

CANARA BANK				
BOQ FOR ELECTRICAL WORKS IN JHUNJHUNU II BRANCH				
	General Notes:-			
a)	Rates to include all scaffolding, carriage of materials to and from the site in lead of beyond 5 kms, and working in a running branch premises.			
b)	Wire Routing provided through the walls / floor / roof etc., rates to include cutting of wall and refinishing the same finely complete.			
c)	Points include complete length of wiring, conduiting and accessories upto designated places as per the design and drawings.			
d)	Electrical contractor shall have to make the layout for cutting of lights etc. at site.			
e)	All newly done electrical wiring/ DB/points/ earthing etc. will be used as per instructions of architect/ engineer.			
<b>1.</b>	<b>LIGHT &amp; FAN POINTS:-</b>			
	P & F light points, fan points, call bell points, sockets etc. with 2 X 1.5 sq. mm. PVC insulated 1100 V grade FRLS, copper conductor wires and 1.0 sq. mm copper earth wire in concealed / surface using ISI mark medium guage MS pipes of 25 mm dia 1.50mm thick conduits accessories such as bends, tees saddles, draw boxes, mounting boxes, innerplates, cover plates, ceiling rose etc. (where ever required) and plug etc. The circuit wiring starting from DB to point control box / switch box using 2 X 2.5 sq. mm and 1.5 sq. mm earthing PVC insulated wiring color code to be provided. Identification ferrules at both end to be provided. (Flexible conduit / elbow NOT allowed). The conduits to be fixed in ceiling with proper clamps / wall / floor and felling the chase with cement mortar and finish the same in original form / wooden partition / above false ceiling with proper clamps (Wherever required as per standard specifications)			
	SWITCH & SOCKET - NORTH WEST (PC Plus)/ MK (Wrap around)/Anchor (Wood)/Havells (Crabtree)/ABB(Classic Luminia)/legrand Steel Conduit:- AKG/BEC/JINDAL/STEEL KRAFT			
	Notes:-			
	All wires shall be FRLS only (Polycab/RR/Finolex/KEI)			
	All material shall be approved make as mentioned in the tender.			
	Color codes must be maintained			
	No flexible conduit & elbows will be allowed.			
	Each circuit shall have independent earth wire.			
	Each point must be seperately earthed.			
	Circuit wiring is to be included in point wiring rates.			
	One S.B. can have max. 10-12 switch including 6 Amp. Socket			
	Boxes fixed in the wooden/ plywood partitions may be PVC			
(a)	One point controlled by one 6 Amp. Modular switch & switch board at SB level	Nos.	10	
(b)	Two points controlled by one 6 Amp. Modular switch & switch board at SB level	Nos.	15	
(c)	Wall fan/ Exhaust fan point controlled by one 6 Amp. Modular switch & switch board at SB level and 6 Amp. 3 pin socket at designed place.	Nos.	10	
(d)	6 Amp. Socket with switch & light indicator at switch board places. 3 SOCKET + 1 SWITCH	Nos.	4	
(e)	Call bell point with anchor make Ding Dong Bell	Nos.	1	
(f)	One ceiling fan point controlled by one 6 Amp. Modular switch & switch board at SB level with 5 step electronic regulator, extension rods up to 1 meter	Nos.	2	
(g)	Strong room point with metallic switch & socket (Industrial plug) with 25 amps MCB. Rates to include all connections with extension cable as required on site.	Nos.	1	

