

ELECTRICAL WORKS FOR Canara BANK- Panjabari Currency Chest

GENERAL NOTE

1	UPS input and Output wiring should be done with FRLS Insulated stranded copper conductor laid through M.S Conduit. (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 MUST 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

PART A: ELECTRICAL WORKS

Sl. No	Description	Unit	Qty	Rate	Amt
SECTION-A					
1	MAIN SWITCH				
1.1.	S.I.T.C of following MCCB Unt with MCCB in sheet steel enclosure on M.S. angle frame / M.S. legs on wall complete with interconnection, mending good damages to original finish, painting, etc. as required.				
	40A 4P 25 KA MCCB	No.	1		
2	S.I.T.C. of Factory Manufactured Single/ 3 Phase & Neutral Double Door Distribution board made out of 16 SWG sheet steel enclosure with cutouts for operating MCB/MCCB/RCCB etc. knobs & consisting of Phase, Neutral & Earth Busbars with tapped holes , phase barriers, & covers with removable plates on Top & bottom for Incoming & Outgoing Cables . D.B.'s shall be flush mounting type for both single & three phase.				
2.1.	S.I.T.C. of TPN 4 way Double Door Vertical Distribution Board with following M.C.B./M.C.C.B./RCCB & cable end boxes at Input & Output. [Main VTPN]				
a	4 Pole ,Type C, 40 Amp 30KA RCCB as Incomer - 1 no.s	No.	1		
	25A DP "C" Class MCB . for input to LDB - 1 Nos				
	25A DP "C" Class MCB for input to Raw PDB- 1 Nos. (Water Dispenser, Mobile Charger & Ancillary services Load)				
	63A DP "C" Class MCB for input to ACDB- 1 Nos.				
	16A SP "C" Class MCCB for Inverter INPUT AND OUTPUT- 2 Nos,				
	<u>Note- Rates Shall be inclusive of S.I.T.C. 3X35 sqmm Armoured alluminium cable from the Main LT panel to the main DB including 4 X10 Sq.mm. F.R.L.S. Copper Flexible wires with 2 X 10 Sqmm Copper Earth Wires in Rigid MS conduit from 100 A MCCB in Metal Box (Metering Cabinet) at the output of Br. Meter to Main DB and any other ancillary items as directed by Engineer-in-Charge/ Architect.</u>				
	<u>Note- FOR AC POINTS Rates Shall be inclusive of S.I.T.C. of 4 x 6.0mm² + 2x4.0 mm² F.R.L.S. copper flexible wires in 19/20 mm. MS conduit from Main Panel To AC points</u>				
Section B					
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.	S.I.T.C. Of L.D.B. [MCB DB- LIGHT] (LIGHT DB)				
1.	S & I of 8 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) - 25A, 30 mA, DP RCCB as incomer - 1 Nos, 6A SP MCB as outgoing 8 Nos.	No.	1		
	<u>Note- Rates Shall be inclusive of S.I.T.C. of 3X 2.5 Sq.mm. F.R.L.S. copper flexible wires in 19/20 mm. MS conduit from Main D.B To L.D.B</u>				
b	S.I.T.C. Of P.D.B. [MCBDB-POWER] (Raw Power DB)				
b.	S.I.T.C. of SPN 8 way Single door D.B. with Incomer 40Amp 30mA, DP RCCB - 1 No . 10A SP MCB-4 Nos. 6A SP MCB-4 Nos.	No.	1		
1.	with all wiring connections.(Max. 2 Points to be looped on one MCB, 3 nos. in exceptional case.)				
	<u>Note- Rates Shall be inclusive of S.I.T.C. of 3 X 4 Sq.mm. F.R.L.S. Copper Flexible wires in Rigid MS conduit from Main DB to Power DB</u>				
c	S.I.T.C OF U.P.S. D.B. : (MCBDB-UPS)				
	S.I.T.C. of 8 way Single Door SPN D.B. with Incomer Double pole 30 mA 40 Amp RCCB - 1 No 10A SP MCB 8Nos.	No.	1		
	with all wiring connections.(Max. 2 work-Station Points to be looped on one MCB, 3 nos. in exceptional case.)				
	<u>Note- Rates Shall be inclusive of S.I.T.C. of 3 X 4 Sq.mm. F.R.L.S. Copper Flexible wires in Rigid MS conduit from Main DB to MCBDB-UPS-1. (body to be earthed)</u>				
d	S.I.T.C of 32 Amp. D.P. MCB in Metallic box for Inverter I./P. & O/P to LDB	Set	1		
e	S.I.T.C of 32A DP MCB in Metallic box for UPS I./P.& O./P. (1 input & 1 output will complete 1 Set)	Set	2		
f	<u>S.I.T.C. Of ACDB [MCB DB- AC]</u>				
	S.I.T.C. of 8 way Single door TPN Distribution Board with all wiring connections. Incomer : -25A TPN 30mA RCCB : - 1 No. Outgoing : - 25A SP MCB : -6 Nos.	No.	1		
	<u>Note- Rates Shall be inclusive of S.I.T.C. of 4 x 6.0mm² + 2x4.0 mm² F.R.L.S. copper flexible wires in 19/20 mm. Medium Guage MS conduit from Main Panel To ACDB</u>				
	SECTION-C				
4	POINT WIRING				

