

**BOQ of Electrical & Allied works for SBI BRANCH AT BAWANA, DELHI**

S.No	DESCRIPTION OF WORKS	UNIT	QTY	RATE	AMOUNT
1	Wiring for light point/ fan point/ wall fan point/ exhaust fan/ light sockets etc. with 1.5 sq.mm. PVC insulated 1100 V Grade copper conductor (FRLS) wires & 1.5 sq.mm. copper earth wire in concealed/ surface using 16 SWG MS conduits, accessories such as bends, tees, saddles, draw boxes, mounting boxes, inner plates, cover plates, ceiling rose etc (whereever required) and chromium plates brass screws/ rowel plug etc. The circuit wiring starting from DB to point control box/ switch box using 2 X 2.5 sq.mm PVC insulated 1100 V grade multi- stranded copper conductor wire & 2.5 sq.mm. PVC insulated earth wire (color code to be used). (Flexible conduit/ elbow not allowed). The conduit to be laid in ceiling with proper clamps/ wall/ floor and filling the chase with cement mortar and finishing the same in original form/ wooden partition/ above false ceiling with proper clamps etc. all complete.				
	(Wherever required as per standard specifications).				
	i) Each circuit shall have independent earth wire.				
	ii) Each point shall be earthed.				
	iii) Circuit wiring is to be included in point wiring rates.				
i	One light points controlled by one 6 amp. Modular switch	Nos.	16.00		
ii	Two light points controlled by one 6 amp. Modular switch	Nos.	10.00		
iii	Three light points controlled by one 6 amp. Modular switch	Nos.	9.00		
iv	Four light points controlled by one 6 amp. Modular switch	Nos.	5.00		
v	Five light points controlled by one 6 amp. Modular switch	Nos.	8.00		
vi	One call bell point with ceiling rose/ 6amp. 3 pin socket controlled by one 6 amp. Push Modular switch. With call bell <b>(In BM &amp; Meeting Room)</b>	Nos.	2.00		
vii	One wall fan/ exhaust fan point controlled by one 6 amp. Modular switch. The switch should be at switchboard level	Nos.	15.00		
viii	One 5 pin socket controlled by one 6 amp. Modular switch complete assembly includes plate box etc.				
a	Dependent	Nos.	6.00		
ix	One ceiling fan point with step type regulator	Nos.	5.00		
x	Same as serial no 1 but using 2*2.5 + 1*2.5 Sqmm Copper Conductor FRLS wires from DB to first 6A, 5 Pin modular socket controlled by one 6A switch and looped to the nearest second point with same 2*2.5 + 1*2.5 Sqmm copper conductor wires FRLS insulated 1100V grade.				
a	Primary	Nos.	5.00		
b	Secondary	Nos.	6.00		
xi	Same as serial no 1 but using 2*2.5 + 1*2.5 Sqmm Copper Conductor FRLS wires from DB to first 16 Amp MCB two Nos, for Glow sign Board.				
a	Primary Point	Nos.	2.00		
2	<b>POWER POINTS</b>				
	Same as serial no.1, but wiring for 16 Amp, 6-pin sockets by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire with independent 1* 4.0 sq.mm earth wire from D.B. to first point 1 <sup>st</sup> socket and 1 <sup>st</sup> to 2 <sup>nd</sup> , socket with 2*2.5 sq.mm. and 1*2.5 earth wire including providing and fixing of 16 Amp, 6 –pin socket with 16 Amp. Switch. (Modular type switch/ socket/ plate etc. complete assembly).				
a)	Primary point	Nos.	7.00		
b)	Secondary point	Nos.	6.00		
3(a)	Same as serial no.1, but wiring for A/C socket by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire and earthing with 1*4.0 sq.mm. PVC insulated 1100 V grade copper conductor wire with modular type AC box(tiny trip type) with socket complete in all respects controlled by 25/32 A SP MCB to be provided near indoor unit. The point starts from DB to stabilizer to the point near the indoor unit including top.	Nos.	3.00		

