SCHEDULE OF QUANTITIES FOR THE ELECTRICAL WORK OF BRANCH OFFICE

SUMMARY

ITEMS	AMOUNT
ELECTRICAL WORKS	
AIR CONDITIONING WORKS	
TOTAL	
DISCOUNT (IF ANY)	
TOTAL	

AMOUNT IN WORDS:

TECHNICAL SPECIFICATION FOR ELECTRICAL WORK FOR BRANCH OFFICE						
Sr	**Description**		**Qty**	**Unit**	**Rate**	**Amount**
	Supply, Installation, Testing & Commissioning (S.I.T.C.) Of All Items described below should be Factory Manufactured & Tested & ISI marked. Proposed location & route should be as per the drawing. However, if any obstruction is encountered at site suitable modification may be made as per site condition. After completion of work the contractor must supply 3 copies of "As-Built" drawing of actual route & location of items . All UPS & Raw Power points to be Marked as U1,U2----- & R.P.1, R.P.2 – etc on each work-Station/Desk etc. Similarly load/points connected on Each M.C.B. to be indicated with a chart pasted inside the cover of each Distribution Board. Insulation testing of Wiring with Meggar & Testing of E.L.C.B. with Test lamp should be carried out before charging system & Insulation test report as well as RCCB/RCBO test report to be submitted with the Bill. LOAD should be equally BALANCED on 3 PHASES. All D.B.'s and UPS + Raw power Points should have an earth wire Connection in their socket earth terminal.						
1	Distribution System.					
	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 phases. All wires/ Cables should be terminated with Ring/PIN Type copper Lugs in Each MCB in D.B. as well as in each Of NEUTRAL & EARTH Link Strips.						
	a. S.I.T.C. of 3 phase 6 Way Double Door Vertical Distribution Board with following M.C.B./ M.C.C.B./RCCB & cable end boxes at Input & Output.					
	4Pole 63 Amp M.C.C. B. as Incomer -1 No					
	S.P 25 Amps M.C.B. - 2 No For R.P.D.B. Input					
	S.P 25 Amp M.C.B. - - 1No For U.P.S. Incomer					
	S.P 25 Amp MCB -1No For Inverter Input					
	S.P. 25 Amp MCB (Spare) -2 No for L.D.B					
	S.P. 25 Amp MCB 6 No For 2Tr.Split AC					

	S.P. 20 Amp MCB - Nil No for 1.5 Ton Split A.C.					
	S.P. 16 Amp MCB - 5 No For 1 Tr. AC.					
	S.P. 25 Amp MCB (Spare) -2 No					
	S.P. 16 Amp MCB (Spare) -2 No		1	No		
	b..S.I.T.C. Of L.D.B. 1					
	S.I.T.C. of Single Phase 12 way Single door D.B. with Double pole 30 Milliamp & 25 Amp R.C.C.B. as Incomer -1 No		1	NO		
	6 Amp S.P. Amp M.C.B. -10 Nos with all wiring connections.					
	b1. S.I.T.C. of Single Phase 4 way Single door L. D.B. 2 with Double pole 30 MilliAmp & 25 Amp RCCB as Incomer- 1 Nos and 2 Nos of 6 Amp S.P. MCB;s with Blanking plates.			No		
	c.. S.I.T.C. Of R.P.D.B.					
	S.I.T.C. of Single Phase 12 way Single door Horizontal D.B. with 2 poles 100 Milliamp & 25 Amp R.C.C.B. as Incomer-- 1 No . Out-Going: 10 Amp S.P. M.C.B. 9 No and 16 Amp S.P. MCB - 1 No for a 16 Amp Power Point in Pantry.(If Available) with all wiring connections.(Max. 2 work-Station Points to be looped on one MCB.)		1	No		
	d.. U.P.S. D.B : (Output)					
	S.I.T.C. of Single phase 12 way Horizontal Single door D.B. with 2 Pole 100 Milliamp & 25 Amp R.C.C.B. as Incomer-- 1 No and 6 Amp S.P. Amp M.C.B. - 9 Nos with all wiring connections. And 6 Amp Spare MCB -- 1 No Blanking Plates - Nil Nos (2 UPS pts to be looped on one MCB. In exceptional case 3 Nos on one ckt.)		1	No		
	e. 20 Amp. D.P. MCB in Metallic box for Inverter I./P. & O/P.to LDB		1	No		
	f. 25 Amp/25AMP Double Pole M.C.B.in Separate Metallic box for UPS I./P.& O./P.		1	No		
	h. Industrial Metallic Plug -socket boxes with 10/16/20 /25 Amp MCB's for Split A.C.'s & 16 Amp P.P.		5	No		
	i. SITC of 3 Ph. & a Single phase Water proof boxe with 4P 32 A & 4 Pole 40 Amp MCB's for3 Tr. & 4 Tr. Cassette. AC.			No		
				No		
	j S.I.T.C. of 4 Pole 100 Amp MCCB in Metal box at the Output of the Electricity board meter. (This is to be provided only if there are only fuse outputs are provided for meter protection.)		1	No		