4.1	Supply & Installation of concealed point wiring using 3 x 1.5 sqmm stranded FRLS copper conductor in <u>M.S Conduit</u> including the cost of circuit wiring from the relevant DB's with 3x 1.5 sq mm stranded FRLS copper conductor in <u>M.S Conduit</u> . 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 (i)	Primary light points including the cost of 6A switch	Pts	37		
(ii)	Primary light points including the cost of 6A switch in UPS Power	Pts	8		
b	Secondary 6A Plug point on switch board. [SO]	Pts	20		
c	16/6 A Plug Point directly taken from PDB for hotplate/geyser / zerox / fridger etc.	Pts	5		
d	Exhaust fan/ Wall Fan point consisting of 6A socket near fan and switch on light switch board	Pts	16		
e	Ceiling Fan Point with modular type regulator	Pts	9		
f	Wiring for Signages with 2R x2.5 Sq.mm and 1 Rx 1.5 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 room	Set	2		
g	S.I.T.C. of call bell with bell point .	Nos.	1		
h	S.I.T.C. of Independent power point with 20 Amp Industrial type Switch –sockets in metallic enclosure (Re-Roll type) for 1 incoming to the Switchboard of Strong Room	Nos.	2		
i	Push Button Controlling Switch for entire Vault Room with 6 sqmm wiring	Pts	1		
4.2	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 <u>M.S Conduit</u> including the cost of circuit wiring from the relevant DB's with 3 x 4.0 sq mm stranded FRLS copper conductor in <u>M.S Conduit</u> . 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 <u>M.S Conduit</u> and againg finishing the walls with Putty/ Cement/ POP to receive the final paint.. [SOC]	Pts	16		
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	22		
	SECTION-D				
5	EARTHING				