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<b>C.</b>	<b>CABLES, MAINS &amp; SUBMAINS</b>				
1	Supplying all materials and laying/ pulling 1100 volts grade PVC insulated copper conductor wires (FRLS) in MS conduit with all fixing accessories after cutting the floor, wall and the like etc. and replastering the floor level to original. Conduit must be 30 mm below the floor finish level.				
i	2 X 6 sq.mm. + 1 X 6 sq.mm.	RM	25.00		
ii	2 X 4 sq.mm. + 1 X 4 sq.mm.	RM	25.00		
iii	Supplying, laying, testing & commissioning of 4 C X 16 sq.mm. at 1100 volts grade PVC insulated aluminium conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Light Plug DB, UPS Room & Power DB & AC ).	RM	40.00		
iv	Supplying, laying, testing & commissioning of 4 C X 25 sq.mm. at 1100 volts grade PVC insulated aluminium conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification ( AC DB).	RM	10.00		
vi	Supplying, laying, testing & commissioning of 4 C X 50 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification <b>(for Main Connection)</b>	RM	15.00		
<b>D.</b>	<b>DISTRIBUTION BOARD</b>				
	S/I/T/C of surface/recessed mountings, Double door 415 volts TPN MCB distribution board of steel steel, 1.6mm thick dust phosphatized & painted, inclusive of 100 amps, tinned copper busbars, earthbar, common neutral link, din bar for mounting of MCB's detachable gland/knock out plate & with built in loose wire box, & superior make terminal connectors for all incoming & outgoing circuits duly prewired with adequate size of PVC insulated copper wires between the bus bars & the MCB's as well as the incomer & upto the terminal connectors/neutral link & ready for installation of following ways as required.				
	Use 'B' curve MCB's for lighting & small power circuits, 'C' curve for motor duty i.e. for pumps, AC motors, window and split AC's etc. & 'D' curve for UPS DB's i.e. for computers/ PC's circuit. Main incomer & outgoing circuit MCB's shall be selected accordingly i.e. type B, C & D. Contractor to select the MCB's accordingly as per the nature of the circuit/ load.				
	Each DB shall have separate neutral links of rating not less than 100A for each phase. The main incoming neutral link shall be in addition to three outgoing neutral links and shall be of 125 A.				
	UPS DB's shall have a dedicated Earthing link fixed on insulated supports, which will be in addition to body earth link.				
	All internal inter connecting wiring with in the DB's shall be PVC insulated flexible copper conductor wires of adequate capacity as per the current rating.				
	Inside each DB, a DB chart is to be fixed.				
a	<b>6-way TPN DB (LIGHT DB &amp; 6 A raw point )</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 40 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase				
	<b>Outgoing:-</b>				
	12 Nos. 10/16/20 Amp (10 KA) SP MCB				
b	<b>6-way TPN DB (POWER DB)</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 63 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase				
	<b>Outgoing:-</b>				
	18 Nos. 10/16/20 Amp (10 KA) SP MCB				
c	<b>8-way SPN DB (UPS INPUT)</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 63 Amp				
	<b>Outgoing:-</b>				
	2 Nos. 40 Amp DP MCB				
d	<b>6-way V-TPN DB (AC)</b>	No.	1.00		
	<b>Incomer:-</b>				

