

SCHEDULE OF SPECIFICATIONS AND QUANTITIES OF ELECTRICAL AND AC WORKS FOR SALT LAKE BRANCH AND POLICE GUARD ROOM ADJUSCANT TO SALT LAKE ZONAL OFFICE OF UCO BANK IN BIDYUT BHAWAN , KARUNAMOYEE , SALT LAKE , KOLKATA -

	GENERAL NOTES
	All equipment and material shall be IS approved. All approvals shall be obtained from Client / Consultant. All equipment and material shall be inspected at manufacturer's works as per relevant IS by the Client or his representative before despatch to site. All vendor drawings shall be approved by the Client / Consultant before fabrication work starts. All Testing and Commissioning shall be as per relevant IS for equipment and IS:732:1989 for the installation. All testing records are to be maintained and submitted for Client's representative.
A.	<u>CIRCUIT CUM POINT WIRING</u>
1	All wiring (P,N,E) shall be 1100 volts grade, FRLS PVC insulated stranded copper conductor wires, single or multi core as called for.
2	All Switches & Sockets shall be of modular design complete with modular plate and suitable sized GI/ moulded boxes as called for and shall be suitable up to 250V, AC / DC supply or as specified.
3	The rates for all point wiring items shall also include supplying and fixing of the following:
4	The recessed Switches & Socket outlet boxes shall be of 16G GI and of the same make / manufacturer as of the switches & sockets. Local make boxes are not to be used.
5	Conduits, shall be PVC (AKG/BEC Make).
6	All circuit & point wiring shall be colour coded & shall have ferruling on either end for circuit identification.
7	All work necessary for wiring a point circuit of any length from the Final Distribution Board to connector via switch and shall include the circuit wiring also except where identified.

8	The rates shall include material & labour for necessary length of circuit and point wiring, earth wiring, rigid and flexible conduiting, bends, junction boxes, pull boxes, screws, washers, check nuts, couplers, saddles, hangers supports, GI pull wire, civil work comprising chipping, cutting chases, fixing conduits & making good or surface clamping of conduit work as the case may be, modular switches, socket outlets, Electronic fan regulators surface or recessed outlet boxes as the case may be, ceiling rose, rigid and flexible conduit (PVC / GI/ MS) as may be required, connectors and terminal blocks of proper rating etc. & sleeves etc. including lugs/ thimbles for terminations.				
9	Switch, socket outlet and necessary blank plates wherever required.				
10	PVC insulated copper conductor stranded flexible wire of Green colour with yellow bands for earthing of fixtures, outlet boxes and third pin of socket outlet.				
11	All wires shall be PVC insulated FRLS copper conductor stranded flexible 1100 volts grade and shall be of approved make.				
12	All sockets shall be shuttered type and with earth terminal.				
13	Suitable rating of plugs top shall be provided for all splash proof industrial socket outlets.				
14	Separate neutral and earthing wire shall be provided for each circuit.				
15	Lighting and power circuit to be kept separate.				
16	Wiring shall include conduiting and wiring (Phase, Neutral, Earth) of light points/ fan points/ UPS and raw sockets outlets of any length from the distribution board via switch to the point.				
ELECTRICAL WORK --(30 KVA ELECTRICAL LOAD IS REQD.)					
Sr. No.	Description	Unit	Qty.	Rate	Amount (In INR)
A	PANEL & DISTRIBUTION BOARDS.				

1	Supplying, Fabricating, assembling, inter-connecting, testing and connecting with incoming and outgoing power cables and lines as required to complete the job of CUBICAL TYPE ELECTRICAL PANEL made from 14 SWG CRC M.S sheet with proper earthing terminal(Nut-bolt and washer)-02 nos. outside panel, same nut-bolt to tighten with internal earth bus-bar of panelsituated inside loose wire box (on top portion of the panel). On top side of the panel, cable entry arrangement is to be done for incoming and outgoing of lines. One 6" x 4" enamel type 440 Volts danger board to be fixed on the main panel busbar cover. All switches are front handle operated and all MCB knob should be visible. All componenets are to be provided in separate compartment and only DBs in one compartment. The main componenets are	no	1		
a	260 AMPs MCCB, 50 KVA as main	set	1		
b	100 AMPs 4Pole Cu.Busbar for BRANCH	set	1		
d	100 AMPs 4 Pole ChangeOver Switch	No.	1		
c	100 AMPs 4 Pole MCCB as DG	Nos.	1		
d	63 A 4P TPN MCB (For 5 KVA UPS) for BRANCH	Nos.	2		

