

**STATE BANK OF INDIA
LOCAL HEAD OFFICE, GUWAHATI
PREMISES & ESTATE DEPARTMENT
GUWAHATI, ASSAM.**

BOQ FOR ELECTRICAL WORK
SBI Regional Business Office , 2nd Floor Forums mall

GENERAL NOTE	
1	UPS input and Output wiring should be done with FRLS Insulated stranded copper conductor laid through M.S Conduict. (From input DB to UPS and from UPS Output to UPS Output DB)
2	All wires for circuit wiring and other wiring should be drawn inside M. S. Conduits Only unless otherwise specified
3	Specifications of all wires should be followed strictly as mentioned in the BOQ
4	All makes of materials should be strictly followed as mentioned in the detailed specifications of the Tender document
5	Earthing Test Certificate should be provided alongwith the Final bill for further bill verification
6	Single Line diagram showing the all the wiring including point wiring, computer and RAW power wiring, Circuit wiring etc. all complete should be submitted with the Final Bill
7	Only DATA and Voice point wiring is allowed to be carried out through MS Conduits
8	MARKING OF DBs & PREPARATION OF AS-BUILT SLD - Marking/labelling of all DBs and panels with engraved/laminated identification name-plates indicating board name, source and load served, and preparation of complete As-Built Single Line Diagram (SLD) of the entire electrical installation, duly framed in glass/acrylic frame, and submission of the same along with the Final Bill.
9	Bank-approved makes list (as provided separately) must be strictly followed for all materials; in case of any conflict with makes mentioned in this BOQ, the bank-approved list shall prevail.

PART A: ELECTRICAL WORKS					
Sl. No	Description	Unit	Qty	Rate	Amount
	SECTION-A				
1	Floor PANEL				
1.1	Supplying and installation of metal enclosed wall/ floor mounted front operated cubical type switch gear panel suitable for indoor installation conforming to IS: 8623 (Part I & II). Panel should be made of sheet steel and thickness not less than 2mm and structural steel having light section. The panel shall be completely dust tight and vermin proof and shall be painted with anti corrosive and anti condensation type two coats of primer and two coats of paint. All wiring shall be PVC insulated and PVC sheathed of 1100 volt grade of required size. The panel should have provision of entry of cable at the bottom and also provision of out going feeders from the bottom of the panel. The panel shall incorporated double busbar system. The bus bar shall be of high quality copper of uniform cross section. The panel shall consist of the following items (viz. voltmeter, ammeter, CT, indicating lamps, selector switch etc.) connected as per drawing and shall be flush mounted on the front of the panel.				
a	Incomer: 400A,TP, MCCB with ELR(0-3A) and CBCT- 2 Nos.				
b	Outgoings :- 250A, 4-Pole MCCB for main VTPN-1 and AC VTPN connected via AC-1 250A FP Contactor (From Normal Bus Bar)- 1 No. 125A, TP, B , MCB for UPS DBs- 2Nos. (From Essential Bus Bar) 200A 30kA Class C MCCB for APFC Panel 32A,10KA, Class-C, DP MCB- 2 Nos. (Spare/Future Provision, ≈20% of total outgoing)				
c	1 no. Multi Function Meter, connected through 3 Nos. of 160/ 5A CT and 16A Control MCB				
d	1Set, TPN, Copper busbars of size 50mm x 10mm thk PVC insulated suitable for 400 Amp load				
e	1 Set, RYB, indicating lamps with resistors and fuses				
	Full Set as above	Set	1		
1.2.	AUTOMATIC POWER FACTOR CONTROL PANEL				

a	Supply and installation of 120 KVAR APFC panel, floor/wall mounted front operated totally enclosed vermin proof, indoor non-drawout-cubicle type power panel fabricated out of 2mm thk CRCA sheet having gasketed hinged cover on each cubicle fully powder coated with following accessories				
	1No. 200A,FP, MCCB as incomer				
	6 nos. of 25A 3P contactor				
	2 nos. 25A TP MCB/SFU for 10KVAR; 2 Nos. of 40A TP MCCB/SFU for 20 KVAR; 2 Nos. of 63A TP MCCB/SFU for 30 KVAR				
	10KVAR-2 Nos. 20 KVAR Capacitor- 2 Nos. and 30 KVAR Capacitor-2 Nos.				