	1 No. 63 Amp TPN 4 Pole (16 KA) MCCB				
	<b>Outgoing:-</b>				
	2 Nos.40 Amp (10 KA) TP MCB				
	12 Nos.10/16/32 Amp (10 KA) SP MCB				
e	<b>2-way SPN DB with 40 A DP MCB (For UPS Input / output )</b>	No.	2.00		
f	<b>12-way SPN DB (For UPS OUTPUT )</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				
	<b>Outgoing:-</b>				
	6 Nos.10/16 Amp (10 KA) SP MCB				
g	<b>8-way SPN DB (For ATM LIGHT+POWER OUTPUT )</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 40 Amp DP (10 KA) MCB with 40 A DP RCCB (100 MA)				
	<b>Outgoing:-</b>				
	4 Nos.10/16/25 Amp (10 KA) SP MCB				
i	<b>8-way SPN DB (For ATM UPS db)</b>	No.	1.00		
	<b>Incomer:-</b>				
	1 No. 25 Amp DP (10 KA) MCB with 25A DP RCCB (100 MA)				
	<b>Outgoing:-</b>				
	04 Nos.10/16 Amp (10 KA) SP MCB				
<b>E</b>	<b>(LIGHT FITTINGS &amp; ACCESSORIES)</b>				
a)	Supplying(Commercial Use Fixtures only),installation with hanging support,testing & commissioning of following light fixtures with electronic ballasts,Tubes,lamps,all fixing materials i/c connecting wires etc.all complete as per the directions of Engineer-in-charge (All LED Light Fixures should be covered with minimum 3 Years onsite replacement warranty).				
i	2 X 2 LED, 36 W Ultra Slim LED Smart Panel of make BAJAJ/CG/PHILIPS/or approved by SBI/Architect.	Nos.	26.00		
ii	S/F/T/C of 15 W LED commercial type down lighter with external driver of make BAJAJ/CG/PHILIPS/or approved by SBI/Architect.	Nos.	66.00		
iv	S/F/T/C of 5 W LED SPOT commercial type spot light of make As specified in tender document or approved by bank/Architect.	Nos.	17.00		
iv	S/F/T/C of 3 WATT COB commercial type spot light of make As specified in tender document or approved by bank/Architect.	Nos.	0.00		
v	LED 18 watt Tube Light with all accessories.make As specified in tender document or approved by bank/Architect.	Nos.	2.00		
vi	S.I.T.C of LED Box Type Cove Lighting (300, 600, 900 & 1200mm) in Length of Philips/CG/SYSKA or,eqv.make with all accessories like drivers,connecting wires,etc.all complete.				
a)	a. 300 MM Length	Nos.	10.00		
b)	b. 600 MM length	Nos.	20.00		
c)	c. 900 MM length	Nos.	12.00		
d)	d.1200 MM length	Nos.	12.00		
vii	Supplying, fixing, testing and commissioning of 15W COB LIGHT fitting make As specified in tender document or approved by SBI/ Architect.	Nos.	2.00		
vii	Wall mounted fans 400mm dia.make as specified in tender document or appved by SBI/Arch.(Metal Body Only)As Per Bank Instruction.	Nos.	10.00		
viii	S/F of 230mm exhaust fan with louvers & plastic body with all accessories etc.complete of make As specified in tender document or approved by SBI/Architect.	Nos.	5.00		
ix)	Ceiling fans 1200 mm dia. make As specified in tender document or approved by SBI/ Architect. Only BLDC 5 star rated.	Nos.	5.00		
<b>F.</b>	<b>EARTHING SYSTEM</b>				
1	S/I/T/C of Maintenance Free Earthing system made up of copper-bonded rod of 10 feet length,23mm dia.(Minimum copper bonding shall be 0.25mm)along with Rod-to-Conductor connectors,Earth enhancement material,Pit Cover & other accessories as required & as per specification & other applicable codes (include chamber for earthing,Earthing certificate to be submitted along with the bill).	Nos	2.00		

2	S/I/T/C of Maintenance Free Earthing system made up of copper-bonded rod of 10 feet length, 17.2mm dia.(Minimum copper bonding shall be 0.25mm)along with Rod-to-Conductor connectors,Earth enhancement material,Pit Cover & other accessories as required & as per specification & other applicable codes (include chamber for earthing,Earthing certificate to be submitted along with the bill).	Nos	2.00		
3	P/F of Copper/GI strips in surface or in recess for loop earthing etc.as required.				
i	P/F 2 X 8 SWG dia. Cu earth wire in PVC conduit on surface or in recess for loop earthing along with the existing surface/ recess cable as required eith using of copper lug at end termination	RM	65.00		
<b>G. MAIN PANEL AND METER BOARD</b>					
1	supply,installation,testing and commissionings of cubicle type floor/wall mounted L.T.Metal D.B of reputeded make with extendible rotary handle and extended connecting links				
	<b>1 No.125 Amps,TPN MCCB (25 KA) with standard enclosure as per manufacturer specification or as appvd by the architect/Bank's Engineer</b>	Nos.	1.00		
2	Designing,fabrication,supply,installation,testing and commissionings of front operated cubicle type compartmentalised,front access,free standing on 75MM [MS channel,dust and vermin proof (IP 42 degree protection)panel suitable for use at 415V,3 phase,4-wire/XLPE Cable 50Hz system suitable for fault level of required value symmetrical at 415V fabricated from 2mm thick CRCA MS sheets with hinged, gasketted (Metal based neoprene)locable doors having structural reinforcement including 3mm thick gland plates on top and bottom, lifting hooks,GI earth strip of required size with 2nos earth terminals, 1nos 230V AC operated 250mm X 250mm size axial fans for exhaust of heat with On-Off toggle switches i/c 2 coated primer & 2 power coated paint fnish of appvd shade over metal surface cleaned and treated with seven tank process complete with interconnections etc.as per specifications as required.main panel board of appvd make(Supertech Power Control/Zeniya/Amptech/Neptune)or Equivalent as appvd.by Architect/Bank				
	Type of Approval as instructed by the SBI/Architect).All live accessible parts shall be shrouded and all equipment shall be finger touch proof.The busbars insulation shall be with heat shrinkable sleeves SMC/ DMC shrouds and busbar supports shall be used. Padlocking facility shall be provided on all outgoing feeders doors and switch handles shall be locable in OFF position.				
	Suitable arrangement shall be made for termination of multiple incoming cables.				
	All kA values indicated shall be Ics breaking capacity				
	GA drawings shall be got approved by <b>Architect / SBI</b>				
<b>a.</b>	<b>Floor panel shall consists of : -</b>				
	<b>INCOMER FROM MAIN LINE</b>				
	1 No.125Amps,TPN MCCB (25KA)with extendible rotary handle each thermal over current,instantaneous,Short circuit realease,Earth fault.				
	<b>BUSBARS</b>				
	150 amps TPN pole busbar chamber of suitable length with copper busbars. All busbars and interconnections shall be of suitable size copper strips.				
	<b>INDICATING PANEL</b>				
	Digital flush type class-1.0 accuracy multifunction meter showing V, A, PF etc. with 3 Nos. current transformers of 125/5A ratio, 10 VA Class-1.0 metering. - 1 sets				
	Red/Blue/Yellow three phase indicating lamps with SP MCB backup protection.				
	<b>OUTGOINGS:-</b>				