e	4 WAY TPN MCCB DB for AC with INCOMING 63A 4POLE MCB and OUTGOING 12 nos.20/32 Amp SPMCB for BRANCH	Nos	1		
f	63 Amps TPN MCCB (25 KA) in metal sheet housing from BUSBAR outgoing for AIRCONDITIONER DB for Branch	Nos.	1		
g	32 AMPs DP MCB as glow sign board main for Branch	Nos.	1		
h	AMPs meter 0-100 AMPs with 3 Nos. CT & selector switch 96 x 96 mm-01 set (A.E make) (CT ratio 100/5) A.E. make	set	1		
j	Voltmeter-0-500 Volt A.C. 50 Hertz 96 x 96 mm with selector switch (A.E make)-01 set	set	1		
k	22 mm dia LED indicator Lamp	Nos.	3		
l	02 AMPs sliding fuse	Set	3		
m	150 x 100 mm enamel danger board 440 Volt(to set on bus bar cover)	No.	1		
2	Supply and fixing of 260 AMPs TPN HRC type at WSEB for main incoming on MS angle frame and 02 nos. cable end box including connection	Nos.	1		

3	Supplying, installation and Termination of UPS out-going power distribution system with 8 way TPN DB comprising of 10 AMPs SP MCB and 32 AMPs DP RCBO 300 MA as main (MDS make) IP-42 protection with double door. Power is to be taken from existing DB.	Nos.	1		
4	6-WAY TPN MCB DB with 63A TPN MCB as main (Power DB) 25 A SPMCB-10 Nos.,20 AMPs SP MCB-06 Nos.,16 A SPMCB-02 Nos.,Neutral Bar-01 set for Branch	Nos.	1		
5	4-WAY TPN MCB DB with 40A TPN MCB as main (Lighting DB)16 AMPs SPMCB-03 Nos., 10 AMPs SP MCB-09 Nos., Neutral Bar- 1 set for Branch	Nos.	1		
TOTAL FOR PANEL AND DISTRIBUTION BOARD					
B	CABLES AND CABLE END TERMINATION				
1	Supply & Fixing 4.0 C X 50 Sqmm Alu. armoured Cable of PVC Insulated PVC innersheathed,1100V Grade with 2 nos 8swg GI wire as running, (From WBSEDCL Meter room to SFU) + (SFU to C/O switch) + C/O switch to BUSBAR)	Mtr	40		

2	Supply & Fixing 4.0 C X 35 Sqmm Alu. armoured Cable of PVC Insulated PVC innersheathed,1100V Grade with 2 nos 8swg GI wire as running, From DG to SFU	Mtr	38		
3	Supply & Fixing 4.0 C X 25 Sqmm Alu. armoured Cable of PVC Insulated PVC innersheathed,1100V Grade with 2 nos 8swg GI wire as running, From BUSBAR to RAW POWER & LIGHTING DB.	Mtr	25		
4	Supply & Fixing 4.0 C X 16 Sqmm Al. Ar. Cable From Panel to Raw Power & Lighting DB,AC DB	Mtr	15		
5	Supply & Fixing 4.0 C X 6 Sqmm Cu. PVC Insulated wire in PVC Conduit (from panel to UPS)	Mtr	20		
6	Supply & Fixing 4.0 C X 6 Sqmm Cu. PVC Insulated wire in PVC Conduit (from UPS to UPS DB)	Mtr	10		
7	Supply & Fixing Cable End Termination.				
a	4.0 C X 50 Sqmm Al. Ar.	Nos	1		
b	4.0 C X 35 Sqmm Al. Ar.	Nos	1		
c	4.0 C X 25 Sqmm Al. Ar.	Nos	1		
d	4.0 C x 16 Sqmm Cu.	Nos	1		

