

Bill of Quantities

NAME OF WORK: INTERNAL ELECTRICAL WORKS AT NEHU BRANCH, UMSHING, MAWLAI, SHILLONG, MEGHALAYA

Sl.No.	Description	Unit	Qty.	Rate (Rs.)	Amount in Rs.
1	<p>a. Main Panel :- Supplying, Installing, testing and commissioning of factory fabricated 2MM thick CRCA, floor mounted cubicle type distribution Panel Board with 150 MM X 75 MM X 6MM ISMC base channel, suitable for 415 V TPN comprising of 160A suitable copper bus bars with color coded heat shrink insulation with the followings:</p> <p>125A, 4P MCCB with overvoltage protection as incomer 100A, 4P ON-LOAD Changeover - 1No R-Y-B LED indicating lamps, Digital multifunction meter of minimum size 150 MM X 150 MM to measure Voltage, Current, PF etc with all accessories Outgoing: 63 Amp TPN MCCB, 35kA for AC/UPS/ DB - 2Nos, 100 Amp TPN MCCB, 35kA for VTPN for ACs - 1Nos, 40 Amp TPN MCCB, 35kA for Capacitor Panel - 1No, 40 Amp TPN MCCB, 25kA PDB - 1No. 32 Amp TPN MCCB, 10kA LDB - 1No.</p> <p>All MCCBs are strictly as specified above only.</p> <p>All outgoing must be in compartmentalized chamber fully isolated with 2 mm thick CRCA and 3 mm steel channel painted with 2 coats of red oxide primer paint followed by finishing paint with interconnection etc. as required.</p>	Set	1		
	<p>b. Capacitor Panel: Supply and installation of 20 KVAR APFC panel, floor/wall mounted front operated totally enclosed vermin proof, indoor non-drawout-cubicle type power factor panel fabricated out of 16 SWG thick CRCA sheet having gasketed hinged cover on each cubicle fully powder coated with suitable bus bar for connecting the contactors, MCB's, Capacitors, etc with the following accessories A set of R-Y-B LED indicating lamp at incomer</p> <p>63A, TPN MCCB, 35kA as incomer - 1No 1 no. 40A 3P contactor for 10 KVAR, 1 no. 32A 3P contactor for 5 KVAR, 2 nos, 25A, 3P contactor for 2 KVAR and 1 no, 16A, 3P contactor for 1 KVAR 1 no. 10 KVAR & 1 no. 5 KVAR, 2 nos. 2 KVAR and 1 no. 1 KVAR. 1 no. 5-step APFC relay of minimum size 150 MM X 150 MM suitable for above arrangement ON/OFF push button for each capacitor ON/OFF LED type indication lamp for each capacitor</p>	No	1		
	<p>c. Sub-Panel for O/D Units of ACs: Supplying, Installing, testing and commissioning of water proof factory fabricated 2MM thick CRCA, wall mounted sub-panel Board 415V, Three Phase with Neutral, 50Hz comprising of 100A bus-bar with the followings: Incomer : 1No, 63A, 4-Pole MCCB, 35kA Out-going: 2Nos, 32A, 4-Pole MCCBs</p>	Nos	0		

