test Parameter for 3 mtr vertical air terminal a)Electrical Resistivity b) Tensile Strength c) Condition of Salt Mist Tested as per IEC 62561-2. Test Parametrer for Wall clamp a) Mechanical load as per IEC 62561-1	Nos	2.00	7836.00	15672.00
50.10	Supply Installation of Stainless steel Earthing stud -1 with fixing clamp accessories of dimension 69 x 69 mm used in structural steel ring earthing system to meet the requirements of IS/IEC 62305 and tested as per IEC 62561-1. Rated Current (CPRI TESTED): I _{rms} - 5 KA; I _{peak} - 10.5 KA Per sec	Nos	45.00	2426.00	109170.00
50.11	Supply and Installation of Connecting point made of stainless steel for terminating the 8-10mm dia conductor to meets the requirement of IS/IEC 62305 / IEC62561-2	Nos	45.00	387.00	17415.00
50.00	Supply and Installation of Aluminuim folding seam conductor holder as per sheet profile for an 8 mm dia aluminium alloy solid round conductor for fixing a horizontal air terminal above the metal sheet to meet the requirements for IS/IEC 62305 and tested as per IEC 62561-4.	Nos	30.00	285.00	8550.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
51.00	STRUCTURAL RISER Supply and Installation of Rust resistant non corrosive 10 mm Dia Copper Bonded solid Steel round conductor used for Earth termination inside the concrete and soil. Used as vertical riser in column. Meets the requirement of IS/IEC 62305. Test parameter: a) Short circuit current test for copper bonded conductor: Test 6.6 kA ratings, as per cross sectional area for 1 sec (IS3043/IEEE80). b) Electrical Resistivity : 0.1 m c) Tensile strength 672 N/mm ² . d) Adhesion no peel or crack & Bend test no separation of Cu, e) Cu Coating thickness min. 70µm. Tested as per IEC 62561-2.	Mtr	1800.00	868.00	1562400.00
52.00	Supply and Installation of multi Conductor Bonding Clamp Copper Coated for interconnecting 10 - 18 mm Round Conductor with reinforcement rebar ranging 16 to 32mm at every interval of 3Mtr inside the concrete to meet the requirements of IS/IEC 62305 and IEC 62561-2.	Nos	635.00	526.00	334010.00
53.00	Supply and Installation of Stainless steel Straight Connector for interconnecting 10 mm dia copper bonded round conductor at straight connection to meets the requirement of IS/IEC 62305. Test Parametres: a) Static Mechanical Test b) Environmental Test Tested as per IEC 62561-1	Nos	385.00	399.00	153615.00
54.00	Supply Installation of Stainless steel Earthing stud -1 with fixing clamp accessories of dimension 69 x 69 mm used in structural steel ring earthing system to meet the requirements of IS/IEC 62305 and tested as per IEC 62561-1. Rated Current (CPRI TESTED): I _{rms} - 5 KA; I _{peak} - 10.5 KA Per sec	Nos	45.00	2426.00	109170.00
55.00	STRUCTURAL EARTHING Supply and Installation of Rust resistant non corrosive 10 mm Dia Copper Bonded solid Steel round conductor used for Earth termination inside the concrete and soil. Meets the requirement of IS/IEC 62305. Test parameter: a) Short circuit current test for copper bonded conductor: Test 6.6 kA ratings, as per cross sectional area for 1 sec (IS3043/IEEE80). b) Electrical Resistivity : 0.1 m c) Tensile strength 672 N/mm ² . d) Adhesion no peel or crack & Bend test no separation of Cu, e) Cu Coating thickness min. 70µm. Tested as per IEC 62561-2.	Mtr	1100.00	748.00	822800.00
56.00	Supply and Installation of Corrosion proof tape to avoid corrosion inside Soil.	Nos	11.00	399.00	4389.00
57.00	Supply and Installation of Exothermic Welding - a complete installation part including welding mould and other accessories for welding to meet the requirements of IEC 62561-2.	Nos	102.00	6651.00	678402.00
58.00	Sub Head V- FITTINGS & ACCESSORIES				
58.01	Supply of light fixtures suitable for fluorescent / LED with all components and accessories including but not restricted to reflectors, housings, lamp holders and including cost of ballasts and cost of lamps complete as required and as below. (as per drawings) Colour temperature shall be finalized by the architect				
58.02	Supply of IP20 surface/wall mounted LED LED Mirror Light 9 watt, 900lm, 2 ft long, PVC batten housing made up of with polycarbonate cover. Luminous flux of luminaire >1000 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 6500K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV	Nos	273.00	555.00	151515.00
58.03	Supply of IP20 round surface/wall mounted LED 24 Watt Round aluminium, housing made up of extruded aluminium with polycarbonate cover . Luminous flux of luminaire 2400 lm, system efficacy >120lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 6500K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. (including lamp)	Nos	1200.00	1861.00	2233200.00
58.04	Supply of IP20 surface/wall mounted LED 36 Watt batten, housing made with including suitable LED with polycarbonate cover . Luminous flux of luminaire 4000 lm, system efficacy >120lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 6500K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Crompton shield IPFC122LT-8-16 or equivalent	Nos	329.00	1874.00	616546.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
58.05	Supply of IP20 round Recessed mounted LED 15 Watt downlighter, housing made up of pressure die cast aluminium with Opal PS Diffuser with Energy efficient LEDs having diffused wide beam angle . Luminous flux of luminaire 1500 lm, system efficacy >110lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Crompton royal rim less LCRP 15 CDL or equivalent	Nos	779.00	1512.00	1177848.00
58.06	Supply of IP20 round Recessed mounted LED 20 Watt Tdownlighter, housing made up of pressure die cast aluminium with Energy efficient LEDs having diffused wide beam angle . Luminous flux of luminaire 1800 lm, system efficacy >110lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV.	Nos	8.00	1226.00	9808.00
58.07	Supply of IP20 round surface mounted LED 18 Watt Tdownlighter, housing made up of pressure die cast aluminium with Energy efficient LEDs having diffused wide beam angle . Luminous flux of luminaire 1800 lm, system efficacy >110lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV.	Nos	1818.00	1366.00	2483388.00
58.08	Supply of IP20 round surface mounted LED 15 Watt Tdownlighter, housing made up of pressure die cast aluminium with Energy efficient LEDs having diffused wide beam angle . Luminous flux of luminaire 1800 lm, system efficacy >110lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Crompton royal rim less LCRP 15 CDL or equivalent	Nos	428.00	1512.00	647136.00
58.09	Supply of compact LED 7 Watt Bulk Head Light Fixture surface/ Wall mounted. LED bulkhead with suitable LED lamp , luminous flux of luminaire >900lm, system efficacy > 100lm / W, 5700K, cool white, CRI 70, 230V, Direct light emission, white housing, The fixture is designed for 35,000 hrs of operational life at L70. Impact resistant diffuser, integral electronic control gear, Protection class I, IP65. Philips Vista Glow essential or equivalent	Nos	197.00	1051.00	207047.00
58.10	Supply of 300mmx300mm LED 24 Watt IP20 Square Surface mounted LED Ceiling luminaire,Aluminium housing made with Opal PS Diffuser with Energy efficient LEDs having diffused wide beam angle . Luminous flux of luminaire 2000 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Phillips LCDSPLN-R-24 CDL or equivalent	Nos	48.00	1861.00	89328.00
58.11	Supply of IP20 suspended/surface LED 28 Watt linear light, housing made up of extruded aluminium and . Luminous flux of luminaire 2800 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Crompton CCP or equivalent	Nos	89.00	4916.00	437524.00
58.12	Supply of IP20 suspended/surface LED linear light, housing made up of extruded aluminium and PMMA diffuser . Luminous flux of luminaire 5200 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Regent LED 0561 Slash S or Equivalent	Nos	2.00	6726.00	13452.00
58.13	Supply of IP20 suspended/surface LED 36 Watt linear light, housing made up of extruded aluminium and . Luminous flux of luminaire 2800 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. crompton CCP-40-HCL-SL-BT-DWH or equivalent	Nos	2.00	4916.00	9832.00
58.14	Supply of Suspended LED Cylindrical LED 20 Watt Light Fixture CRI>80, and > 100Lm/W efficacy and clear PC Diffuser. 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000K-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV.	Nos	2.00	3603.00	7206.00
58.15	Supply of Wall Recessed LED Step Light made of Die. Cast Aluminium with min. IP65 Ingress Protection and Clear Polycarbonate diffuser. CRI 70, CCT -3000K / 4000K, with 30 000 Burning hrs @ L70	Nos	2.00	3069.00	6138.00