5.1	Earthing with copper earth plate 600 mm x 600mm x 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal or coke and salt complete as required. (for panels, servo stabilizer and IT system)The rate shall be inclusive of necessary 8 SWG dia copper wire on surface or in recess for loop earthing as required.	Each	3		
	Note- Test Certificate for Earthing Shall be submitted with final bill for processing of final bill for payment				
	SECTION-E				
6	LIGHTING FIXTURES (Bajaj or equivalent)				
6.1	S & I of lighting fixtures as per the details given below including necessary hardware such as clamps,nuts, bolts, nails, screws and suspension chains as required for fixing the fixtures in position as directed by architect / Consultant.				
a	PANEL LIGHT [PL] - Ultra Slim LED Panel made from extruded aluminium housing frame (recess / pendant) 2ft x 2ft , Wattage-30W, CCT- 4000 K, of Phillips, Havells, Bajaj, Wipro or equivalent as approved by the Engineer-incharge/ Architect.	No	14		
b	DOWN LIGHT [DL] - Round LED recess-mounted designer panel with aluminium die cast housing , Wattage-18W, CCT- 4000 K, of Phillips, Havells, Bajaj, Wipro or equivalent as approved by the Engineer-incharge/ Architect.	No	7		
c	S.I.T.C. of12/13 Watt 6000/6500 K,(≥720 lumens) Recessed/Surface mounted LED Down Lighting Fixtures with fixing accessories. As Emergency Light	No	8		
d	1200 MM TUBE LIGHT [TL] - LED batten tubes, Glaze LED Batten, High quality aluminium extruded with decorative end caps, Wattage-20W, CCT- 4000 K, of Phillips, Havells, Bajaj, Wipro or equivalent as approved by the Engineer-incharge/ Architect.	Each	36		
e	600 MM TUBE LIGHT [TL] - LED batten tubes, Glaze LED Batten, High quality aluminium extruded with decorative end caps, Wattage-20W, CCT- 4000 K, of Phillips, Havells, Bajaj, Wipro or equivalent as approved by the Engineer-incharge/ Architect.	Each			
6.3.	Supplying including fitting fixing of following star rated new 400- 450 mm dia bracket/wall fan in PVC body and PVC blade of Havells/ Orient/ Kolors or equivalent of approved make , complete with all accessories with necessary connection cable, as approved by the Deptt.s etc. as required complete and as directed by the Bank				
	a) 400- 450 mm sweep	EACH	12		
6.4	Supply and fixing of 10" - 12" Metal bladed exhaust fans with louvers.[EF]	EACH	4		
6.5	Supplying including fitting fixing of following star rated A.C. 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 [With regulator on Switch Board] . (ORIENT PSPO make / Usha make/ CROMPTON make/ATC/ V GAURD make). Rates shall be inclusive of providing and fixing of M.S. fastner hooks for fixing the fan from the ceiling .				
	a) 1200 mm sweep	EACH	9		
7	WIRING FOR DATA AND VOICE OUTLETS				
7.1	Supplying, laying and termination of 4 pair Copper solid, twisted pair G600 CAT--6 cables through specified dia MS conduits / raceways. Cables must meet and exceed category 6/ class E standards requirements in ISO/IEC11801, CENELEC EN50173 & TIA 568-B2-1. and providing & terminating with RJ-45 (Krone make) with face plates / I/O Ports in suitable modular / MS box from server / EPABX room to individual work stations and terminating other end with RJ-45 connector including numbering with ferule. Note- Rates shall be all inclusive as mentioned in the description above and the payment for the same item shall be made on the number of points provided based on the above description. Rates shall be inclusive of 5'-0" long patch chord with crimping on both ends				

a	RJ-45 for data points (THROUGH False ceiling and wall)	points	15		
b	Supplying, laying and fixing of 19" 9U SS Network Rack Mount Recessed Frame with Patch panel for DATA point Terminations	Set	1		
8	A.C POINT WIRING				
	A.C. power point wiring from AC DB with 1100 volt grade 2 Nos. single core 6 sq.mm. + 1 No. 4 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 North-West make AC power unit having 25A DP MCB with enclosure, 25A Socket, 20A Starter, mounting box & front plate, 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. Each Ac will be connected through Inverter to be located near the ACDB. Rates shall be inclusive of cost of wires, wirings, sockets,starter, testing all complete	NOS	5		
9	MISCELLENOUS WORKS				
9.1	4 Pole 100 Amp Manual Changeover Switch For Mains to D.G. supply switching (If D.G. Back-up is provided). Rates shall be inclusive of complete wiring and no payment for wiring shall be entertained for this item of work	No	1		
A	TOTAL OF ELECTRICAL & OTHER RELATED WORKS				