	TOTAL OF CABLE AND CABLE END TERMINATION				
C	WIRING				
1	Wiring for Light Point with 20 mm PVC pipe with 2 x 2.5 sq. mm + 1 x 1.5 sq.mm copper conductor FRLS wires only instead of 1 x 1.5 sq. mm+1 x 1.5 sq.mm. green earth wire for light Points as reqd. complete with modular switch with front plate.				
a	One light controlled by 6A switch	Nos.	16		
b	Two light controlled by 6A switch	Nos.	10		
c	Three light controlled by 6A switch	Nos.	6		
d	Exhaust fan and Wall bracket point with 6 A sw complete with modular switch plate & M.S conceal box & 3 pin ceiling rose	Nos.	16		
e	Ceiling Fan point complete with modular switch plate & M.S conceal box & 3 pin ceiling rose	Nos.	3		
f	Call bell point with push type switch, modular plate & M.S. conceal box with buzzer or ding dong type bell	Nos.	1		
2	RAW POINT WIRING -The wiring shall pass through PVC pipe of 20 mm dia with ISI mark to conceal on wall below false ceiling mending good all the damage				

a	Supply, laying of circuit line 2x2.5 sq.mm + 1 x 1.5 Sq.mm PVC insulated copper wire from MCB type lighting DB to 6 amp plug points (3 nos. 6 Amps plugs to be connected from one circuit line)through HMS grade PVC conduit	Mts.	350		
b	Modular type 6 A switch with 6A 5 pin socket . Mounted on suitable front plate	Nos.	15		
c	Wiring for Power Point 6/16 A Switch & Socket with 25mm PVC pipe with 2x2.5 Sqmm wire and 1x1.5 Sqmm green earth wire for Power Points as reqd. This line has to be drawn from the power DB. (02 nos. plugs to be connected with one circuit)	Mtr	320		
d	Modular type 16 A switch. with 16A-- 5 pin socket . Mounted on suitable front plate	Nos.	15		
3	UPS WIRING				
a	Wiring for Power Point 6/16 A Switch & Socket with 25mm PVC pipe with 2x2.5 Sqmm wire and 1x1.5 Sqmm green earth Copper wire &FRLS type through PVC casing 20 mm dia 16 SWG with ISI mark to lay from UPS MCB DB to plug point board	Mtr	350		

b	Supply and fixing of 2 x 6 Amps 5 pin socket + 1 x 16 amps 6 pin socket in single board (under table) + 1 x 16 A switch (Modular switch + socket) in another board above table as per direction	Set	13		
c	Do- but 3 x 6/16 , 6 pin socket with three control switch to provide near HUB Rack and line printer to be connected from UPS power.	Set	1		
d	Supplying, installation of UPS incoming 32 Amps industrial socket with 32 Amps TPMCB (2 nos. for out going and 2 nos. for incoming)	Nos.	2		
TOTAL OF WIRING					
D	TELEPHONE-LOW VOLTAGE SYSTEM				
1	Supplying, laying and connection of telephone points with 2 pair 0.51 sq.mm tinned Cu conductor through LMS PVC conduit ISI mark from telephone point to Krone DB complete with RJ 11 telephone socket modular type in PVC concealed box.	Nos.	1		
2	Do- 10 pair 0.51 sq.mm copper conductor telephone cable in 20 mm dia PVC pipe	Mtr.	125		

3	Supply, fixing and connection of 10 pair KRONE connector DB complete with PVC moulded Telephone DB box with locking system	set	1		
4	Supply & Connecting Telephone Handset.Beetal M51 or C51 black Colour Corded land line phone	set	1		
TOTAL TELEPHONE SYSTEM					
E	COMPUTER LAN				
1	Providing & Laying Wiring for Data points From server to computer Table CAT 6E Cable. (Make : Cat 6e D -Link)	Mtr.	285		
2	Supply and fixing of RJ-45 UTP formation outlet - Cat-6e,(1 module) with front cover plastic /flush metal box on surface of wall	Nos.	13		
3	Supply,installaation of rigid PVC conduit accessories bent flexible conduit etc and fixing by PVC bar saddle on wall or wooden surface	Mtr	300		
4	Supply ,installation of UTP cable in prelaid PVC conduit	Mtr	285		
5	Supply,installation of UTP cable patch chord 2 mts. Long including termination and socketing	no	13		