58.16	Supply of IP65 surface/wall mounted LED batten, housing made up of extruded polycarbonate with polycarbonate vapour proof diffuser. Luminous flux of luminaire 3600 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV.	Nos	4.00	6436.00	25744.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
58.17	Supply of IP20 suspended/surface LED bracket light with 15 watt LED lamp ,PVC housing made up of extruded aluminium and . Luminous flux of luminaire 1500 lm, system efficacy >100lm/W, CRI > 80, direct light emission, 230V constant current driver, 70% of luminous flux after 50,000 operating hours. Power Factor >0.90, THD <10% & CCT - 4000-5700K, Internal wiring along with Electronic Driver having an in built Surge Protection of 2.5kV. Phillips stylo or equivalent	Nos	980.00	1067.00	1045660.00
59.00	Installation, Testing, commissioning of wall bracket/ceiling fittings of all sizes and shapes containing upto two GLS/CFL/LED lamps per fitting, complete with all accessories including connections etc.as required.	Nos	6161.00	104.00	640744.00
60.00	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos.blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9 service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min, 350 RPM (tolerance as per IS: 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise= 75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Nos	1155.00	2394.00	2765070.00
61.00	Supply, installation, testing and commissioning of 300 mm sweep heavy duty Exhaust fans including all accessories suitable for single phase 240 volts 50 Hz AC supply complete as required.	Nos	181.00	4757.00	861017.00
62.00	Supply, installation, testing and commissioning of 8 feet sweep heavy duty HVLS industrial Ceiling fans with permanent magnet synchronous motor, aviation grade aluminium blades 5 nos, area coverage 4000 sqft, sound level max 50 dB, Air flow 135000 CFM min, including Ceiling mount with all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 50 Hz, earthing etc. complete as required.	Nos	9.00	161890.00	1457010.00
63.00	Supply, installation, testing & commissioning of LED Post top light Luminaire With die cast Aluminium Body 40W LED, with Driver, With IP 65 protection Housing etc with all accessories as required cat ref : LPTO-40CDL Crompton make or its equivalent.	Nos	59.00	8404.00	495836.00
64.00	Supply and fixing connecting and commissioning looping type cable end control box with MS sheet of 16SWG of size 200x 200x125 mm having 1 nos 6 amp to 32 amp SPMCB 250 volt and 2 nos brass neyral loink 12.5mm square rod 6 way approx. 60mm long and fixed on 6mm thick bakelite sheet. Box shall have almirah type Hinge and panel key type lock front door duly painted with two coats of primer and enamel paint, earthing stud etc complete as required	Nos	59.00	1420.00	83780.00
65.00	Supply & fixing of 65 mm dia.'B' class GI pole 4.5 mtr. Long for post top lantern i/c baseplate 300 x 300 x 3mm GI reducer & nipple for mounting the fitting with painting etc. grouting in cement concrete 1: 3: 6 (1 cement : 3 coarse sand : 6 grade stone aggregate 40mm nominal size 0.4mm dia x 0.5 mm high to accomade the looping)	Nos	59.00	6613.00	390167.00
66.00	Supply and fixing following LED street light luminaries with pressure die cast alluminium IP 65 housing driver etc complete as required (Crompton or equivalent)	Nos			
66.01	60 watt LED streetlight fixture		5.00	4165.00	20825.00
66.02	45 watt LED streetlight fixture		5.00	4209.00	21045.00
67.00	Supply and erection of hot dip galvanised octagonal pole (7Mts)with foundtion bolts and brakets as per following details and specification in cement concrete 1:3:6 (1 cement 3 coarse 6 sand)foundation including excavation and refilling etc as required	Nos	5.00	12046.00	60230.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
68.00	SUB HEAD VI - LT PANELS -MAIN LT Panel				
68.01	Supplying, installation, testing & commissioning of cubical type LT panel suitable for 415 V, 3 Phase, 4 Wire 50 Hz AC supply system fabricated in compartmentalized design from CRCA sheet steel of 2 mm thick for frame work and covers, 3 mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having extensible type TPN aluminium alloy bus bars of high conductivity, DMC / SMC bus bars of high conductivity, DMC/ SMC bus bar supports, with short circuit withstand capacity of 31 MVA for 1 Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25 mm x 5 mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears, switch gears to cable alley, switchgears to BBT/Cable Connection box with required size of Al. bus bars and control wiring with 2.5 .sq. mm. PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half, i/c providing following switch gears :-				
68.02	Incoming : All the incoming, outgoing and bus coupler ACB shall be equipped with suitable port for control, monitoring and operation of ACB with energy management				
68.03	2 Nos. - 2000 Amps each four pole horizontal drawout type (EDO) air circuit breaker of fault breaking capacity 50 kA (Ics = Icu = Icw upto 433V) electrically operated, fitted with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact, conforming to IS-13947-2 1993 as amended up-to-date complete with following accessories for each ACB.				
68.04	Motor Wound spring closing mechanism- 1 No.				
68.05	Microprocessor based release comprising of:- PROTECTION overcurrent 40%-100%- Time setting. Selective short circuit 60%-1000%- time setting. Instantaneous short circuit 150%-1500% Earth fault with adjustable 20%-100% Under voltage 60%-95% time setting. Over voltage 105%-120% time setting Residual voltage 10%-40% Time setting. Reverse Power. MEASUREMENT current-Phases, Neutral Voltage- Phases, Neutral Power- Active, Reactive Energy- Active, Reactive Power Factor Frequency Harmonics CONNECTIVITY Modbus connectivity for ACB ON/OFF status/Protection parameters set/Fault trip signals				
68.06	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to energy Management systems. and 1 set of 3 Nos. CT of 2000 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
68.07	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
68.08	3 Nos. Indication lamps (Red for ACB ON, Green for ACB OFF, Orange for Auto Trip.)				
68.09	Shunt trip coil 220 V A.C.				
68.10	Breaker control switch for Breaker ON, Breaker OFF and Trip Alarm Cancellation				
68.11	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
68.12	Bus Couplers :				
68.13	1 No. - 2000 Amps four pole horizontal drawout type (EDO) air circuit breakers of fault breaking capacity 50 kA (Ics=Icu upto 433V) electrically operated, with interlocked door, automatic safety shutters, mechanical ON/OFF and service/test/isolated position indicators and frame earthing contact, conforming to IS-13947-2-1993 as amended upto date complete with following accessories for each ACB -				
68.14	Motor Wound spring closing mechanism- 1 No.				
68.15	2 Nos. Indication lamps (Red for ACB ON, Green for ACB OFF)				
68.16	Breaker control switch for Breaker ON, Breaker OFF				
68.17	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
68.18	Bus Bars :				
68.19	4-P aluminium bus bars of minimum of 2500 Amps capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. for withstanding fault level of 31 MVA for 1 Sec.				
68.20	Interlocking :				
68.21	Electrical through advance contacts in ACB's (incomers & bus couplers) interlocking should be provided to ensure that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supplies at one bus section as per control sequence indicated on drawing.				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
68.22	Outgoing :				
68.23	6 Nos 630 Amp 4-P MCCB (Ics = 50 kA upto 433 V) with Microprocessor electronic release-over current 40%-100%- Time setting selective short circuit 150%-800%- Time Setting Instantaneous Short circuit 150%-800% Earth Fault with adjustable setting 20%-50%				
68.24	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to energy management systems. and 1 set of 3 Nos. CT of 630 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
68.25	ON/OFF & Phase Indicating lamp				
68.26	3 Nos 400 Amp 4-P MCCB (Ics = 50 kA upto 433 V) with Microprocessor electronic release-over current 40%-100%- Time setting selective short circuit 150%-800%- Time Setting Instantaneous Short circuit 150%-800% Earth Fault with adjustable setting 20%-50%				
68.27	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to energy management systems. and 1 set of 3 Nos. CT of 400 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
68.28	ON/OFF & Phase Indicating lamp				
68.29	4 Nos 200 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.				