(h)	Supply and Laying of Main line with 2x2.5 + 1.5 Sq.mm through conduit form main panel (Sign Board)	Mtrs.	10		
(i)	Supply and installation of 16amp DP MCB at main entrance Glow Sign Board with Timer of aproved make.	Nos.	1		
(j)	Emergency Light point ( <b>On UPS</b> ) (Including separate phase, neutral, earth) and to be in separate switch boards.	Nos.	5		
<b>2.</b>	<b>POWER POINTS :-</b>				
	Same as item no. 1, including providing & fixing 16 Amp. 6 pin sockets with 16 amps switch with wiring by using 2x4 sq. mm PVC insulated copper conductor wire with independent 2.5 sq. mm earth wire from D. B. to first 1st socket and 1st socket to 2nd socket with 2.5 sq. mm and 1.5 sq. mm earth wire including providing and Fixing complete in all respects.				
(a)	Power point (Direct) with 2x 4.0 sq mm copper conductor wires.	Nos.	3		
<b>3.</b>	<b>A. C. POINTS :- C&amp;S/Havells/LeGrand/HPL/ABB</b>				
(a)	A.C. point wiring with 2 X 4.00 sq. mm insulated copper conductor wire (FRLS) & 1 X 2.5 sq. mm copper conductor wire for earthing from AC DB to AC point in 16 swg GI conduit AC point including supplying and fixing of module A.C. Box with 3 Pin metal clad pin top and 25/32 Amp. SP MCB "C" series. (Wiring must be from DB to stablizer to MCB near indoor unit to Indoor Unit.)	Nos.	9.00		
<b>4.</b>	<b>DISTRIBUTION BOARDS :-</b>				
	P & F sheet metal distribution boards of approved make double door type and making necessary connections etc complete with all MCBs of C series 10 KA. (LEGRAND/ SCHNEIDER/ SIEMENS/C&S/HPL)				
	All MCB'S must be 'C' series, 10 KA				
<b>a</b>	S & F 8 way SPN DB for UPS OUTPUT 1 X 63 Amp DP MCB 6 X 10 Amp SP MCB	Nos.	1.00		
<b>b</b>	S & F 4 way SPN DB for UPS INPUT 2 X 63 Amp DP MCB	Nos	3.00		
<b>5.</b>	<b>LIGHT &amp; FAN FIXTURES :-</b>				
	P & F light fixture & accessories as per the following details and making connections, assembling, fixing, testing & installation with 3 years warranty. Following Fixtures including all accessories & extension chords as maybe necessary complete. All CFL / Flurescent fixtures (except down lighters) to be hung from the RCC ceiling by sitable chain / rods) all to fixture rates to include 3 years warranty. Including all removing, shifting, repairing, fixing, welding, cutting, instalation, testing, commissioning work of existing or proposed items for the folowing work. Including making good, proper finish of walls, floor and roof with masonary, R.C.C., plaster, pop, puty, primer, paint, etc. complete in all respects. Including color temp. for light fixtures must be 6500k. Dealer authorisation certificate with invoice detail required. Technical specification minimum 100 lumens per watt, Pf>.90, THD<20%				
(a)	Philips RC 380B LED Full glow 24" X 24" (6500K)/BAJAJ/OSRAM/HAVELLS	Nos.	16.00		
(b)	Philips Green LEDi 15 Wto 18W DN 194 B (6500K) /BAJAJ/OSRAM/HAVELLS/HPL	Nos.	16.00		
(d)	Philips LED Tube lights 18 W/ 22 W (6500K) /BAJAJ/OSRAM/HAVELLS/HPL	Nos.	8.00		

(f)	Wall fan 400 mm - capacitor start, three speed wall mounting/cabin fan of following sweep with the help of anchor bolts including making connection testing etc. as required. Each wall fan should be connected through independent switch and socket of 6Amp. BLDC MOTOR COMPULSARY	Nos.	8.00		
(g)	Exhaust fan 300 mm - Crompton/ Almonard of Heavy duty capacitor start 1400 RPM single phase ISI marked Exhaust fan, IS:2312 marked including making opening if required, making connections testing etc. as required.(Crompton/ Almonard/ Usha/ Havells)	Nos.	3.00		
(h)	P&F of ceiling Fan Metal body 1200 mm Sweep (Crompton/ USHA/ Bajaj) BLDC MOTOR COMPULSARY	Nos.	2.00		
<b>6.</b>	<b><u>CABLES WIRES :-</u></b>				
	P & L heavy duty armored cable on saddles wherever exposed and with aluminium lugs, cable termination with gland, aluminium lugs properly crimped, etc. complete. Including reusing of the existing cables wherever required as per direction of Bank Engineer/ Architect, vendor is bound to execute the items. All existing and proposed cables to be lay out in existing cable tray. Complete in all respects as per direction of Bank/ Architect.				
	XLPE Cable				
a	4.00 core X 35 sq. mm Al. armoured cable for earthing including cables termination with gland, Al. lugs properly crimped of required size.	Rmts.	10.00		
b	4.0 core X 10 sq. mm Aluminium Armoured cable for Metter to Panel including cables termination with gland, Al. lugs properly crimped of required size. (UPS OUTPUT TO UPS DB) & (UPS INPUT TO UPS DB)	Rmts.	40.00		
<b>7.</b>	<b><u>U.P.S. POINTS &amp; CIRCUITS :-</u></b>				
	P & F ups points in 2 mm thick PVC conduit with 2 X 2.5 sq. mm insulated copper wire along with 1 X 1.5 sq. mm PVC insulated wire for earthing including bends, nipples, junction, M.S. switch boxes each to have 3 nos. 6 A 5 pin modular socket 1 X 6 A indicator controlled by 1 X 16 A modular type switch compl fine finish incl. making necessary connection & start of equipment as per details. Complete in all respects as per direction of Engineer/ Architect. Make as specified above)				
(a)	DIRECT POINT	Nos.	12.00		
<b>8</b>	<b><u>TELEPHONE &amp; INTERCOM:-</u></b>				
a	S, L, T, I, C Telephone point with cat 6 cable telephone cable from main supply to various counters, tables, walls, partitions, etc.with colour coading identification on both ends. Including 0.6 mm dia annealed with tinned screen protected CU conductor PCC sheathed 2 pair telephone cable in PVC conduit 2.00 mm thk. conduit as required. Including S & F modular type plate with telephone outlet box and RJ-11 sockets with housed in zinc passivated box/ PVC box with suitable connector strip in reseced wall/ partition as required. S & F modular type telephone outlet 1 pair coaded outlet.	Nos.	3.00		