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2	Sub-main line:- Wiring in MS conduit of IS specification of proper size with PVC insulated, 1.1 KV grade multi stranded copperconductor wire with supply ,installation, commissioning of all the materials required including proper termination, connection in complete as required from main DB to various DBs:-				
i)	with 3nos 4sq.mm (1ECC)	RM	110		
ii)	with 3nos 6sq.mm (1ECC)	RM	120		
iii)	with 4nos, 6sq.mm + 2 X 2.5 sq.mm	RM	45		
3	Supply ,installation ,testing and commissioning of double door type distribution board manufactures made sheet steel enclosure With the following MCBs (DB, MCB and MCCB and connecting the same to the system.				
i)	Computer/Raw power DB, SPN double door with 40A (30mA) DP RCCB as incomer & 6nos 10A SP MCB as outgoing.	No.s	1		
ii)	DB with 40A DP MCB	No.s	1		
iii)	DB with 2X63A DP MCB.	No.s	2		
iv)	DB with 16A DP MCB.	No.s	1		
v)	Modular type 20/25A 3-pin socket, 25A SP MCB with 20/25A, 3-pin top with all accessories & metallic box for AC	No.s	5		
vi)	Metal clad AC box with 3 pin socket, 3 pin top controlled by a 32A DP MCB for 2 TR Cassette type AC	No.s	3		
vi)	VTPN Double Door Distribution Board (Three phase I/P and Single phase O/P) with 100A 4 Pole MCCB (35kA) as incomer and 3 Nos. 32A SP MCB, 6 Nos. 25A SP MCB and 9 Nos. 16A SP MCB at outgoing (For AC & Power)	Set	1		
vii)	VTPN Double Door Distribution Board (Three phase I/P and Single phase O/P) with 63A 4 Pole MCCB (35kA) as incomer and 3 Nos. of 25A SP MCB, 9 Nos, 20A SP MCB, 6 Nos. 16A SP MCB at outgoing (For AC, power and 6A light plug)	Set	0		
viii)	PDB (4-Way) TPN double door with 40A TPN MCB as incomer & 12 nos 16A/20A SP MCB as outgoing.	No.s	1		
ix)	Light DB (4-Way) TPN double door with 32A 4P MCB as incomer & 12 nos 10/16A SP MCB as outgoing.	No.s	1		
4	a. Supplying, installing and commissioning of PVC/ XLPE insulated 1.1 kV grade aluminium Armored cable complete with proper lugs and cable glands and two nos. of 8SWG GI wires alongwith all the other materials required including proper connection in complete as required from main Panel to various DBs & Main power supply .				
i)	With 3.5 core x 35 sq. mm cable	RM	50		
ii)	With 3.5 core x 50 sq. mm cable	RM	0		
iii)	With 4 core x 25 sq. mm cable but with 2X12 SWG GI wires	RM	20		
iv)	With 4 core x 16 sq. mm cable but with 2X12 SWG GI wires	RM	30		
v)	With 4 core x 10 sq. mm cable but with 2X12 SWG GI wires	RM	25		
	b. Cable End Terminations: Supplying of all materials, for the end terminations with copper lugs, Single Compression Brass Cable Glands of required sizes, Tapping, Crimping etc. Complete of the followings.				
i.	3.5 core 50 Sqmm Al Ar.	Set	0		
ii.	3.5 core 35 Sqmm Al Ar.	Set	2		
iii	4 core 25 Sqmm Al Ar.	Set	2		

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iv	4 core 16 Sqmm Al Ar.	Set	4		
v	4 core 10 Sqmm Al Ar.	Set	4		
5	a. Conventional Type Earth Stations: Supply, installing and commissioning of earth station including digging and refilling back the pit with black soil and with 3.15mm x300mm size copper plate duly tinned through out the surface of the plate, placed at least 1.5Mtr,below the ground level with 2nos 10sq.mm PVC insulated stranded copper conductor in 20mm GI pipe, fixed to the plate and providing 40mm,2mtr,long GI pipe with reducer and funnel at top for watering pipe with supplying and laying earth continuity wire of 2x10sq.mm copper stranded PVC green color in heavy duty MS conduit on the wall from earth plate to starting point of the line earth connector.	Set	0		
	b. Maintenance Free Chemical Earth Stations: The items listed below shall be undertaken directly by Agencies providing Ashlock/ True Power or equivalent of approve Make Chemical earthing, The contractor shall provide the rates of getting the same executed by the agency. The representative of the agency shall measure and submit the test report of the earth directly to the branch and one copy to the Elect. Engr. along with their bill. The agency may also require to test and provide the test report of the earthing measurement if required to the branch and Elect. Engr. for monitoring upto a period of three years.				
i.	Supply and installation of pipe-in-pipe technology Ashlok/ True Power Earthing system or equivalent of approve make Model T-19 with outer diameter of 50 mm, length 2000 mm embedded in the soil with masonry inspection pit with cover , which can be easily removed abd placed. complete in all respect. Earth pit installation test certificate to be submitted after measurement of earth resistance as per the provision in IS3043. (UPSs and Panel earthing)	Nos	2		
ii)	Supply and installation of pipe-in-pipe technology Ashlok/ True Power Earthing or equivalent of approve make system, Model T-39 with outer diameter of 80 mm, length 2000 mm embedded in the soil with masonry inspection pit alongwith cover etc. complete in all respect. Earth pit installation test certificate to be submitted after measurement of earth resistance as per the provision in IS3043. (for Main Panel & System)	Nos	2		
iii.	Supplying and fixing 25x3 mm copper strip, insulated by heat pressurized heavy gauge PVC sleeve, duly jointed by full lap brazing and drawn underground in 40 mm class B GI pipe from the inspection pit to the inside of the branch premises.	RM	30		
iv.	Supplying and fixing 2X8 SWG dia copper earth wire in PVC conduit on surface or in recess for loop earthing from panel to DB	RM	25		
v.	Supplying and fixing 2X8 SWG dia earth wire in B-class GI pipet on surface or in recess earth stations (T-19) to panel & UPS I/P DB	RM	50		