68.30	1 Nos 125 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.				
68.31	1 Nos 100 amp 25 kA 4-P MCCB with thermal and magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.				
68.32	1 Nos 63 amp 25 kA 4-P MCCB with thermal and magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.				
68.33	Main Panel as above	Nos	1.00	2655384.00	2655384.00
69.00	Main Panel - EMERGENCY				
69.01	INCOMING				
69.02	1 Nos 630-630 amp 4-P ATS Motorized with Inbuilt Universal LCD Controller, additionally with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link. (To be provided for both supplies at the Incoming side of the ATS)				
69.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
69.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 630 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
69.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
69.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
69.07	BUSBAR				
69.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 600 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 50% capacity.				
69.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
69.09	OUTGOING UNITS				
69.10	1 Nos. 250 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
69.11	2 Nos. 125 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
69.12	5 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
69.13	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	1.00	314608.00	314608.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
70.00	Main Panel - Block 3, Block 4				
70.01	INCOMING				
70.02	2 Nos 630 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.B578				
70.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
70.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 630 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
70.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
70.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
70.07	BUS COUPLER				
70.08	1 Nos 630 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete				
70.09	BUSBAR				
70.10	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 600 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 50% capacity.				
70.11	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
70.12	OUTGOING UNITS				
70.13	2 Nos. 500 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
70.14	2 Nos. 125 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
70.15	3 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
70.16	8 Nos. 63 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
70.17	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	2.00	651054.00	1302108.00
71.00	Emergency Panel - Block 3, Block 4				
71.01	INCOMING				
71.02	1 Nos 125 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.				
71.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
71.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 125 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
71.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
71.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
71.07	BUSBAR				
71.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 50% capacity.				
71.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
71.10	OUTGOING UNITS				
71.11	2 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
71.12	5 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
71.13	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	2.00	120589.00	241178.00
72.00	First Floor Panel - Block 3, Block 4				
72.01	INCOMING				
72.02	1 Nos 160 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete				
72.03	BUSBAR				
72.04	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 50% capacity.				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
72.05	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
72.06	OUTGOING UNITS				
72.07	4 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
72.08	3 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
72.09	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	2.00	110460.00	220920.00
73.00	Typical Floor Panel - Block 3, Block 4				
73.01	INCOMING				
73.01	1 Nos 200 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete				
73.02	BUSBAR				
73.03	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 500 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
73.04	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
73.05	OUTGOING UNITS				
73.06	4 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
73.07	3 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
73.08	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	22.00	114153.00	2511366.00
74.00	LIFT Panel - Block 3, Block 4				
74.01	INCOMING				
74.02	2 Nos 100 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete				
74.03	Interlocking				
74.05	Incomers are Interlocked such that only One can be switched ON				
74.06	BUSBAR				
74.07	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
74.08	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
74.09	OUTGOING UNITS				
74.10	3 Nos. 63 amp 10 kA 4-P 100 mA RCBO with thermal & magnetic release				
74.11	3 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
74.12	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	2.00	91682.00	183364.00
75.00	Block 2 (MP HALL) panel				
75.01	INCOMING				
75.02	1 Nos 630 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.B578				
75.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters.				
75.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 630 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
75.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
75.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
75.07	BUSBAR				
75.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 600 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to withstand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
75.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
75.10	OUTGOING UNITS				
75.11	1 Nos. 315 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
75.12	1 Nos. 100 amp 25 kA 4-P MCCB with adjustable thermal & adjustable magnetic release, ON/OFF indicating lamps				
75.13	10 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
75.14	2 Nos. 32 amp 10 kA 4P MCB with thermal & magnetic release				
75.15	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	1.00	208578.00	208578.00
76.00	Block 2 (MP HALL) AC panel - OUTDOOR TYPE (Double Door)				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
76.01	INCOMING				
76.02	1 Nos 315 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.B578				
76.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
76.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 315 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
76.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
76.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
76.07	BUSBAR				
76.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 400 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to with stand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
76.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
76.10	OUTGOING UNITS				
76.11	10 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
76.12	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	1.00	161524.00	161524.00
77.00	Block 1 (Admin) panel				
77.01	INCOMING				
77.02	1 Nos 400 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.B578				
77.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
77.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 400 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
77.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
77.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
77.07	BUSBAR				
77.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 600 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to with stand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
77.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
77.10	OUTGOING UNITS				
77.11	15 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
77.12	3 Nos. 40 amp 10 kA 4P MCB with thermal & magnetic release				
77.13	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	1.00	165322.00	165322.00
78.00	Block 1, 2 Emergency panel				
78.01	INCOMING				
78.02	1 Nos 100 amp 25 kA 4-P MCCB with adjustable thermal and adjustable magnetic release having overcurrent and short circuit protection with ON/OFF indicating lamps complete with 1 no. 3 phase 4 wire unbalanced panel mounted, Digital dual type kWh CT operated meter alongwith CT's class 1.0 accuracy 10 VA Burden & CT shorting link.B578				
78.03	Microprocessor based numerical relay (EMI & EMC certified) for over current, earth fault & short circuit protection with LCD display & button for adjustment/setting/viewing of parameters				
78.04	Digital Multifunctional Meter to record demand (KVA), energy (KWH & KVAH), power factor, current (in each phase and the neutral), voltage (between phases and between each phase and neutral), Total harmonic distortion (THD) as a percentage of total current, comprising of suitable communication port for connection to IBMS. and 1 set of 3 Nos. CT of 100 A/5 A Class 1 accuracy and 30 VA burden. -- 1 Set Make : secure elite 446 or equivalent				
78.05	3 Nos. Phase indication LED lamps with 2 Amp back up MCB				
78.06	Test terminal block set, fuses, circuits as per standard practice, auxiliary contacts for positive interlocking of the breakers as required.				
78.07	BUSBAR				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
78.08	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having interleaving design throughout having a maximum current density as per IEC 60439 suitable to with stand symmetrical fault level of 25 kA at 415 volts. The neutral busbar is to be of 500% capacity.				
78.09	The fault level & temperature rise calculations to withstand 25kA to be submitted with no derating at 50 deg C. The temperature rise should not be more than 40 deg C over ambient				
78.10	OUTGOING UNITS				
78.11	5 Nos. 63 amp 10 kA 4P MCB with thermal & magnetic release				
78.12	1 Nos. 25 amp 10 kA 4P MCB with thermal & magnetic release				
78.13	1 Nos. 32 amp 10 kA 2P MCB with thermal & magnetic release				
78.14	1 Nos. 63 amp 10 kA 4-P 100 mA RCBO with thermal & magnetic release				
78.15	The Switchboard Panel complete with all interconnections, risers, internal wiring, labels etc. as required as per above	Nos	2.00	102653.00	205306.00
79.00	Feeder Pillar-External Lighting				
79.01	Painting, supplying, installation, testing & commissioning of floor mounted type double door, out door feeder pillar, fabricated from CRCA sheet of 2mm thickness of appropriate size to accommodate following switchgears, dust, damp & vermin proof having hinged type double leaf door in front with additional tapered top with 50 mm x 50 mm x 5 mm angle iron base & minimum 30 cm long legs for grouting in cement concrete foundation blocks and complete with 200 amp. capacity 4 strip copper bus bar, bakelite sheet for mounting the accessories and providing and fixing the following mountings, connections, interconnections with suitable size copper busbar upto cable alley, locking arrangement i/c painting making suitable cement concrete foundation etc. complete as reqd. (The size of the feeder pillar is measured from the lowest portion of the tapered height)				
79.02	INCOMING				
79.03	1 No. 200 Amps 25 kA Four Pole MCCB with adjustable thermal over load and adjustable magnetic short circuit releases				
79.04	3 Nos. LED Phase Indication Lamp				
79.05	2 Nos. LED Indication Lamp (Red for ON and GreenOFF)				
79.06	BUS BAR				
79.07	Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having a maximum current density of 1 amp per sq mm suitable to with stand symmetrical fault level of 10 KA at 415 volts. The neutral busbar is to be of 100% capacity.				
79.08	OUTGOINGS				
79.09	3 Nos. 63 Amps 25 kA Four Pole MCCB with adjustable thermal and adjustable magnetic protective releases as spares.				