<b>9</b>	<b>DATA POINTS</b>				
(a)	Computer networking points with 4 pair, 24 AWG UTP Cat 6 Cable as per latest amendments of TIA /EIA 568 B.2-1 Specifications in PVC Conduits including making connections to Information outlets and Patch Panels with ferruling at both ends for identification with necessary tools for punching, stripping, crimping and testing required. Cost including Faceplate for Flush Mount Information Outlets Single Aperture with screw hole covers & Icon Tree Size 86mmX86mm including pvc/ ms box. (Cat 6 cable)	Nos.	16.00		
(b)	Supply , Installation and Testing of 4 pair , 100 Ohm, 24 AWG , E Cat 5 UTP, flexible , Double ended Patch Cords along with 2 No of RJ 45 connectors with strain relief boots as per TIA /EIA 568 B.2 Specifications including making connections to Inform outlets of lengths.				
	2.0 Meter as required. Molex/ Avaya/Penduit/AMP)	Nos.	12.00		
<b>10</b>	<b>EARTHING :- (Ashlok, JK, )</b>				
	Supply and installation of pipe-in-pipe technology Copper Earth Electrode earthing system modelt-39 with outer diameter of 80 mm length 2000 mm embedded in the soil with masonry inspection pit along with	Nos.	3.00		
	P & L 2 X 8 SWg copper earth wire at designated place in PVC conduit (Pit to Panel/ Pit to UPS)	Mtrs.	30.00		
<b>13</b>	<b>MAIN PANEL :-</b>				
	Designing manufacturing, installing, testing and commissioning of cubical type MAIN PANEL CPRI approved made from 16 SWG CRCA sheet steel, "type base M.S. channel for grouting on floor complete with MCCB, MCBs, meters, C.T., etc. complete in all respect, insulated bus bar with near shrinkable PVC sleeve in suitable bus bar chamber, wiring, name plates, danger plates, earth bus etc. & comprising of compartments with hinged doors and rubber gasket, bus bar chamber with bolted door and rubber gasket etc. the panel being of dust & vermin proof construction and to be painted with primer and smoke gray paint (minimum two coats) to look attractive. The panel should be comprising with the following : (Degree of Protection IP-54)	Nos.	1.00		
	INCOMER: -				
	ALL MCCB SHOULD HAVE 25 KA SHORT CIRCUIT CURRENT CAPACITY (C- CLASS) (Legrand/ HPL/ C&S/siemens/ABB/ Schneider)				
	160 Amp 4 - P, MCCB (3 Phase) 1 Nos.				
	300 Amp. Capacity aluminum bus bar for ATM & system room heat shrinkable proper insulation with heat shrinkable proper insulation with color coded. Analog ammeter and voltmeter with selector switches three number indicating lamp R-Y-B Phase indicators with 2 amp. back up HRC fuses & Energy Meter with KWH and PF indication (Back up Fuse protection)				
	OUT GOING : -				
	ALL MCCB SHOULD HAVE 25 KA SHORT CIRCUIT CURRENT CAPACITY				
	DOUBLE BUS BAR PANEL				
	INVERTER SUPPLY ONLY FOR LIGHT, POWER, UPS, ATM ONLY				
	A.C. SHOULD NOT OPERATE ON INVERTER SUPPLY				
<b>a</b>	<b>T P N 4 WAY DB :- (For Lighting)</b>				
	Having Incomer : 40 Amp. 4-P MCB				
	OUT GOING : 10 Amp. SP MCB - 12 NOS				
<b>b</b>	<b>T P N 4 WAY DB :- (For Power/UPS )</b>				
	Having Incomer : 3 X 63 Amp. 4-P MCCB				

	OUT GOING : 6 Nos 16 Amp. 6 Nos 32 Amp. SP MCB - 12 NOS				
14	<b>AC CABLING &amp; PIPING</b>				
a	Supply and fixing of following sizes of refrigerant pipe made out of hard drawn copper including accessories, jointing/brazing etc. duly insulated with nitrile tubular rubber sections to prevent condensation with suitable adjustable ring type hanger supports etc. complete as required ( The correct size of pipe has to be worked out by the vendor and the number of circuits shall match the vendors equipment ). Long Bend to be used to avoid Pressure drops. (Specification below) COPPER REFRIGERANT PIPING Thickness 22 SWG For Hiwall Split AC complete with fittings Suction / Discharge line insulated with 12 mm SUPERLON / ARMAFLEX suction line & FRLS Eletrical flexible cable of 3x2.5sq.mm	50	Mtr		
b	25 mm dia Upvc pipe for drainage of spilt ac	85	Mtr		
	<b>TOTAL COST OF ELECTRICAL WORKS</b>				

**Seal & Sign of Tenderer**