6	Supply and installation of 9U Metal rack HCL	no	1		
7	Supply and installation of Cat-6-24 port patch panel	no	1		
8	Supply and installation of UTP cable patch chord 1 mt , including terminating and socketing Digi Link	no	13		
TOTAL COMPUTER LAN					
F	FIXTURES.				
1	2'-0"x2'-0" Surface LED (Wipro /PHILIPS/ HAVELLS make)	Nos.	12		
2	Supply and Fixing of 1x36/40 Watts 4' length Slim Hunging LED Tube Light (Philips/Wipro/ HAVELLS Make)	Nos.	4		
3	Supply and Fixing of 1x36/40 Watts 2' length Slim Tube Light for Coffe Lights Philips/Wipro / HAVELLS Make) (toilet and cash counters)	Nos.	5		
4	Supply and Fixing of Modular Downlighter of 170mm size with 14 watts Led Fixtures. Philips/Wipro / HAVELLS Make	Nos.	12		
5	Supply and Fixing of 9" heavy duty exhaust fan with louvre in toilet / pantry inclusive of hole cutting in the wall and finished with plastering complete	Nos.	3		

6	Supply and Fixing of Wall Mounted fan complete with all fitting and mending good all damages	Nos.	12		
7	Supply and Fixing of Ceiling Hung fan complete with all fitting (regulator) and mending good all damages	Nos.	3		
TOTAL OF FIXTURES					
G	A / C SYSTEM				
1	Suppy & fixing of starter with 3 pin plug in recessed MS box suitable for 1.5TR split AC	Nos.	1		
2	Suppy & fixing of starter with 3 pin plug in recessed MS box suitable for 4.0 TR casette AC	Nos	2		
3	Supply and Fixing in HMS grade PVC Pipe with 2x4 Sqmm + 1x 2.5 sq.mm Cu. Cable For Single phase A/C Point Complete & reqd.	Mtr	285		
TOTAL OF A/C SYSTEM					
H	GLOW SIGN BOARD				
I	Supplying, laying of main line with 2 x 2.5 sq. mm + 1 x 1.5 sq. mm through M.S conduit from main panel to glow sign board	Mtr	28		

2	Supplying , fixing of 16 Amps DP MCB at main entrance with Glow sign board timer (24 hours in original housing)	set	1		
TOTAL OF GLOW SIGN BOARD					
J.	EARTHING				
1	Supply & Fixing 25 mm PVC Pipe with 8 SWG 2no, Copper wire for Earthing.	Mtr.	40		
2	Supply & Fixing 25x 3 mm GI Earth Strip 2no,Earth pit to Panel.	Mtr.	40		
3	Providing Raw earthing station at location as called for including providing 600 mm x 600 mm x 6 mm thick tinned <u>GI electrode 2 Nos 50 x 6 mm GI strip up to ground level 20mm dia medium class GI pipe</u> (India Tube Company make or approved equal) CI funnel with 20 gauge GI wire mesh, masonry chamber with concrete base, CI man-hole cover with frame (300mm x 300mm) and bitumastic paint and packing the fixture of charcoal and common salt around plate electrode complete as per I.S. (Minimum depth shall be 3.0 M) (for Body earthing) - The resistance of the earth system shall not exceed 1 ohm	Nos.	1		

4	Providing UPS earthing station at location as called for including providing 600 mm x 600 mm x 3 mm thick tinned copper electrode <u>2 Nos 50 x 6 mm copper strip up to ground level 20mm dia medium class GI pipe</u> (India Tube Company make or approved equal) CI funnel with 20 gauge GI wire mesh, masonry chamber with concrete base, CI man-hole cover with frame (300mm x 300mm) and bitumastic paint and packing the fixture of charcoal and common salt around plate electrode complete as per I.S. (Minimum depth shall be 3.0 M) (One for equipment earthing & technical earthing, another for Neutral earthing) The resistance of the earth system shall not exceed 1 ohm	Nos.	1		
TOTAL OF EARTHING					
K	FIRE DETECTION SYSTEM (CONVENTIONAL)				
1	Providing and fixing in position 1.6mm thick M.S. outlet boxes for housing smoke detectors/heat detectors including providing 3 mm thick hylam sheet cover as required				
a.	75mm x 75mm x 75mm	Nos	6		