79.10	2 Nos. 32 Amps 660 volt 10 kA TPN MCB with thermal magnetic protective releases as				
79.11	3 Nos 32 amp 10 kA DP MCB with thermal magnetic protective releases				
79.12	3 Nos. 32 A DP Contactor				
79.13	3 Nos. Dual setting 24 hour calibrated digital time switch				
79.14	30 Nos. 10/16 amp SP 10 kA MCB				
79.15	Feeder Pillar complete with interconnection earthing as as per above	Nos	2.00	174079.00	348158.00
80.00	SUB HEAD VII- CABLES AND CABLE TRAYS				
80.01	Supply of XLPE power cable of 1.1 kV grade aluminium/copper conductor armoured cable of the following sizes complete as required				
80.02	3.5 core 300 sq mm aluminium conductor	Mtr	1390.00	2350.00	3266500.00
80.03	3.5 core 240 sq mm aluminium conductor	Mtr	120.00	1710.00	205200.00
80.04	3.5 core 185 sq mm aluminium conductor	Mtr	310.00	1520.00	471200.00
80.05	3.5 core 150 sq mm aluminium conductor	Mtr	10.00	1342.00	13420.00
80.06	3.5 core 120 sq mm aluminium conductor	Mtr	10.00	1014.00	10140.00
80.07	3.5 core 95 sq mm aluminium conductor	Mtr	630.00	809.00	509670.00
80.08	3.5 core 70 sq mm aluminium conductor	Mtr	330.00	648.00	213840.00
80.09	3.5 core 50 sq mm aluminium conductor	Mtr	650.00	481.00	312650.00
80.10	3.5 core 35 sq mm aluminium conductor	Mtr	430.00	355.00	152650.00
80.11	4 core 4 sq mm copper conductor	Mtr	20.00	354.00	7080.00
80.12	4 core 6 sq mm copper conductor	Mtr	35.00	521.00	18235.00
80.13	4 core 10 sq mm copper conductor	Mtr	350.00	828.00	289800.00
80.14	4 core 16 sq mm copper conductor	Mtr	175.00	1224.00	214200.00
80.15	3.5 core 25 sq mm aluminium conductor	Mtr	185.00	313.00	57905.00
80.16	4 core 35 sq mm aluminium conductor	Mtr	10.00	259.00	2590.00
80.17	2 core 16 sq mm copper conductor	Mtr	10.00	614.00	6140.00
80.18	2 core 10 sq mm copper conductor	Mtr	10.00	375.00	3750.00
80.19	3 core 6 sq mm Aluminium conductor	Mtr	3150.00	136.00	428400.00
81.00	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required.				
81.01	Upto 35 sq. mm	Mtr	2000.00	339.00	678000.00
81.02	Above 35 sq. mm and upto 95 sq. mm	Mtr	630.00	355.00	223650.00
81.03	Above 95 sq. mm and upto 185 sq. mm	Mtr	50.00	370.00	18500.00
81.04	Above 185 sq. mm and upto 400 sq. mm	Mtr	1200.00	416.00	499200.00
82.00	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.				
82.01	Upto 35 sq. mm	Mtr	285.00	32.00	9120.00
82.02	Above 35 sq. mm and upto 95 sq. mm	Mtr	50.00	50.00	2500.00
82.03	Above 95 sq. mm and upto 185 sq. mm	Mtr	10.00	68.00	680.00
82.04	Above 185 sq. mm and upto 400 sq. mm	Mtr	100.00	117.00	11700.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
83.00	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.				
83.01	Upto 35 sq. mm	Mtr	20.00	25.00	500.00
83.02	Above 35 sq. mm and upto 95 sq. mm	Mtr	10.00	39.00	390.00
83.03	Above 95 sq. mm and upto 185 sq. mm	Mtr	10.00	55.00	550.00
83.04	Above 185 sq. mm and upto 400 sq. mm	Mtr	10.00	101.00	1010.00
84.00	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.				
84.01	Upto 35 sq. mm (clamped with 1mm thick saddle)	Mtr	275.00	48.00	13200.00
84.02	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Mtr	560.00	114.00	63840.00
84.03	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Mtr	10.00	134.00	1340.00
84.04	Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)	Mtr	170.00	198.00	33660.00
85.00	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.				
85.01	Upto 35 sq. mm (clamped with 1mm thick saddle)	Mtr	1090.00	741.00	807690.00
85.02	Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp)	Mtr	120.00	390.00	46800.00
85.03	Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp)	Mtr	130.00	232.00	30160.00
86.00	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.				
86.01	3.5 core 300 sq mm	Nos	16.00	3384.00	54144.00
86.02	3.5 core 240 sq mm	Nos	4.00	410.00	1640.00
86.03	3.5 core 185 sq mm	Nos	10.00	516.00	5160.00
86.04	3.5 core 150 sq mm	Nos	4.00	611.00	2444.00
86.05	3.5 core 120 sq mm	Nos	4.00	767.00	3068.00
86.06	3.5 core 95 sq mm	Nos	44.00	900.00	39600.00
86.07	3.5 core 70 sq mm	Nos	4.00	1048.00	4192.00
86.08	3.5 core 50 sq mm	Nos	14.00	236.00	3304.00
86.09	3.5 core 35 sq mm	Nos	10.00	324.00	3240.00
86.10	4 core 4 sq mm	Nos	2.00	236.00	472.00
86.11	4 core 6 sq mm	Nos	2.00	236.00	472.00
86.12	4 core 10 sq mm	Nos	18.00	236.00	4248.00
86.13	4 core 16 sq mm	Nos	4.00	271.00	1084.00
86.14	3.5 core 25 sq mm	Nos	6.00	276.00	1656.00
86.15	4 core 35 sq mm	Nos	4.00	324.00	1296.00
86.16	2 core 16 sq mm	Nos	4.00	224.00	896.00
86.17	2 core 10 sq mm	Nos	64.00	211.00	13504.00
86.18	3 core 6 sq mm	Nos	60.00	210.00	12600.00
87.00	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
87.01	100 mm width X 50 mm depth X 1.6 mm thickness	Mtr	10.00	476.00	4760.00
87.02	150 mm width X 50 mm depth X 1.6 mm thickness	Mtr	220.00	530.00	116600.00
87.03	225 mm width X 50 mm depth X 1.6 mm thickness	Mtr	10.00	604.00	6040.00
87.04	300 mm width X 50 mm depth X 1.6 mm thickness	Mtr	85.00	681.00	57885.00
87.05	450 mm width X 50 mm depth X 2.0 mm thickness	Mtr	38.00	997.00	37886.00
87.06	600 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	10.00	1283.00	12830.00
87.07	900 mm width X 62.5 mm depth X 2.0 mm thickness	Mtr	10.00	1712.00	17120.00
88.00	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Tee with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc as required.				
88.01	150 mm width X 50 mm depth X 1.6 mm thickness	Nos	12.00	1040.00	12480.00
88.02	225 mm width X 50 mm depth X 1.6 mm thickness	Nos	1.00	1268.00	1268.00
88.03	300 mm width X 50 mm depth X 1.6 mm thickness	Nos	6.00	1498.00	8988.00
88.04	450 mm width X 50 mm depth X 2.0 mm thickness	Nos	1.00	2111.00	2111.00
88.05	600 mm width X 62.5 mm depth X 2.0 mm thickness	Nos	1.00	3204.00	3204.00
88.06	750 mm width X 62.5 mm depth X 2.0 mm thickness	Nos		3786.00	
88.07	900 mm width X 62.5 mm depth X 2.0 mm thickness	Nos	1.00	4399.00	4399.00
89.00	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray (Galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
89.01	150 mm width X 50 mm depth X 1.6 mm thickness	Mtr	10.00	628.00	6280.00
89.02	300 mm width X 50 mm depth X 1.6 mm thickness	Mtr	28.00	844.00	23632.00
89.03	450 mm width X 50 mm depth X 2.0 mm thickness	Mtr	1.00	1162.00	1162.00
90.00	Supplying and laying of following size DVC HDPE pipe (SI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc..direct in ground (75 cm below ground level) including excavation and refilling the trench but excludings and cushioning and protective covering etc., complete as required.				