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6	Computer/Raw Power point wiring in MS conduit of IS specification of proper size with 3nos 2.5sq.mm single core PVC insulated 1.1 kV grade multi-stranded copper conductor wires with all material supply installation and commissioning complete from CDB/PDB(Raw) .The wiring shall be carried out on surface above false ceiling/ by chiseling on wall/ the existing surface and plastering the same with cement etc. after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket (Legrands / MK or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof (maximum three points in single circuit)				
i)	With 3nos 6A socket with single 16A switch one LED indicator for primary.	No.s	5		
ii)	Loop from the nearest above primary point (i)	No.s	8		
iii)	With 2nos 16A socket with individual switch.	No.s	2		
iv)	With 1nos 16A socket with individual switch for primary	No.s	8		
v)	Loop from the nearest above primary point (iv)	No.s	6		
7	Light Fixtures: Item includes SITC of following fixtures including all accessories hardwares & extension chords where necessary complete as required. All LED (except down lighters) to be hung from the RCC roof using universal suspension system with quick onsite adjustment in both ceiling and NON False ceiling area. All LED Fixtures should be covered minimum 3 years onsite replacement Warranty.				
a	Supply, installation testing and commissioning of 15W LED recessed type commercial downlighter with external driver. Make - Cate No: - Wipro- LD71-161-SML-65-DD/ GE- GDR015.40L3/ Havels-RISEDLR15WLED840S/ or equivalent of CG/ Bajaj/ Philips/LK/Helonix.	No.s	35		
b	Supply, installation testing and commissioning of 15W LED surface type commercial downlighter with driver. Make - Cate No: - Wipro - Moon LED LW 02/ or equivalent of Bajaj/ GE/Philips/Havels	No.s	6		
c	Supply, installation, testing and commissioning of 36W, 2"X2" recessed type Ultra slim LED luminaire with external driver and universal suspension system. Make - Cate No: - Wipro-LML25-361-XXX-65-G1/ Havells-ENDURASLIMPROPLUS2X236WLED857MOD with dirver/ Crompton-LCPL-36-CDL/ or equivalent of Bajaj/Philips/GE/HPL/LK/Helonix/HPL	No.s	18		