2	Supplying, laying, testing and commissioning of 2C x 1.5 sq mm of Low Smoke Zero Halogen Silicon Insulated Fire Survival Cable with Drain Wire, solid copper conductor cable approved by LPCB as per BSEN 50200:2015 PH 120 (Fire, Mech Shock & Water 120 Minutes @ 830 deg Celcius, Fire & Mech Shock every 5 Min for 2 Hours- Both test conducted on same sample) and BS-6387 CWZ The cable shall sustain 950 deg. C. For 3 hours approved along with accessories/ termination glands and all necessary materials to complete. The cable shall be approved for. The cable shall be BS EN 60332-1-2:2004 for Bunched Flame Retardancy (installed as a single or bunched cable self extinguishes leaving the upper cable sheath unaffected showing the cable does not propagate fire). Cable shall be guaranteed for 10 years from the date of manufacture marked on the cable.	RM	85		
3	Supply, installation, connecting, testing and commissioning of Smoke Detectors (Optical) with blinking LED etc as required complete. (approved make series 65)	Nos	4		
4	Supply, installation, connecting ,testing and commissioning of Heat Detectors as required complete. (Rate of rise cum fixed type) (approved make series 65)	Nos	1		

5	Supply, installation, connecting, testing and commissioning of Hooters (30 M range) in suitable size of M.S. box. as required complete.	Nos	2		
6	Supply, installation, connecting, testing and commissioning of Manual Call Push button with Hammer etc.in suitable size of M.S as required complete.	Nos	2		
7	Supply, installation, connecting, testing and commissioning of Remote Indicators with LED Display to be attached with the Detectors as required complete provide suitable M.S Box to house the indicator.	Nos	4		
8	Supply, installation, connecting, testing and commissioning of monitor module.	Nos	1		
9	Supply, installation, connecting, testing and commissioning of 4 Zone Fire Control Panel as per specifications mentioned elsewhere in the Document complete as required. The Fire Panel shall also have necessary control relay modules to switch off the AC unit/ AHU's supply/ Fire Damper in case of Fire. The Contractor shall provide necessary relay for each unit to switch it off in case of fire.				
a.	4 Zone Control Panel	Nos	1		
K	TOTAL FIRE DETECTION SYSTEM, CARRIED OVER TO SUMMARY				

L	Buy Back of all existing electrical fittings, fixtures, all equipments, wires (-)			(-)	
GRAND SUMMARY OF ELECTRICAL, FIRE DETECTION WORKS					
Sl. no	Description			TOTAL AMOUNT (Rs.)	
A.	DISTRIBUTION BOARD				
B.	MAIN PANEL AND METER BOARD				
C.	WIRING				
D.	TELEPHONE-LOW VOLTAGE SYSTEM				
E.	COMPUTER LAN WORKS				
F.	FIXTURES WITH ACCESSORIES .				
G.	AC SYSTEM				
H.	GLOW SIGN BOARD				
J.	EARTHING				
K	FIRE DETECTION SYSTEM				

L	LESS BUY BACK	(-)			
	GRAND TOTAL ELECTRICAL WORKS , CARRIED OVER TO SUMMARY				
AIR CONDITIONING WORKS					
1	Supply of units --DAIKIN / HITACHI	QTY	UNIT	RATE	AMOUNT
a	1.5 TR SPLIT	1	No		
b	4.00 TR CASSETTE AC	2	No		
	TOTAL AC MACHINES				
2	ANCILLARY WORK				
2.1	Installation of units				
2.2	1.5 TR SPLIT AC (Copper Condenser Coil)	1	No		
2.3	4.0TR CASSETTE AC (Copper Condenser Coil)	2	Nos		

3	Frame Work:				
	Fabrication, supply and installation of painted MS base stand	5	Nos		
4	Copper Refrigerant Piping for 2.0 TR (beyond 5RMT per AC)	40	Rmt		
5	Electrical cabling between indoor and outdoor unit	40	Rmt		
6	PVC Drain Piping	45	Rmt		
	TOTAL AMOUNT FOR A.C ANCILLARY WORK				
	TOTAL AMOUNT FOR AC WITH A.C ANCILLARY WORKS , CARRIED OVER TO SUMMARY				