2	Sub- Mains Cabling & Wiring : For Lighting, Raw Power, & U.P.S. D.B.'s.					
	S.I.T.C. of I.S.I. marked 1.1 KVA grade multi-strand F.R.L.S. Copper P.V.C. wires in 19/25/32 mm Medium grade I.S.I. marked PVC pipes to be laid in Underground trench/On wall/above false ceiling etc complete with all conduit accessories like bends, tees, Junction boxes with necessary fixing hardware etc. including re-surfacing of the floor/wall etc. wherever necessary with Resurfacing material.					
	a. S.I.T.C. of bunch of 4 X`16 Sq.mm FRLS Copper wires with 2 Nos 2 Nos 10 Sq.mm. FRLS Copper earth to be laid together from Branch Main 4 Pole MCB Box. near meter to Main Incomer D.B.in Br. and connection with check nuts etc. D.B. body to be earthed with double earth. Exact length to be measured before procurement.		35	Rmt		
	a.1. End termination of above cable with suitable Copper Lugs on both side of cable. (Pin type)		4	Set		
	b. S.I.T.C. of Bunch of 3X 4 Sq.mm. F.R.L.S. Copper Flexible wires in 19/20mm PVC conduit from Main D.B. to U.P.S. Input MCB Box. (body to be earthed.)(3KVA Single phase UPS will be used)		30	Mtr		
	b1. End termination of above wires at both ends in D.B.s with Pin type copper lugs.		2	Set		
	c.. S.I.T.C. Of 3X 4 sq.mm. wires in 19/20 PVC conduit from Main D.B. to R.P.D.B.		35	Mtr		
	c1. End Termination with Pin type Copper lugs in both D.B.'s		4	Set		
	d.. S.I.T.C. Of 3x 4 mm. FRLS copper wires in 19/20 mm Medium Gauge PVC conduits from Main D,B, to 3/4Tr.Casette A.C.			Mtr		
	d1. End termination of above wires at both ends with copper Lugs.			Set		
	e. S.I.T.C. of 3X 4 Sq.mm. FRLS Copper flexible wires in 19/20mm. PVC conduit from Main D.B. to split A.C.'s.(1/1.5/2 Tr. A.C.'s).		80	Mtr		
	e1. End termination of above wires at both ends with copper Lugs.		10	Set		
	f. S.I.T.C. of 3X 2.5 Sq.mm. F.R.L.S. copper flexible wires in 19/20 mm. Medium Guage PVC conduit from R.P. D.B. to Pantry 16A pt. + R.P.D.B. To Inverter Input & Inverter O/P to L.D.B		30	Mtr		