90.01	63 mm dia (OD-63 mm & ID-51 mm nominal)	Mtr	100.00	217.00	21700.00
90.02	90 mm dia (OD-90 mm & ID-76 mm nominal)	Mtr	10.00	254.00	2540.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
90.03	120 mm dia (OD-120 mm & ID-103 mm nominal)	Mtr	10.00	323.00	3230.00
90.04	160 mm dia (OD-160 mm & ID-135 mm nominal)	Mtr	300.00	422.00	126600.00
90.05	200 mm dia (OD-200 mm & ID-175 mm nominal)	Mtr	10.00	586.00	5860.00
91.00	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) and refilling etc as required.				
91.01	100 mm dia	Mtr	10.00	580.00	5800.00
91.02	150 mm dia	Mtr	30.00	635.00	19050.00
91.03	200/250 mm dia	Mtr	150.00	855.00	128250.00
91.04	300 mm dia	Mtr	10.00	1000.00	10000.00
92.00	SUB HEAD VIII- EARTHING				
92.01	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. (but with charcoal/ coke and salt) as required.	Set	16.00	6552.00	104832.00
93.00	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc. (but with charcoal/ coke and salt) as required.	Set	8.00	12133.00	97064.00
94.00	Supplying and laying 25 mm X 5 mm copper strip at 0.50 meter below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer supplied at 50 mm)	Mtr	115.00	852.00	97980.00
95.00	Supplying and laying 25 mm X 5 mm G.I. strip at 0.50 meter below ground as strip earth electrode, including connection/terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer supplied at 50 mm) meter 85	Mtr	450.00	126.00	56700.00
96.00	Providing and fixing 25 mm X 5 mm copper strip in 40 mm dia G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer excavation and re-filling etc. as	Mtr	10.00	4707.00	47070.00
97.00	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as	Mtr	10.00	619.00	6190.00
98.00	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Mtr	30.00	1019.00	30570.00
99.00	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as	Mtr	110.00	214.00	23540.00
100.00	Earthing with G.I earth Pipe 4.5 metre long, 40mm dia including accessories and providing masonry enclosure with cover Plate having locking arrangement and watering pipe etc with charcoal /coke and salt as required.	Nos	8.00	6011.00	48088.00
101.00	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as	Mtr	570.00	61.00	34770.00
102.00	SUB HEAD IX- FIRE DETECTION AND ALARM SYSTEM (CONVENTIONAL)				
102.01	Supplying, installation, testing & commissioning of heat detector operating at t54°C/57°C with rate of rise cum fixed temperature (dual thermistor) type with mounting base complete with all connection etc. as required.	Nos	30.00	939.00	28170.00
103.00	Supplying, installation, testing & commissioning of smoke detector with builtin LED and mounting base complete with all connections etc. as required.	Nos	12.00	1011.00	12132.00
104.00	Supplying, installation, testing & commissioning of manual call boxes of MS construction in surface/recess with stainless steel chain & hammer assembly complete with glass and push button etc. as required.	Nos	7.00	416.00	2912.00
105.00	Supplying, installation, testing & commissioning fire alarm sounder with facility to make announcement, mounted in M.S. box (16 SWG) with hinged cover plate & suitable for operation with amplifier ilc line matching transformer etc. complete as required.	Nos	7.00	488.00	3416.00
106.00	Supplying, installation, testing & commissioning of main control and indicating panel made out of 16 SWG MS sheet to accommodate the following items duly powder coated in approved colour with louvers for ventilation, locking arrangement, audio and visual indication for fire alarm and public address system, monitoring system including connection, interconnections etc. complete as required.				
106.01	10 Zone panel for fire alarm system				
106.02	250 Watt amplifier racks suitable for operation on 230V AC/24V DC supply conforming to IEC-268-3 complete with all accessories as required-2 Nos. (one to act as standby)				
106.03	Talk back master station with LED PTT (press to talk) push button for operation on 230V AC/24V DC supply conforming to IEC-268 for simplex mode of operation / communication suitable for 20 Nos. talk back unit - 1 set.				
106.04	Announcement control desk suitable for selection of different zones selectively and ON ALL CALL switch with visual indication etc.				
106.05	complete as required - 1 set.				
106.06	Amplifier change over switch for inter changing amplifier-1 No.				
106.07	Monitor panel for loudspeaker complete with output selector, ON/ OFF switch, fuse, visual indications etc. complete as required-1 No. Gooseneck microphone with stand and ON/OFF				
106.08	Main ON/OFF switch, fuse indication lamps, DC and AC voltmeters & ammeters, terminal blocks etc. complete as required-1 set.				
106.09	Battery charger trickle cum boost to take complete load of fire alarm & PA system complete with all accessories including providing & fixing of 2 nos.12 volt, 60 AH each sealed maintenance free batteries-1 set.	Nos	2.00	61718.00	123436.00
107.00	INTELLIGENT FIRE ALARM SYSTEM				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
107.01	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5 % V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories. The panel shall be compatible for IBMS system with open protocol PA/Gen/Modbus over IP, complete as per specifications				
107.02	Two Loop Panel	Nos	2.00	209754.00	419508.00
108.00	Supplying, installation, testing & commissioning of intelligent addressable programmable sounder complete as required.	Nos	198.00	2324.00	460152.00
109.00	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	Nos	4.00	2633.00	10532.00
110.00	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	Nos	198.00	3394.00	672012.00
111.00	Supply of wall or ceiling mounted or suspended 240 Volt AC illuminated exit signs provided with appropriate direction arrow mounted on glass in green on white with a total wattage of maximum 5W LED Illumination System including the cost of in-built rechargeable batteries with charger suitable for 90 minute operation and including the cost of accessories for surface/ recessed or ceiling suspended mounting complete as required. (Sample to be approved by Client/Consultant)	Nos	132.00	4959.00	654588.00
112.00	SUB HEAD X - UPS				
112.01	Supply, installation, testing and commissioning of UPS system comprising of 1 nos 10 kVA unit with a battery backup of 30 minutes duration for full load and with all standards fittings, accessories, protection, instruments, indications and controls including but not restricted to transformer, rectifier, inverter, SMF battery with float cum boost battery charger, static bypass switch, maintenance bypass, output isolation transformer, interconnections etc. including warranty and free all inclusive comprehensive maintenance services for one year after the date of handing over complete as per specifications and as required. (3-PHASE INPUT, SINGLE PHASE OUTPUT)	Nos	2.00	957116.00	1914232.00
112.02	Supply, installation, testing and commissioning of UPS system comprising of 1 nos 6 kVA unit with a battery backup of 30 minutes duration for full load and with all standards fittings, accessories, protection, instruments, indications and controls including but not restricted to transformer, rectifier, inverter, SMF battery with float cum boost battery charger, static bypass switch, maintenance bypass, output isolation transformer, interconnections etc. including warranty and free all inclusive comprehensive maintenance services for one year after the date of handing over complete as per specifications and as required. (1-PHASE INPUT, SINGLE PHASE OUTPUT)	Nos	2.00	356175.00	712350.00
113.00	SUB HEAD XI - LIFTS				
113.01	Design, manufacture, supply, installation, testing, commissioning, approvals and handing over in satisfactory working condition of lifts including the cost of providing free comprehensive maintenance for two years after handing over complete as per specifications and as required and as below.				
113.02	Passenger Lift (Hostel Block 1 & 2)				
113.03	Supplying, installation, testing & commissioning of 20 Passenger , Top Machine Room, having speed of 1.5 MPS in the existing lift shaft as per detailed specifications enclosed and				
113.04	(i) Speed: 1.5 MPS				
113.05	(ii) Floors: G + 12				
113.06	(iii) Travel: 36.0 mtrs (approx.)				
113.07	(iv) Stops & opening: 13 / 13				
113.08	(v) Controller: A.C. variable voltage & variable frequency				
113.09	Automatic rescue device complete with dry maintenance free batteries i/c voice announcement system as two languages etc. complete as required.				
113.10	(vi) Operation : Microprocessor based Triplex selective collective control with without				
113.11	(vii) Power - 415 V, 3 phase, 50 Hz, 4 wires system				
113.12	(viii) Type of doors				
113.13	(a) Car Doors: (W 1000 mm x H 2100 mm) Automatic power operated Centre opening, H SS hairline finish				
113.14	(b) Landing Doors: (W-1000 mm X H-2100 mm) Automatic Power operated, center opening horizontal sliding Glazed door with stainless steel scratch proof finish frame will have fire resistance rating of two hour.				