	Suitable bus bar for connecting the contactors and MCB's, Capacitors				
	1 no. 8 step APFC relay suitable for above arrangement				
	ON/OFF/TRIP push button for each capacitor				
	ON/OFF/TRIP indication lamp for each capacitor				
	1 Set, RYB, indicating lamps with resistors and fuses for incomer.				
	Full Set as above	Set	1		
2	S.I.T.C. of Local Distribution VTPN [Electrical/UPS Room]				
	S & I of 6 Way Double Door VTPN DB, 125A, TPN MCCB as incomer - 1 No., for local distribution to the Lighting DB (LDB), Raw Power DB (PDB) and UPS DB located in the Electrical/UPS Room, with outgoing ways rated to match the respective downstream DB incomer ratings, with all wiring connections.	No.	1		
	125 FP MCCB as Incomer-1 No.				
	Outgoings:				
	40A, 25kA, DP, MCB for LDB-1,2 &3- 3 Nos.				
	63A, 25KA, Class C, TP MCB for Raw Power HTPN DBs- 2 Nos.				
3	MCB DISTRIBUTION BOARD				
	Supplying, installation, testing and commissioning of surface/recess mounting, 220/415 volts prewired MCB distribution boards with all switchgears as specified below, of sheet steel, dust protected, duly phosphatized and powder painted, inclusive of 200 amps tinned uniformly rated electrolytic copper bus-bar, common neutral link, earth bar, din bar for mounting MCB/MCCB/RCCBs detachable gland/knock out plates and with built in loose wire box, and superior make terminal connectors for all incoming and outgoing circuits, duly prewired with adequate size of FR MS insulated copper conductor upto the terminal connector/neutral link and ready for installation as specified below:				
3.1.	S.I.T.C. Of L.D.B. [MCB DB- LIGHT] (LIGHT DB- 1&2)				
a.1.	S & I of 10 Way SPN, DB for distribution to all Light points of different areas (as indicated in the circuit diagram), having below mentioned switchgears (Earth bar inside these DB should be insulated from the body) - 40A, 30 mA, DP RCCB as incomer - 1 Nos, 10A SP MCB as Outgoing-6 Nos. with 2 Nos. Spare	No.	3		
3.2.	S.I.T.C. Of P.D.B. [MCBDB-POWER] (Raw Power DB- 1&2)				
a.1.	S & I of 6 Way HTPN DB with dual Incomer provisions for distribution to all Raw power Points of different areas (as indicated in the circuit diagram), having below mentioned switchgears (Earth bar inside these DB should be insulated from the body) Incomer: 63A, 25kA, TP MCB along with 63A, 30mA, 4-Pole RCCB - 1 Set 16A SP MCB- 18 Nos. with all wiring connections. (Max. 2 Points to be looped on one MCB.)	No.	2		
3.3.	S.I.T.C OF U.P.S. D.B. : (MCBDB-UPS)				
a.1.	SITC of 4 Way Single Door VTPN DB with all wiring connections: Incomer:125, 25kA, TPN MCCB Outgoings: 120A, 25kA, TPN, MCB with 120 A FP Contactor 25A,10kA, DP MCB	N	1		

a.2.	S & I of 8 Way SPN, DB for distribution to all EMergency UPS points of Networking, Fire Alram, CCTV and Panic Alarm), having below mentioned switchgears (Earth bar inside these DB should be insulated from the body) - 25A, 30 mA, DP RCCB as incomer - 1 Nos, 6A SP MCB as Outgoing-4 Nos. with 2 Nos. Spare	No.	1		