	f1 End Termination for above wires (both Ends) with Pin type of copper Lugs in Main D.B. / Inverter O.P. MCB boxes L.D.B's / Pantry MCB Box etc.		3	Set		
3	Light Point/Raw Power Point/UPS Point/Fan Point wirings					
	S.I.T.C. of I.S.I. marked 1.1 KV grade multi-strand F.R.L.S. Copper P.V.C. wires in 19/25 mm Medium grade I.S.I. marked PVC pipes to be laid in Underground trench/On wall/above false ceiling/Through Modular Furniture slots etc complete with all conduit accessories like bends, tees, Junction boxes with necessary fixing hardware etc. including re-surfacing of the floor/wall etc. wherever necessary with Resurfacing material. Point wiring for Lights, fans, exhaust fans, 6Amps dependant socket outlets etc. using S.& I. of 3X 1.5 Sq.mm. Flexible copper FRLS multi-strand PVC copper wires in PVC conduits as described above for all the following points. Point wiring to include cost of wiring in PVC conduits & switch, sockets, boxes ,plates & fixing					
	a. Single Light points controlled by 6 Amp switch.		10	No		
	b. Two Light points controlled by one 6 Amp Switch		5	No		
	c. Three Light Points controlled by one 6 Amp Switch		2	No		
	d. Dependant 6 Amp s 3/5 Pin combination type Universal socket with indicator mounted on switch- box. (except toilets & passages)		10	No		
	e. Fan/ Exhaust Fan Points		10	No		
	f. S.I.T.C. of Light point with Timer for Sign-board.		2	No		
4	Raw & UPS Points + Pantry Point					
	a.. S.I.T.C. of Recessed 6 Amp 5 Pin Universal Sockets controlled by one 6 Amp Indicator switch complete with Flush surface plate. For Raw Power On Work-Stns. (Above work table area) etc. Wires to be drawn from Wire/cable manager/channel inside the work-station from underground metal box containing the conduits located below the work-station. No surface conduit to be seen below work-Station.		7	No		
	b.. S.I.T.C of 3 Nos of 6Amp Universal Sockets controlled by one 16 Amp Indicator switch housed in a Modular PVC switch Box (Work Stn+ 2 each in server & training rooms etc) with Recessed surface plate for UPS Switch pts on Work-Stns. (3 No sockets in box with surface plate will be below table. Only 16 Amp Control switch for these points with Recessed Surface Plate will Be above table. All wires to be drawn through cable/wire channel inside work-station. No surface conduit/casing to be sen below work-station. Conduit junction boxes should be below work-Station table & not below chair.		7	No		

	c. S.I.T.C. of Independent power point with 16 Amp Industrial type Switch –sockets in metallic enclosure (Re-Roll type) In pantry area.		1	No		
5	CIRCUIT WIRING : (Lighting Switch Boards)+ UPS Pt.+ R.P. Points					
	S.I.T.C. of 3X2.5 Sq.mm. F.R.L.S. copper flexible PVC wires laid in 19/20 mm. Middle gauge PVC conduits laid on wall/above false ceiling/Concealed as per requirement with all accessories etc. from L.D.B. to Switch- Boards. & From UPS O.P. D.B. to Work-station+ From R.P.D.B. To R.P. Pts on work-Stations (Max. 2 Nos of UPS & Raw power points to be connected on one circuit.)		150	Rmt		
6	Lighting Fixtures :					
	a.. S.I.T.C. 15/16 Watt 6000/6500 K Recessed mounted LED Down Lighting Fixtures with chain & anchor bolts wherever required.		24	No		
	b. S.I.T.C. of12/13 Watt 6000/6500 K Recessed/ Surface mounted LED Down Lighting Fixtures with fixing accessories.					
	c. S.I.T.C. 7/8 Watt 6000/6500 K LED Surface /Recessed mounted Down Lighting Fixtures with fixing accessories.			No		
	d. 11 watt Philips Mirolta (In Toilets)			No		
	e. S.I.T.C. of 595mmx595 mmx- 32/ 34 Watt LED 6000/6500 K Recessed Downlighter Of Polycab Or Equivalent Approved Make (In br. Head Cabin.)		7	No		
	f. S.I.T.C. of 28 w 4 ft. T5 Tube Lights (For Toilet /Passage/ store)		2	No		
7	Security System:					
	a. S.& I. of 4”x4” Red Danger Mark Stickers 230 Volt/ 440 Volt etc. to be fixed on all the D.B.’s S.& I. of		4	No		
	b. S & I of 4.5 K.G. CO2 Fire Extinguisher		4	No		
	c. 4.5 KG ABC Fire extinguisher		4	No		
8	Earthing System:					
	a..S & I of S.I.T.C. of Copper Plate (600mm X 600m x 3.15 mm) Type Earth Pit as per I.S. 3043. Concrete Chamber with Metallic cover, Funnel for adding water and Earth Strip Connector etc must be provided.		1	No		
	b. Heavy Guage G. I. Pipe Type earth Pit as per I.S. 3043 and with above accessories(i.e Concrete chamber, Metal cover, watering gunnel etc.) must be provided.		1	No		