113.15	(ix) Car body will be of scratch proof SS finish.				
113.16	(x) LED downlight fitting inside car capable of providing more than 150 Lux.				
113.17	(xi) Full height Infra Red protection is to be provided for landing/ car doors.				
113.18	(xii) Provision of Toe guards, Fireman's switch etc.				
113.19	(xiii) Lift Shaft - 2550W x 2450D				
113.20	A Stainless steel hand rail not less than 600 mm long at 900 mm above floor level to be fixed on the 3 sides of lift car.				
113.21	Button in car operating panel & landing operating panel shall be having Braille Inscription & shall be fixed for the handicaped.				
113.22	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
113.23	Flooring:- Granite flooring inside the car				
113.24	Lift installation shall include all safety & control features as specified in the specifications.				
113.25	The features required for use of the lift by handicapped persons eg hand rail, braille signage closing speed of doors etc .	Nos	4.00	3331872.00	13327488.00
114.00	Bed Lift (Hostel Block 1 & 2)				
114.01	Supplying, installation, testing & commissioning of 20 Passenger , Top Machine Room, having speed of 1.5 MPS in the existing lift shaft as per detailed specifications enclosed and				
114.02	(i) Speed: 1.5 MPS				
114.03	(ii) Floors: G + 12				
114.04	(iii) Travel: 36.0 mtrs (approx.)				
114.05	(iv) Stops & opening: 13 / 13				
114.06	(v) Controller: A.C. variable voltage & variable frequency				
114.07	Automatic rescue device complete with dry maintenance free batteries i/c voice announcement system as two languages etc. complete as required.				
114.08	(vi) Operation : Microprocessor based Triplex selective collective control with without				
114.09	(vii) Power - 415 V, 3 phase, 50 Hz, 4 wires system				
114.10	(viii) Type of doors				
114.11	(a) Car Doors: (W 1200 mm x H 2100 mm) Automatic power operated Centre opening, H SS hairline finish				
114.12	(b) Landing Doors: (W-1200 mm X H-2100 mm) Automatic Power operated, center opening horizontal sliding Glazed door with stainless steel scratch proof finish frame will have fire resistance rating of two hour.				
114.13	(ix) Car body will be of scratch proof SS finish.				
114.14	(x) LED downlight fitting inside car capable of providing more than 150 Lux.				
114.15	(xi) Full height Infra Red protection is to be provided for landing/ car doors.				
114.16	(xii) Provision of Toe guards, Fireman's switch etc.				
114.17	(xiii) Lift Shaft - 2250W x 3050D				
114.18	A Stainless steel hand rail not less than 600 mm long at 900 mm above floor level to be fixed on the 3 sides of lift car.				
114.19	Button in car operating panel & landing operating panel shall be having Braille Inscription & shall be fixed for the handicapped.				
114.20	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				
114.21	Flooring:- Granite flooring inside the car				
114.22	Lift installation shall include all safety & control features as specified in the specifications.				
114.23	The features required for use of the lift by handicapped persons eg hand rail, braille signage closing speed of doors etc .	Nos	2.00	3770276.00	7540552.00
115.00	Passenger Lift (Multipurpose Hall)				
115.01	Supplying, installation, testing & commissioning of 20 Passenger , Top Machine Room, having speed of 1.0 MPS in the existing lift shaft as per detailed specifications enclosed and				
115.02	(i) Speed: 1.0 MPS				
115.03	(ii) Floors: G + 1 + 2				
115.04	(iii) Travel: 12.0 mtrs (approx.)				
115.05	(iv) Stops & opening: 3 / 3				
115.06	(v) Controller: A.C. variable voltage & variable frequency				
115.07	Automatic rescue device complete with dry maintenance free batteries i/c voice announcement system as two languages etc. complete as required.				
115.08	(vi) Operation : Microprocessor based Simplex control with without attendant				
115.09	(vii) Power - 415 V, 3 phase, 50 Hz, 4 wires system				
115.10	(viii) Type of doors				
115.11	(a) Car Doors: (W 1000 mm x H 2100 mm) Automatic power operated Centre opening, H SS hairline finish				
115.12	(b) Landing Doors: (W-1000 mm X H-2100 mm) Automatic Power operated, center opening horizontal sliding Glazed door with stainless steel scratch proof finish frame will have fire resistance rating of two hour.				
115.13	(ix) Car body will be of scratch proof SS finish.				
115.14	(x) LED downlight fitting inside car capable of providing more than 150 Lux.				
115.15	(xi) Full height Infra Red protection is to be provided for landing/ car doors.				
115.16	(xii) Provision of Toe guards, Fireman's switch etc.				
115.17	(xiii) Lift Shaft - 2550W x 2450D				
115.18	A Stainless steel hand rail not less than 600 mm long at 900 mm above floor level to be fixed on the 3 sides of lift car.				
115.19	Button in car operating panel & landing operating panel shall be having Braille Inscription & shall be fixed for the handicapped.				
115.20	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				
115.21	Flooring:- Granite flooring inside the car				
115.22	Lift installation shall include all safety & control features as specified in the specifications.				
115.23	The features required for use of the lift by handicapped persons eg hand rail, braille signage closing speed of doors etc .	Nos	1.00	2805787.00	2805787.00
116.00	Passenger Lift (Admin Block)				
116.01	Supplying, installation, testing & commissioning of 13 Passenger , Top Machine Room, having speed of 1.0 MPS in the existing lift shaft as per detailed specifications enclosed and				
116.02	(i) Speed: 1.0 MPS				

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
116.03	(ii) Floors: G + 1 + 2 + 3				
116.04	(iii) Travel: 9.0 mtrs (approx.)				
116.05	(iv) Stops & opening: 4 / 4				
116.06	(v) Controller: A.C. variable voltage & variable frequency				
116.07	Automatic rescue device complete with dry maintenance free batteries i/c voice announcement system as two languages etc. complete as required.				
116.08	(vi) Operation : Microprocessor based Simplex control with without attendant				
116.09	(vii) Power - 415 V, 3 phase, 50 Hz, 4 wires system				
116.10	(viii) Type of doors				
116.11	(a) Car Doors: (W 1000 mm x H 2100 mm) Automatic power operated Centre opening, H SS hairline finish				
116.12	(b) Landing Doors: (W-1000 mm X H-2100 mm) Automatic Power operated, center opening horizontal sliding Glazed door with stainless steel scratch proof finish frame will have fire resistance rating of two hour.				
116.13	(ix) Car body will be of scratch proof SS finish.				
116.14	(x) LED downlight fitting inside car capable of providing more than 150 Lux.				
116.15	(xi) Full height Infra Red protection is to be provided for landing/ car doors.				
116.16	(xii) Provision of Toe guards, Fireman's switch etc.				
116.17	(xiii) Lift Shaft - 2500W x 1950D				
116.18	A Stainless steel hand rail not less than 600 mm long at 900 mm above floor level to be fixed on the 3 sides of lift car.				
116.19	Button in car operating panel & landing operating panel shall be having Braille Inscription & shall be fixed for the handicaped.				
116.20	Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				
116.21	Flooring:- Granite flooring inside the car				
116.22	Lift installation shall include all safety & control features as specified in the specifications.				
116.23	The features required for use of the lift by handicapped persons eg hand rail, braile signage closing speed of doors etc .	Nos	1.00	2455064.00	2455064.00
117.00	SUB HEAD -XII CCTV SURVEILLANCE SYSTEM				
117.01	IP VIDEO SURVEILLANCE SYSTEM				
117.00	Supply, installation, testing and commissioning of 4/5 MP CMOS vandal-proof, varicor Network Dome Camera HD, 1/3" Progressive scan CMOS, 0.01Lux@F1.2, AGC ON. 0 Lux with IR on, IR cut filter with auto switch, IR range up to 30 mtrs, H.265 / MJPEG, Dual stream, motion detection, Bit rate 32 Kbps-16Mbps, 3D DNR, DWDR, 12 VDC ± 10%, PoE (802.3af) with fixed lens 2.8mm/3.6mm/6mm/ 12 mm, size of lens shall be as per site requirement & mockup. ONVIF Profile S supported, connectors complete as required in dome shape fixed type for mounting recessed in false ceiling or Surface Mounted on True Ceiling complete as required.				