	1 Nos 40A TPN MCCB (16 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. For capacitor Bank ,				
	1 Nos 63A TPN MCCB (16 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. For AC VTPN,				
b	<b>INCOMER FROM MAIN PANEL BUS BAR</b>				
	1no. 100 Amp 4-P On Load Change over switch with 1 No. 100 Amps, TPN MCCB (25 KA) with extendable rotary handle.				
	<b>BUSBARS</b>				
	125 amps TPN pole busbar chamber of suitable length with copper busbars.All busbars & interconnections shall be of suitable size copper strips.				
	<b>INDICATING PANEL</b>				
	Digital flush type class-1.0 accuracy multifunction meter showing V A,PF etc.with 3 Nos.current transformers of 100/5A ratio,10 VA Class-1.0 metering-1 sets				
	<b>OUTGOINGS:-</b>				
	3 Nos 63A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For PDB & UPS)				
	2 Nos 40A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For LDB & Spare)				
	3 Nos 40A DP MCB (10 kA)terminals suitable to receive cable on one side & wire connection to Bus bars.(For ATM & Signage,Spare)				
	The <b>electrical panel</b> as described above and specifications complete.	Set	1.00		
3	S/I/T/C of 15 KVAR capacitor as following-				
	Incoming- 40A 4pole MCCB, Outgoing- APFC power factor relay with 3 nos. 50/5 current transformer for current sensing capasitor 1 KVR- 2 nos,2 KVR-2nos.,5 KVR-02 nos.Contractors & TP MCB on each complete withphase indication & stage indication. MS cubical having ventilation with wiremesh,copper conductors & aluminium busbars etc.complete as per direction of Arch/Bank.(Selec/Neptune/ABB)	Set	1.00		
<b>8</b>	<b>PUBLIC ADDRESS SYSTEM</b>				
i	Supply & laying Wiring of 1.5 sqmm twin core shelded type of speaker cable in FRLS/FRZH PVC conduits i/c all accessories concealed/exposed in F.Ceiling/Wall complete as required including 1.6/2.0 mm thick PVC iunction (Point Rate Basis).	Nos.	4.00		
ii	Supply,installation,testing and commissioning of following (BOSCH/AHUJA) make Music Accessories / Equipments.				
	Ceiling Speaker Unit 6 Watts LHM 0606/10	Nos.	4.00		
iii	SHURE/BOSCH/ AHUJA make Power Amplifier,70 Watts with output transformer etc.complete. Plena Range or as approved by the Bank capale of taking Inputs from USB Also	Nos.	1.00		
iv	Supplying of AHUJA/SHURE/BOSCH make Cordless Mike of minimum range 10M and compatible to	Nos	1.00		
v	6U Equipment Rack complete with monitor unit, speaker, power supply control etc. President make suitable for 1x70 watts amplifier system With all terminating set up.	Nos.	1.00		
	<b>TOTAL FOR ELECTRICAL WORKS</b>				-
NOTES- * Material should be disposed off within 24hours. * Shifting of office table and furniture etc. during the concurrence of work will be in scope of the Contractor. * Green safety net to be installed by the contractor on external facade from top to bottom without any additional cost. * Wherever required, the contractor will provide temporary plywood partition inside the premises for separating office area from area of repair without any additional cost.					



























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