	c. S.I.T.C. of 2 runs of 10 Sqmm. FRLS Copper wires in 40 mm PVC Conduit from Earthing Pits To Meter room Meter O/P. 125 Amp MCCB in Metal Box. Making Tight connections with Spring & Ring washers in both Earth Pits and Both ends of MCCB box in Meter Room.		25	Rmt		
	d. 1x 2.5 Sqmm FRLS Copper wires in rigid PVC Conduit from Copper Plate Earthing to UPS output D.B.		25	Rmt		
9	DG Set Accessories:					
	4Pole 100Amp Manual Changeover Switch For Mains to D.G. supply switching (If D.G. Back-up is provided) Depending upon Load.		1	No		
10	LAN & Telephone Accessories:-					
a	Providing and laying 4 Pair UTP Cat 6 cable (Make : D-link /Systimax) for data in suitable size cassing/conduits 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					
	RJ-45 for data points		7	No		
b	Providng and supplying of Patch Cords					
i	2 meter length		7	No		
ii	1 meter length		7	No		
c	Providing and installing Cat 6, 16 Port Loaded Jack Panel		1	No		
d	Providing and installing Networking Rack (12U with 5/15 PDU, Cable manager, Fan, Tray) complete in all respects		1	No		
e	Providing, installing, testing, commessioning of network switch complete with necessary required electrical wiring and connections.					
i	Networking Switch (HP 24 Port - HP 2530- 24)			No		
ii	Networking Switch (HP 16 Port - HP 2530- 16)		1	No		
f	Providing and laying 2 Pair Telephone Cable for Telephones in suitable size cassing/conduits and providing & terminating with RJ-11 (Krone make) with face plates / I/O Ports in suitable modular / MS box from server / EPABX room to individual work stations, including numbering with ferule					

i	RJ-11 for telephone points		7	No		
g	Providing and installing of MDF Krone Box with Krone module complete in all respects including connections and numbering					
i	20 Pair		1	No		
11	Cutting/ Chasing of Floor of following sizes for laying of Conduits as per site condition.					
	1. 12" X 12" Size			Mtr		
	1. 8" X 8" Size			Mtr		
	1. 6 " X 6" Size			Mtr		
	2. 4" X 4" Size			Mtr		
12	S.& I. of Metallic Boxes with Steel Surface Plates fixed with Steel screws					
	a. 12" X 12"			No		
	a. 8" X 8"		3	No		
	b. 6"x6"			No		
	c. 4" X 4"			No		
13	S.I.T.C. Of U-PVC Trunking with cover plate & other accessories. Legrand/ Precision Make					
	a..S.I.T.C. of 80X50 mm DLP U- PVC trunking System with all accessories		40	Mtr		
	b. S.I.T.C. of 32x20 mm DLP U- PVC trunking System with all accessories		40	Mtr		
	b. S.I.T.C. of 32x12.5 mm DLP U- PVC trunking System with all accessories		40	Mtr		
14	Ceiling/ Exhaust Fan:					
	a..S.I.T.C. Of 6 “Exhaust Fan as per size of toilet/UPS/Server Room Windows.		4	No		
	b..S.I.T.C. of High Breeze 48" Ceiling fans with 100 W Electronic .regulator.			No		
	c..S.I.T.C. Of High Breeze 36 inch Ceiling Fans with 100 w electronic regulator			No		
	d. S.I.T.C. of High Breeze 24 Inch ceiling fan (UPS Room) with 100 watt Electronic regulator.			No		
	e. S.I.T.C. of 16" Wall mounted Fans		10	No		
15	Miscellaneous Items					
	a. S.I.T.C. Of Bell with Bell Point for Chief Mgr		1	No		

	b. S.I.T.C. of Timer with M.C.B.'s control for Sign Board of Branch.		1	No		
	Total					
	List Of Approved Materials					
Sr	**Description**		Makes			
1	PVC Conduit		Precision/ Universal/ VIP/ Modi/ BEC/ AKG			
2	Ceiling Junction Boxes		Amar/ Home lite			
3	Wires & cables		Havells/ R.R./ Finolex/ Polycab			
4	Modular Switches, Sockets etc		M.K./ Legrand/ Havells/ Elleys./ L.& T.			
5	Lighting Fixtures		Philips/ Wipro / Crompton/ Havells/ CANOPUS			
6	M.C.B./RCCB/RCBO etc		Legrand/ Indo-Asian/ Havells/ Hagger/ L&T/			
7	Distribution Boards		Same as above			
8	MCCB		A.B.B./ Schneider/ Legrand/ Havells/ L.& T.			
9	Change Over Switches		H.P.L./ A.B.B./ Standard/ L.& T.			
10	End Termination accessories		Dowells/ Usha/ Brecco/ Cosmos			
11	Telephone Cables & accessories		Havells, Krone, Finolex,			
12	Fans/ Exhaust fans		Crompton/ Bajaj/ Almonard/ Havell/ USHA			
Note: Sizes of Distribution Boards / MCB / MCCB/ RCCB capacity shall depend on the branch/RO/ Office Area.						
DETAIL ESTIMATES AND TECHNICAL SPECIFICATION FOR AC WORKS						
Sr	**Description**		**Qty**	**Unit**	**Rate**	**Amount**