117.01	4 / 5 MP Fixed Lens Dome camera	Nos	46.00	36926.00	1698596.00
117.02	Supply, installation, testing and commissioning of 4/5 MP CMOS, vandal-proof, varicor Network Bullet Camera (outdoor type), HD, 1/3" Progressive scan CMOS, 0.01@F1.2 or better , AGC ON. 0 Lux with IR on, IR cut filter with auto switch,, H.265 / MPEG4 , Dual stream, Bit rate 32 Kbps-16Mbps, Standard IP66, PoE (802.3af), with fixed lens 8mm/10mm/12mm, size of lens shall be as per site requirement & mockup, IR range 30-40 mtr, motion detection, with ONVIF Profile S supported, connectors complete as required IR Bullet fixed type for mounting on wall/Pole/surface mounted with back box and adapter plate complete as per tender specifications required (Outdoor)				
117.03	4/ 5 MP Fixed Lens Bullet camera	Nos	2.00	36926.00	73852.00
119.00	Supply, installation, testing and commissioning of required Channel NVR (Network Video Recorder), for recording upto 4 MP with 08 nos. SATA HDDs minimum 24TB storage or more (recording requirement all cameras recording at 2MP, 25fps for 30 days in motion),H.265/H.264/MJPEG/MPEG4 codec decoding, Front Control Pannel with LEDs Indication, iPhone; iPad; Android based Mobile clients, Video Export feature on USB, Search Mode: Time/Date; Alarm; Motion Detection (MD); Exact Search (accurate to a second); Smart Search, Dual HDMI Output, eSATA Device,Operating Temperature -10°C to 55°C Certification : CE, FCC & UL.				
119.01	32 Channel NVR	Nos	1.00	211004.00	211004.00
119.02	64 Channel NVR	Nos	1.00	369257.00	369257.00
119.03	Supply, Installation, testing and commissioning of 8TB hard disk for above NVR		2.00	15826.00	31652.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
120.00	CENTRAL MANAGEMENT SYSTEM: Powerful connection: 1,000 devices, 2000 channels in stand alone mode; 2,000 devices, 4,000 channels in primary/replica mode Unified management: IPC, NVR, smart device, smart recognition access control device, entrance & exit device, cloud device, decoder, network keyboard, access control, alarm control, expansion disk enclosure, etc. Huge storage: Max 16 SATA HDDs, and two 16 slot disk enclosures via miniSAS interfaces; expandable up to 48 disks for recording storage Powerful decoding: Outputs 16x1080P videos to three screens (2xHDMI, 1xVGA) High bandwidths: 512Mbps incoming bandwidth, 512Mbps storage bandwidth, and 384Mbps forwarding bandwidth Strong compatibility: Standard ONVIF, VSS, VIID, and RTSP High scalability: Primary/replica expansion for enhanced forwarding performance and storage capacity Rich functionality: Basic functions including live view, playback, sequence, view, video wall, e map, two way audio, broadcast, alarm linkage; smart functions including perimeter protection, person detection, person recognition, LPR, entrance & exit management, access control, attendance management, mixed traffic detection, people counting, and data search	Nos	1.00	316507.00	316507.00
121.00	Supply, installation, testing & commissioning of Client Workstation PC: □ Intel i3(or higher) Processor 2.2 GHz or more 1333 MHz FSB, 4MB L2 cache □ Preloaded with Genuine Microsoft® Windows® 7 □ Intel Q43 chipset or Equivalent / Higher □ 4 GB DDR2 SD RAM @ 667 MHz □ 19" TFT LCD Non-Wide colour monitor having 0.264mm pixel pitch 1280×1024 @ 60Hz native resolution with Digital Input & Aspect ratio: 4:3 □ 500 GB SATA-II Hard disk □ Integrated Graphics Media Accelerator □ PCI (full-height); 1 PCI-Express X1 □ Ecology, Energy, Ergonomics, Emissions □ 50 Hz, 230V A/C with Indian Standard Plug Tops	Nos	1.00	126602.00	126602.00
122.00	Supply, Installation, testing & Commissioning of 43" HI DEF. LED monitor screen along with all the necessary fixing supports, required patch cables for connecting with workstation, etc. with complete accessories. (commercial - 24x 7 type LED display monitor)	Nos	1.00	31651.00	31651.00
123.00	Supply, installation, testing & commissioning of 24x10/100/1000 Mbps PoE ports, 4x10/25 GbE SFP28 stacking/uplink-ports, 370 W PoE budget, long distance stacking of 8 switches or more required. Switch OS should be NDCPP certified. Switch should be TEC certified, ROHS6, 5 years OEM advance hardware replacement warranty. All types of Switches, transceivers, WIFI, WLC, AAA should be from the same OEM for better compatibility, management and after sales support. For detailed specifications please refer to the attached drawing.		2.00	274306.00	548612.00
124.00	Supply, installation, testing & commissioning of following networking enclosure with castors, fans with fan tray, power distribution units and complete with all accessories as required along with Horizontal Cable manager and vertical Cable manager complete as required.				
124.01	6U Wall mounted	Nos	4.00	8141.00	32564.00
124.02	15U Wall mounted	Nos	20.00	20903.00	418060.00
124.03	24U Floor mounted	Nos	1.00	40175.00	40175.00
125.00	Supply, Installation, Testing & Commissioning of LSZH Cat 6-1G speed unshielded twisted pair computer cable with 23 AWG solid copper conductors in existing concealed / surface conduits / Raceways (White in Colour) complete as required and as per technical specifications. for CC TV And LAN works	Mtr	70650.00	95.00	6711750.00
126.00	Supply & Installation of Cat 6 UTP 23 AWG multi core Patch Cord - 1 mtr terminated with shielded RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and UL certified and certified by ETL.	Nos	1706.00	317.00	540802.00
127.00	Supply & Installation of Cat 6 UTP 23 AWG multi core Patch Cord - 2 mtr terminated with shielded RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and UL certified and certified by ETL.	Nos	5.00	422.00	2110.00
128.00	Supply & Installation of CAT 6/6A speed UTP jack information outlets complying fully or exceeding with category 6 connecting hardware specifications for all pair combinations up to 250 MHz. Outlets shall use lead frame technology, non PCB pyramid type. (White in Colour) complete as required and as per technical specifications.	Nos	80.00	921.00	73680.00
129.00	Supply & Installation of Cat 6/Cat 6A Modular Jack Panels for accommodating 24 port termination and shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements. Patch Panel shall come with preloaded information outlets of non PCB and pyramid type using lead frame technology. Panel shall have label holders and designation labels as part of the standard device. Shall also come with rear cable management metallic tray with velcro ties complete as required and as per technical specifications.	Nos	63.00	5471.00	344673.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
130.00	Supply & Installation of 1U PVC cable manager complete as required and as per technical specifications.	Nos	3.00	1794.00	5382.00
131.00	Supply, installation, testing and Commissioning of armoured single mode OS2 fiber optic cable of following sizes for connectivity where ever required in prelaidd conduits / shafts/cable trays/raceways, whichever maybe available etc. complete as required and as per technical specifications.				