Sl.No.	Description	Unit	Qty.	Rate (Rs.)	Amount in Rs.
d	Supply installation testing and commissioning of LED box type Single Tube light fittings with 17W-18W with glare free light distribution wall mounted at ceiling/false ceiling level/. Make :- Bajaj/Havels/Phillips/Wipro/Crompton or equivalent	No.s	1		
e	LED Box type Cove Light fixtures with connecting terminals				
i.	300 MM Length	No.s	10		
ii.	600 MM length	No.s	15		
iii.	900 MM length	No.s	10		
8	Supply, installation, testing and commissioning of 400mm Sweep Wall Mounted of Metallic body and metallic Blade ,1400 rpm Havels FHWV3TFSLB18 or equivalent of crompton/bajaj/usha/orient make	No.s	13		
9	Supply, installation, testing and commissioning of 5 Star rated Ceiling fan 1200 mm Crompton - AURA model with Golden Colour/ or equivalent of Bajaj, Usha, Havels	No.s	1		
10	Supply, installation, testing and commissioning of Heavy Duty metallic body & Blades Exhaust Fan with louvers of following size: 200 mm sweep, 1400 RPM of Crompton/ Bajaj/ Usha/ Havells	No.s	1		
11	Supplying, installation, testing & commissioning of Security ligh with 25W LED lamps with pressure die cast housing with epoxy coated dark graphite grey colour finish and prismatic polycarbonates cover with individual LED lenses, including necessary GI pipe bracket with clamp. Make :- Bajaj/Havels/Phillips/Wipro/Crompton or equivalent	Nos.	2		
12	Providing & fixing POINT WIRING for Ceiling and wall lights. The item includes Circuit wiring with PVC insulated 1100V grade FRLS/FRZH copper conductor multistranded wires from DB to the switch board with 3x2.5 Sq.MM for Phase, Neutral & Earth (P+N+E) in appropriate size of 16 SWG MS conduits ISI mark (IS :9537), point wiring to be with 3x1.5 Sq.MM PVC insulated, 1100V grade FRLS/FRZH copper conductor multistranded wires with all necessary accessories, such as saddles etc. on surface or embedded in wall, chasing the walls and making the surface neat afterwards. Item includes 6 AMP switch Modular type of Anchor woods /MK benZ/ Legrand Mosaic Range or eqv of approved make with all base plates, covering plate Metal box of same make etc. complete. (EACH Circuit to take NOT MORE than 8-10 points) Flexible conduits & Elbows are not allowed. Only FRLS/FRZH wire to be usedt or, as instructed by SBIIMS Engineer.				
i)	One light point controlled by one switch	No.s	18		
ii)	Two light points to be controlled by one switch	No.s	9		
iii)	3/4 points to be controlled by one switch (Strickly as per drawing only)	No.s	8		
iv)	5/6 points to be controlled by one switch.	No.s	1		
v)	6A socket to be controlled by one switch at switch board	No.s	4		
vi)	One WALL FAN points with 1x 5-6 pin, 6 Amp socket outlet to be provided at the location of fan	No.s	13		
vii)	One CEILING FAN points to be controlled by one 6 Amp switch, 5-step modular type electronic regulator and ceiling rose to be provided at the location of fan	No.s	1		

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viii)	One EXHAUST FAN point to be controlled by one 6 Amp switch, 1x 5-6 pin, 6 Amp socket outlet to be provided at the location of fan	No.s	1		
ix)	A group of 5-9 light control by a 20A switch and a PIR cum Occupancy sensor (AITEK/PHILIPS/HONEYWEL). The wiring with 3X2.5 Sq.mm, PVC insulated 1100V garde copper conductor wire	No.s	2		
13	a. Providing and laying for 6 Amp light plug point with 2x2.5 Sq. mm PVC covered copper conductor with 1x 1.5 Sq. MM PVC covered copper conductor for Earth from DB to designated places. Item Includes 1 NO 5 pin 6 AMP socket and 1 no 6 AMPs switch etc. complete.	No.s	4		
	b. Providing & laying 6 Amp LOOPED from above a) plug point with 3x1.5 sqmm PVC insulated copper conductor from Primery Points , incl. socket and switch (double module) etc. complete. with specifications same as above. (Maximum 3 points i.e. from one primary point, another two points can be looped in a circuit)	No.s	8		
15	Providing and fixing BELL POINTS on wall / partition with 2x1.0 Sq. MM copper conductor in PVC medium guage conduit (IS:9537) with call bell push switch (Push Type) including Anchor make Multi Tune call Bell etc. complete.	No.s	1		
	Plus GST extra will be extra as applicable.				