a.3.	S & I of 6 Way HTPN DB with dual incomer provisions for distribution to all UPS power points of different areas (as indicated in the circuit diagram), having below mentioned switchgears (Earth bar inside these DB should be insulated from the body) Incomer: 63A, 25kA, TP MCB along with 63A, 30mA, 4-Pole RCCB - 1 Set 16A, SP MCB as Outgoing - 18 Nos. with all wiring connections. (Max. 2 Points to be looped on one MCB.)	No.	2		
3.4.	S.I.T.C. of 63A, TPN MCCB in dust & vermin-proof IP-rated metal enclosure for UPS Input Protection (from Input DB to UPS) - 1 No.	No.	1		
3.5.	S.I.T.C. of 63A, TPN MCCB in dust & vermin-proof IP-rated metal enclosure for UPS Output Protection (from UPS Output to UPS Output DB) - 1 No.	No.	1		
4	<u>S.I.T.C. Of AC MDB [MCB DB- AC]</u>				
a.1.	S.I.T.C. of 4 way Double door VTPN Distribution Board with all wiring connections. Incomer : - 63A 25kA TPN MCCB : - 1 Set Outgoing : - 16A 10kA C SP MCB-3 Nos. 20A 10kA C SP MCB-1 Nos. 25A 10kA C SP MCB-5 Nos.	No.	3		
	SECTION B- Cables and Terminations				
5	Supplying, Installation, Testing & Commissioning of LT Cable rated for 1100 Volts AC as per IS Standard with necessary accessories with fine resistance cable. (Make: - Finolex-FR / Polycab Havells and/or any other Brands as Directed by Engineer-in-Charge)				
5.1	3.5 C X 185sq.mm. at 1100 volts grade XLPE insulated Al Conductor armoured cable with 10 gauge earth GI wire	Metre	35		
5.2	3.5 Core X 50 Sq.mm. AL Armoured cable with 8 swg GI wires for earthing (From Main Panel to all VTPNs at Normal Bus Bar and for ACDBs)	Metre	70		
5.2	3.5 Core X 35 Sq.mm. AL Armoured cable with 8 swg GI wires for earthing (From L&P VTPN to RP HTPN DBs)	Metre	60		
5.3	4 Core X 6 Sq.mm. Cu. Armoured XLPE Cable (From L&P VTPN to LDBs)	Metre	77		
5.4	4 Core 10 Sq.mm. PVC insulated Copper flexible cable in 32mm dia M.S. conduit with suitable size glands for Termination (From Main VTPN to RP HTPN s and UPS DBs)	Metre	84		
6.0	Supplying, Installation, Testing & Commissioning of LT Cable Termination (Make: - Dowells /Jainsons) (Note: Incoming and outgoing termination consider one set.)				
6.1	3.5 Core X 185 Sq.mm. AL Armoured Cable.	Set	4		
6.2	3.5 Core X 50 Sq.mm.AL Armoured Cable.	Set	12		
6.2	3.5 Core X 35 Sq.mm. AL Armoured Cable.	Set	6		
5.5	4 Core x 16 sqmm CU armoured cable for ACDBs	Set	8		
6.4	4 Corex10 sqmm CU Flexible Cable	Set	8		
	SECTION-C				
7	POINT WIRING				
7.1.	Supply & Installation of concealed point wiring using 3 x 1.5 sqmm stranded FRLS copper conductor in M.S Conduit including the cost of circuit wiring from the relevant DB's with 3x 1.5 sq mm stranded FRLS copper conductor in M.S Conduit . PIN GRIP Lugs should be used for connection/ terminations at both the ends with proper colour coding of phase, neutral and earth wire (Phase R,Y,B Neutral-Black & Earth - Green Colour). The rate shall also include concealed M.S Box, Cover Plate and Switches of grid plate type switches and sockets of approved shade and make as approved by Bank / Architect. Each circuit should not have more than 8 points / 800 W in one loop as per the following configuration.				