131.01	6 Core	Mtr	190.00	211.00	40090.00
132.00	Supply, installation, testing and Commissioning of 24 Port 10 x 10 GbE Loaded with Singlemode OS2 LC Adapters & LSZH Pigtails along with Splice Trays, Min. 4 No of Circular Cable Entry with Rubber Groummet/Glands to close any open entry, Cable Holders for Cable Entry Inside Panel, Heat Shrink Tubes for Splices, Tube for open fibers, Ties, Panel shall be Powder Coated with Min. 1.2mm Metal Sheath, 30 Years Channel Warranty. Factory Loaded LC Type LSZH Pigtails should meet IEC 61034-1, IEC-60332-1, IEC-60754-1, Insertion loss <= 0.35 dB, Return Loss >= 50, Attenuation: 1310/1550 : 0.3/0.2 dB/KM, Repeatability: <= 0.2DB 1000 Times Mating Cycles, RoHS Complied, Meets ANSI/TIA 568.3-D.The optical fiber Pigtails shall be factory loaded inside each individual Port of the panel. Pigtails shall be LSZH with Single mode 9/125µm fiber				
132.01	24 Port -LIU Single Mode Fiber	Nos	2.00	21100.00	42200.00
133.00	Supply, Installation, Testing and Commissioning of Fiber Patch Cord, LC Duplex - LC Duplex, 9/125µm OS2 Singlemode Duplex Zip Cord (<= 2.0mm), IL <= 0.35dB, RL>= 50dB, LSZH Jacket IEC 60332-1, Operating Temperature -40°C to +85°C, Meets ANSI/TIA 568.3-D, Length 3Meter.Cable : LC/LC or LC/SC or SC/SC, 9/125µm OS2 Singlemode Duplex Zip Cord (<= 2.0mm) for CC TV works & LAN				
133.01	Fiber Patch Cord Single Mode- 3Meter	Nos	4.00	4220.00	16880.00
133.02	Fiber Patch Cord Single Mode- 5Meter	Nos	4.00	4603.00	18412.00
133.03	ACTIVE NETWORKING SYSTEM POE Access switch				
134.00	Supply, installation, Testing & Commissioning of 24x10/100/1000 Mbps PoE ports, 4x10/25 GbE SFP28 stacking/uplink-ports, 370 W PoE budget,long distance stacking of 8 switches or more required . Switch OS should be NDcPP certified. Switch should be TEC certified, ROHS6, 5 years OEM advance hardware replacement warranty . All types of Switches, transceivers, WIFI,WLC,AAA should be from the same OEM for better compatability,management and after sales support.For detailed specifications please refer tender document.MAF From OEM is Mandatory to submit	Nos	4.00	369257.00	1477028.00
135.00	Supply, installation, Testing & Commissioning of 24x10/100/1000/2500 Mbps PoE ports, 4x10/25 GbE SFP28 stacking/uplink-ports, 740 W PoE budget,long distance stacking of 8 switches or more required . Switch OS should be NDcPP certified. Switch should be TEC certified, ROHS6, 5 years OEM advance hardware replacement warranty . All types of Switches, transceivers, WIFI,WLC,AAA should be from the same OEM for better compatability,management and after sales support.For detailed specifications please refer tender document.MAF From OEM is Mandatory to submit	Nos	1.00	580262.00	580262.00
136.00	Supply, Installation, Testing & Commissioning of 10GbE SFP+ Single Mode transceivers	Nos	9.00	21451.00	193059.00
137.00	Wi-Fi SYSTEM				
137.01	Supply, Installation, Testing & Commissioning of dual-band 802.11a/b/g/n/ac/ax Indoor Wireless Access Point with Multi-Gigabit Ethernet backhaul, 4x4:4 on 5Ghz , 1x 2.5Gbps Ethernet,1x1Gbps ethernet PoH/UPoE/802.3at PoE support. Mounting bracket to be supplied along with the APs. AP should be TEC and NDcPP certified. 5 years OEM warranty .All types of Switches, transceivers, WIFI,WLC should be from the same OEM for better compatability,management and after sales support.For detailed specifications please refer tender document.MAF From OEM is Mandatory to submit	Nos	101.00	21920.00	2213920.00
138.00	Supply, Installation, Testing & Commissioning of Wireless Controller with 4x10GigE and 4x1GE ports . WLC should be TEC and NDcPP certified. Should be able to support the required number of APs from day 1 and should be scalable to supprt upto 2000 APs in a single appliance. WLC should be deployed in HA mode. 5 years OEM warranty with advance hardware replacement .All types of Switches, transceivers, WIFI,WLC,AAA should be from the same OEM for better compatability,management and after sales support.For detailed specifications please refer tender document.MAF From OEM is Mandatory to submit.	Set	2.00	949520.00	1899040.00
139.00	Supply & Installation of Cat 6A UTP 26 AWG multi core Patch Cord - 1 mtr terminated with RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and certified by ETL.	Nos	11.00	317.00	3487.00
140.00	Supply & Installation of Cat 6A UTP 26 AWG multi core Patch Cord - 2 mtr terminated with RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and certified by ETL. complete as required and as per technical specifications.	Nos	100.00	369.00	36900.00
141.00	Supply, Installation, Testing & Commissioning of LSZH Cat 6A-10G speed 500 MHzunshielded twisted pair computer cable with 23 AWG solid copper conductors in existing concealed / surface conduits / Raceways (Yellow in Colour for Data, Red in colour for Redundant) complete as required and as per technical specifications.	Mtr	11450.00	116.00	1328200.00

S.No.	Description	Unit	Qty	Rate	Amount With Out GST
142.00	Supply & Installation of Cat 6A Modular Jack Panels for accommodating 24 port termination and shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements. Patch Panel shall come with preloaded information outlets .Panel shall have label holders and designation labels as part of the standard device. Shall also come with rear cable management metallic tray with velcro ties complete as required and as per technical specifications.	Nos	64.00	10551.00	675264.00
143.00	Supply & Installation of 1U PVC cable manager complete as required and as per technical specifications.	Nos	12.00	1583.00	18996.00
144.00	Supply,Installation, testing and commissioning of following Networking Enclosure Closed rack with Front Glass door, rear steel door, castors, fans with fan tray, power distribution units and complete with all accessories as required along with Horizontal Cable manager and vertical Cable manager complete as required.				
144.01	15U Wall mounted (Closed Rack)	Nos	3.00	33549.00	100647.00
144.02	42U Floor mounted 1000mm (W) X 1000mm (D) (Closed Rack)	Nos	1.00	63301.00	63301.00
145.00	Supply, installation, testing and commissioning of armoured single mode OS2 fiber optic cable of following sizes for connectivity where ever required in prelaidd conduits / shafts/cable trays/raceways, whichever maybe available etc. complete as required and as per technical specifications.				
145.01	12 Core	Mtr		317.00	
145.02	6 Core	Mtr	100.00	211.00	21100.00
146.00	Supply, Installation, Testing & Commissioning of 24 Port Fiber LIU Loaded with LC LC Coupler, as per given Specification etc. all complete.	Nos	2.00	21100.00	42200.00
147.00	Supply, Installation, Testing & Commissioning of 12 Port Fiber LIU Loaded with LC LC Coupler, as per given Specification etc. all complete.	Nos	1.00	11078.00	11078.00
148.00	Supply, Installation, Testing & Commissioning of LC-LC SM Fiber Patch Cords (3 Mtr) as per given Specification etc. all complete.	Nos	4.00	2321.00	9284.00
149.00	Supply, installation, testing and commissioning of LSZH Cat 6A 10G speed unshielded twisted pair computer cable with 23 AWG solid copper conductors in existing concealed / surface conduits / Raceways (White in Colour) complete as required and as per technical specifications.	Mtr	2400.00	114.00	273600.00
150.00	Supply and installation of modular Information Outlet Base, suitable for mofCATunting Cat 6 / Cat 6A UTP/STP Keystone Jack in a surface or concealed installation	Nos	1330.00	219.00	291270.00
151.00	Supply and installation of Single Port (Simplex) Faceplate made of high-impact, flame-retardant ABS plastic, suitable for mounting on standard modular electrical back boxes.	Nos	1250.00	232.00	290000.00
152.00	Supply & Installation of Cat 6 UTP 23 AWG multi core Patch Cord - 4feet terminated with shielded RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and UL certified and certified by ETL.	Nos	1500.00	197.00	295500.00
153.00	Supply & Installation of Cat 6A UTP 26 AWG multi core Patch Cord - 1 mtr terminated with RJ-45 modular plugs on both ends and having phosphor bronze contact blade. Maximum insulation resistance shall be 35m ohms. The patch cords shall be conforming to ANSI/ TIA/ EIA-568-C.2 standards and certified by ETL.	Nos	100.00	351.00	35100.00
154.00	Supply of SC/UPC Single Mode Fiber Optic Pigtail, 1 meter length, 9/125 µm core/cladding diameter, tight buffered, factory-terminated at one end with SC/UPC connector using zirconia ceramic ferrule, and other end bare fiber for fusion splicing.	Nos	100.00	216.00	21600.00
Total amount without GST					150,104,195