1	Supply, Installation, Testing & Commissioning of a 4 Ton Ceiling mounted "Cassette" Air- Conditioner by cutting false ceiling & comprising of Indoor & Outdoor units. The Indoor unit comprising multi-row DX Copper cooling coil, Drier, expansion valve/ device, air blower driven by motor with mounting accessories. Outdoor unit will comprise the Rotory/ Scroll compressor, Copper condenser coil & fan, Cordless remote controller etc. including Refrigerant gas charging, water drain system etc. Indoor Evaporator & Outdoor Condenser Coils should be OF COPPER & Not Aluminium.			No		
2	Same as above but for 3 Ton Cassette AC			No		
	Same as above but for 2/1 tr. Cassette.			No		
3	S.I.T.C. of 1 Star 2 Ton capacity High wall mounted Split A.C. comprising Indoor & Out-door units. Indoor unit comprising Multi Row DX Copper cooling coil, expansion valve, drier, motor driven air-blower with metallic frame etc. Out-door unit will have rotory/scroll compressor, Copper condenser coil, & fan, Cordless remote control unit etc. including refrigerant gas charging. (as per BEE notification)			No		
4	2 Tr. 3 Star Type Split AC with other specifications as above.			No		
5	S.I.T.C. of 1 Star AC as per specifications given in item no 3 above but for 1 Ton Split AC (as per BEE notification)			No		
6	S.I.T.C. of 1 Ton 3 Star Type AC as per specifications given in item no			No		
7	S.I.T.C. of 1 Star 2 Tr Split AC with other specifications similar to item No 3 for split AC above (as per BEE notification)			No		
8	S.I.T.C. of 3 Star Window AC			No		
9	S.I.T.C. of suitable voltage stabilizers for above capacity Air-Conditioners.		5	No		
10	S.I.T.C. of 19 mm dia & 16 mm dia Copper Refrigerant Pipes with Foam insulation between Indoor & Outdoor units.with breaking of wall wherever required for 2-3 Tr Cassette/ Inverter Air conditioners.			Mtr.		
11	S.I.T.C. of 12.5 sq.mm. & 6.25 Sq.mm. dia. Copper refrigerant pipe with foam Insulation between Indoor & Outdoor units with breaking of wall for making hole wherever required For Split Air- Conditioners.		75	Mtr.		
12	S.I.T.C. of copper conductor flexible cable & flexible PVC pipe drain pipe between Indoor & Outdoor Unit through holes made as above for Cassette. (Cables to be as per manufacturers' specification/ recommendation)			Mtr.		

13	S.I.T.C. of copper conductor flexible cable between Indoor & Outdoor units through holes as made above for Split AC's. (Cables to be as per manufacturers' specification/ recommendation)		75	Mtr.		
14	S.I.T.C. of 19/ 25 mm PVC conduit pipe to be used as a drain water pipe. Through holes as made above.		75	Mtr.		
15	Metallic Catwalk frame made out of 25 mm x 3mm iron angles with					
	20mmX 3 mm metal flat strips In- Between duly welded and supported on external wall for standing/ walking for servicing of outdoor units of AC's approx 2.5 feet (wide from wall & approx _____mtr length.			No		
17	S.I.T.C. of L shape / suitable shape M.S. Frame stand for mounting Outdoor Units on wall / On floor with all fixing hardwares. Within above Catwalk for cassette & split AC's.		5	No.		
18	Cyclic Timer for Server - UPS Room AC.		2	No.		
	TOTAL					
	Approved Make :		A.C.'s having Service centre In/ Near the City should be preferred. However NO compromise about Copper Coils for Condenser & Evaporator Units.			
	Blue-Star, Volta's, Carrier, ETA- VESTAR etc. Only one of these Makes to be quoted. Please enclose Tech Broucher of the quoted Cassette/ Split AC.					
	kindly note that acs of above listed makes having copper condenser and evaporator coils only should be installed.					
	Note; 1. Each vendor to specify the Make of A.C. they propose to supply. 2. Common drain pipes of Cassette / Split A.C.'s be terminated in any toilet Nahni traps OR else be terminated from external wall up to ground. (3) Pl enclose Technical Brocher of quoted A.C.'s. (4) As built layout drawing of Refrigerant & Drain Piping has to be attached with Final Bill.					