a	Primary light points including the cost of 6A switch (Single Point-83 Nos. Double Loop Points-108 Nos., Triple Loop Point-32 Nos.)	Pts	223		
b	Secondary 6A Plug point on switch board. [SO]	Pts	10		

c	16/6 A Plug Point directly taken from PDB for hotplate/geyser / zerox / fridger etc.	Pts	3		
d	Ceiling Fan/ Exhaust fan/Wall fan point consisting of 6A socket near fan and switch on light switch board, protected by a dedicated 6A SP modular MCB provided in the common switch board.	Pts	2		
e	Wiring for Signages (Outdoor/Fascia) with 2R x 4 Sq.mm and 1 Rx 2.5 Sq.mm, PVC insulated copper conductor flexible cable to be connected to the SPN D/D consumer along with a Timer and Contactor unit installed in Electrical Room.	Set	2		
f	S.I.T.C. of call bell with bell point .	Nos.	4		
7.2.	COMPUTER/ RAW POWER WIRING				
	Note- All sockets should be placed below the workstations as mentioned in the drawings but the controlling switch should fixed above the work stations and at place as directed by the architect				
a	Supply & Installation of concealed UPS or stabilized power plug points on workstations / table for computers using 3 x 2.5 sqmm stranded FRLS copper conductor in M.S Conduit including the cost of circuit wiring from the relevant DB's with 3 x 2.5 sq mm stranded FRLS copper conductor in M.S Conduit . PIN GRIP Lugs should be used for connection/ terminations at both the ends with proper colour coding of phase, neutral and earth wire (Phase R,Y,B Neutral-Black & Earth - Green Colour). Each point shall consist of 3 Nos of 6A/16A 2 / 3 Pin sockets and 1 No 16A switch, wired together forming one point. Switches and sockets to be of approved shade and make. (Only 2 tables served by one circuit from UPS DB/ Not more than 2 points shall be permitted per loop) Cost is inclusive of necessary cutting the walls/ partitions and carrying all the wires through M.S Conduit and againg finishing the walls with Putty/ Cement/ POP to receive the final paint.. [SOC]	Pts	64		
b	S & I of points similar to above but to be used as raw power point on the tables consisting of one 6/16A socket with switch of other color and flexible cable of black color & circuit taken from Raw Power DB (2 tables (Maximum 3) served by one circuit from LDB/PDB) Taken Above False ceiling and through walls/ partitions inside M.S. Conduits as raceways are not provided. Cost is inclusive of necessary cutting the walls and including M.S. Conduits as required for taking the wires.	Pts	78		
	SECTION-D				
8	EARTHING/ Installation of New Earthing				
8.1.	Testing, Checking and improving existing Earthing of the Floor.The work shall include repairing of existing eath pit so as to obtain the desired earthing output as per bank's standards and Re-Wiring and Re-connecting with minor rectifications as may be required for Earthing as per the existing site conditionsThe rate shall be inclusive of necessary 8 SWG dia copper wire on surface or in recess for loop earthing as required. EARTHING TEST CERTIFICATE SHOULD BE SUBMITTED ALONGWITH THE FINAL BILL FOR FURTHER PROCESSING OF THE BILL	Each	8		
8.2.	Supply, laying and interconnection of GI (Galvanised Iron) earthing strip of size 25mm x 3mm (or as per site requirement) for bonding/interconnecting the bodies of all DBs, panels, conduits, light fixtures and other electrical equipment throughout the premises to the common earth grid, including clamps, bolts, nuts, paint and all accessories — complete as required.	RM	200		
	SECTION-E				
9	LIGHTING FIXTURES (of reputed make as approved by the Engineer-in-Charge/Architect)				

9.1.	<u>DOWN LIGHT [DL]</u> - Supply, installation, testing and commissioning of maintenance-free, round LED downlight with die-cast aluminium housing and slim/backlit design suitable for low false-ceiling height applications, of the following specifications: Wattage: 15 W Colour Temperature (CCT): 6500 K Cut-out diameter: Ø105 mm Overall dimension: Ø120 x 28 mm Housing material: Die-cast aluminium Make: As approved by the Engineer-in-Charge / Architect, of reputed make conforming to relevant BIS/IS standards. The fixture shall be complete with driver, all necessary mounting accessories, and wiring connections as required for satisfactory operation. 3 (three) years written warranty from the manufacturer/supplier to be submitted along with the Final Bill.	Each	196		
9.2	<u>PANEL LIGHT</u> - Supply, installation, testing and commissioning of high-efficacy, recess-mounted LED panel light with white powder-coated CRCA housing and fully mounted acrylic diffuser (2'x2'), having the following specifications: Wattage: 36 W Luminous Efficacy: 120 Lm/W (approx.) Colour Temperature (CCT): 6500 K Overall dimensions: 595 mm (L) x 595 mm (W) x 35 mm (H) Housing material: White powder-coated CRCA sheet Make: As approved by the Engineer-in-Charge/Architect, of reputed make conforming to relevant BIS/IS standards. Complete with driver and all necessary mounting accessories. 3 (three) years written warranty from the manufacturer/supplier to be submitted along with the Final Bill.	Each	111		
9.3	Supply, installation, testing and commissioning of maintenance-free, round LED downlight with die-cast aluminium housing and slim/backlit design suitable for low false-ceiling height applications, of the following specifications: Wattage: 8/10 W Colour Temperature (CCT): 6500 K Cut-out diameter: Ø75 mm Overall dimension: Ø120 x 28 mm Housing material: Die-cast aluminium Make: As approved by the Engineer-in-Charge / Architect, of reputed make conforming to relevant BIS/IS standards. The fixture shall be complete with driver, all necessary mounting accessories, and wiring connections as required for satisfactory operation. 3 (three) years written warranty from the manufacturer/supplier to be submitted along with the Final Bill.	Each	8		
9.6	Mirror light in Toilet -Providing and fixing surface-mounting LED mirror light fixtures on existing vanity mirrors or bathroom partitions. The fitting shall consist of a rigid housing (extruded aluminum/corrosion-resistant alloy) with a high-efficiency polycarbonate diffuser. The LED module shall deliver even, glare-free illumination. Complete with 230V AC, 50 Hz internal driver wiring, power cord, and fixing brackets/screws. Colour temperature: 6500K (Cool Day Light) or 4000K (Neutral White) as per site requirement. Approved makes: Havells, Bajaj, Philips, or Wipro. All complete as per direction of the Engineer-In-Charge	Each	8		
9.7	RECESSED LED ALUMINIUM PROFILE LIGHT Supply, installation, testing and commissioning of recessed LED aluminium profile light, having the following specifications: Overall dimensions: 1200 mm (L) x 35 mm (W) x 35 mm (H) Wattage: 36 W, Colour Temperature (CCT): 6000 K (Cool White) of reputed make conforming to relevant BIS/IS standards. Complete with driver, end caps, mounting clips/channel and all necessary accessories for recessed installation.	MTR	18		

9.8	<u>COB/SPOT DOWNLIGHT</u> Supply, installation, testing and commissioning of recess-mounted COB/Spot light with die-cast aluminium housing (white finish), having the following specifications: Wattage 12/14W Colour: Cool White Cut-out size: Ø35 mm Overall dimensions: Ø43 mm x 102 mm (H) Make: As approved by the Engineer-in-Charge/Architect, of reputed make conforming to relevant BIS/IS standards. Complete with driver and all necessary mounting accessories. 3 (three) years written warranty from the manufacturer/supplier to be submitted along with the Final Bill.	Each	8		
9.9	<u>Circle Ring Light</u> = Supply, installation, testing and commissioning of architecturally designed, suspended continuous LED ring pendant light. The fixture shall feature a slim, modern profile with an extruded, high-grade corrosion-resistant aluminum housing and a premium powder-coated finish. The light diffuser shall be high-efficiency translucent opal acrylic for uniform, glare-free illumination, Shape: Circular, Diameter: 600 mm, System Wattage: range: 35W / 40W, 6500K, Driver- Integral/Sleek canopy-mounted industrial-grade driver with active Power Factor Correction (PFC) ≥ 0.95. THD < 10%. Mounting: Adjustable suspended mounting using stainless steel (SS) suspension wires/cables and a sturdy matching canopy for ceiling installation	Nos	2		
10	WALL FAN, CEILING FAN & EXHAUST FAN (As per Direction of Engineer-in-Charge)				
10.1	Wall Fan- Supply, installation, testing and commissioning of 400-450mm dia ,heavy-duty, high-speed wall-mounted fan. The fan shall feature a robust metal body, 3 heavy-duty metal blades, and a close-mesh powder-coated metal safety guard. Fan must be complete with a 100% copper wound motor, built-in thermal overload protector, jerk-free oscillation, and a 3-step speed control (via pull-cord/switch). Designed to operate on 230V, 50Hz AC supply	Each	2		
10.2	Supplying including fitting fixing of 1200mm dia star rated BLDC (Brushless DC) energy-efficient Ceiling fan complete with all accessories like down rod, canopy etc. of following sweeps with making necessary connection cable, as approved by the Deptt.s etc. as required complete and as directed by the Department [Without regulator], of reputed make as approved by the Engineer-in-Charge, suitable for non-air-conditioned areas (landlord providing 100% power back-up).	Each	2		
10.3	Exhaust Fan- Supply, installation, testing and commissioning (SITC) of wall/window mounted propeller-type exhaust fan. Fan shall be complete with heavy-duty motor, gravity louvers to prevent backflow, and pre-treated, powder-coated housing for corrosion resistance. Motor shall be continuously rated, single-phase, 230V, 50Hz	Each	4		
11	A.C POINT WIRING				
11.1	A.C. POWER POINT WIRING — (SPLIT/WINDOW) AC UNITS A.C. power point wiring for (Split/Window) AC units from A.C. DB with 1100 volt grade 2 Nos. single core 4 sq.mm. + 1 No. 2.5 sq.mm. (Green colour for earthing) PVC insulated flexible FRLS copper conductor cable, through suitable size M.S. conduit (ISI marked embossed on conduit surface), complete with junction box, circular box, elbows, bends, couplers and other accessories, on surface above false ceiling or concealed by chase cutting on wall, complete with AC power unit having 25 A socket, 20 A starter, mounting box & front plate, of reputed make as approved by the Engineer-in-Charge/Architect, interconnection, mending good all damages to original finish, painting etc. as required. All connections of wires to be done by means of 'Wago' type connectors. Rates shall be inclusive of cost of wires, wiring, sockets, starter, testing all complete.	NOS	30		
12	MISCELLENOUS WORKS				
12.1	Supplying and fixing of following size of Perforated pre paited ms Cable Trays with perforation not more than 17.5% in convenient section, joined with connector, suspended from the ceiling with M.S. suspenders including bolts & nuts, paiting suspenders etc as required. Rates shall be included tee, band reducers etc				

a	150x150 x50 2mm thick Cable tray (For Main Incoming)	RM	88		
b	200x200 x50 2mm thick Cable tray (For Submains)	RM	56		
12.2	<u>MASTER SWITCH NEAR ENTRANCE</u>				
	Provision and installation of master switch nearest to the entrance of the premises (Inside Branch Premises) as indicated in the drawing and as directed by the Architect. The connection should be such that when the same is switched off then all electrical connection in RAW Power & UPS Power goes off except the 24x7 power supply connection for CCTV, Fire Alarm, Panic Alarm & Network Point. Rates shall be inclusive of provisioning of necessary bifurcation of Normal Power Supply and 24x7 Power supply with the help of installing a busbar near the DB or by any other ways as deemed fit and as directed by the Architect as per the existing site conditions. The rate shall also be inclusive all necessary wirings as shall be required for bringing the line from the DB's at the UPS Room to the Location of the Master Switch near the entrance and no extra claim for wiring shall be allowed. The master switch shall be a TPN (4-Pole) Isolator/Changeover Switch of adequate current rating (minimum 63A, or as per actual connected load) housed in a dust & vermin-proof IP54-rated metal enclosure, complete with ON/OFF RYB indicating lamps, an engraved identification name-plate, and a lockable operating handle, of reputed make as approved by the Engineer-in-Charge.				
a	<u>For all UPS Line Wiring</u>	No	1		
b	<u>For All RAW and Power Line wiring</u>	No	1		
12.3	SITC of 8 Module (125mmX125mm) PVC board for Fitting of indicator Bulbs directly connected from LDb, PDB, ACDB and UPS DB with necessary holders etc. with proper marking TO BE PLACED NEAR THE MAIN ENTRANCE. Rates shall be inclusive of all necessary wirings as shall be required to connect this indicator board with the LDB, PDB, ACDB & UPS DB placed in the UPS Room	No.	1		
13.00	Wiring for T.V at RM, Conference , RECEPTION & Waiting Area				
a	Supply and laying of co-axial RG 6 cable for TV terminals from Dish	Meters	120		
b	Supplying and fixing of T.V Outlet in Modular Sheet /G.I Box etc as required	Nos.	4		
c	Supplying and fixing of HDMI PORT as required	Nos.	4		
d	Supplying and fixing of HDMI Cable with inbuilt port as required	Meters	30		
A	TOTAL OF ELECTRICALWORKS for RBO at 2nd Floor				