

SCHEDULE OF QUANTITIES FOR ELELCTRCAL WORK AT BHIVANDI BRANCH			
SR.NO.	DESCRIPTION	QTY	UNIT
<b>A</b>	<b>MAIN / SUB MAIN DB'S</b>		
1.A	Supply, installation, testing & commissioning of 250A IC TPN SFU with 250 A HRC fuses (L&T / Siemens/ABB make) 440 V 3 phase & neutral 50 c/s AC23 duty on MS angle iron frame fabricated out of 40 mm. x 40 mm. x 5 mm MS angle duly painted with cable end boxes, earthing, name plate danger board fixing accessories etc.	<b>1</b>	Nos
1.B	Supply, installation, testing & commissioning of 150 A IC TPN SFU with 150 A HRC fuses (L&T / Siemens/ABB make) 440 V 3 phase & neutral 50 c/s AC23 duty on MS angle iron frame fabricated out of 40 mm. x 40 mm. x 5 mm MS angle duly painted with cable end boxes, earthing, name plate danger board fixing accessories etc.	<b>1</b>	Nos
2	Supply and Installation of main LT panel and Automatic Power Factor Control panel floor ' mounted, front operated, dead back, totally enclosed vermin proof, indoor, non-draw out, cubicle type power dist. panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper bus bars 'complete with all internal wiring, danger board, two earthing lugs, cable chamber etc. as required 'housing below mentioned switch gears / meters.		
	Note :- GA & Control Drawing of the panel shall be approved by the Bank before fabrication. (Panel shall be CPRI approved only.)		
	<b>Incomings -</b>		
	1 Nos 200A MCCB, TP, 36 Ka breaking capacity with all standard accessories & with Static releases, as follows.		
	i) O/L Release Range: 0.4Ir-1.0Ir		
	ii) Rotary Operating Handle.		
	iii) Shunt trip		
	iv) 100x100mm Danger Notice Board in English and Marathi		
	<b>Outgoings:</b>		
	a) 6 Nos., 63A,TPN, MCB with neutral & accessories ( submain panel for generator,AC panel,APFC & spare )		
	b) 2 Nos., 100A,TPN, MCB with neutral & accessories ( submain panel for generator,AC panel,APFC & spare )		
	c) 1 Set of 300A TPN tinned Copper bus bar with PVC sleeving & accessories		
	d) 1Set, RYB, LED indicating lamps with resistors and fuses		
	e) 1 no., 0-250A, Digital Ammeter with CT & inbuilt S/S		
	f) 1no., 0-500V, Digital Voltmeter with inbuilt S/S		
	g) 1 No of 100 A TPN SFU with 63A HRC fuses for APFC panel		
	h)1 no of 6 stage APFC Relay module Digital readout of Syntron 1179D/Beluk with Binary Switching		
	i)Auto Manual switch with On-delay timer in manual mode		
	j) Capacitors 3(2No),5(2No) &10 (2No.) KVAR 415 volts 50 hz AC 3 Phase Delta connected Double Dielectric Metalized Polypropylene for 5 stages with discharge resistors & series Inductor coil		
	k) 6 nos Capacitor duty Contactors with HRC fuses with base as bachup fuses & 2A HRC fuses for contactor coils		
	l) 6 nos of LED read indicating lamps for ON stage indication.		
	m) Push type Red & Green switches for making stages ON/OFF in manual mode.	<b>1</b>	no
3	Supply,installation,testing and commissioning of 4-way VTPN double door generator power main panel having vertical fishbone busbsr type, factory assembled wall mounted sheetmetal fabricated, fully power coated having dust proof & vermin proof hinged door with internals such as DIN channels, neutral link, internal wiring com-lete with double earthing lugs including DB wiring dressing with ferruling etc. with all accessories		

	Incomer: 1 No 100 A FP MCCB Out going: 2 Nos. 32/40A TPN, 6Nos 20/25/32 A SPN MCBs ( to UPS,E-lobby, Server room AC, Lighting DB & BM cabin AC)	1	No
4	Supply,installation,testing and commissioning of 8-way TPN double door <b>AC panel</b> having vertical fishbone busbar type, factory assembled wall mounted sheetmetal fabricated, fully power coated having dust proof & vermin proof hinged door with internals such as DIN channels, neutral link, internal wiring complete with double earthing lugs including DB wiring dressing with ferruling etc. with all accessories		
	Incomer: 1 No 100 A FP MCCB Out going: 2Nos 63/40A TPN, 3 Nos 20/25/32 A SPN MCBs ( to singage,AC units & raw power)	1	No
5	Supply, Installation, Testing & Commissioning of 4 way <b>Distribution Boards</b> complete with MCBs/Isolators/ Bus bars and interconnections. Standard DB's of specified makes as per list of materials shall be used (DOUBLE DOOR IP42)	3	Nos
a)	TPN 4 Way as follows: LDB, UPS & RPDB		
	1 no., 32A, FP MCB+ELCB as incomer		
	Outgoing 10 A/16A/20 A SP MCBs - 12Nos.		
b)	TPN as follows (1st Floor)		
	Incomer 32A, DP MCB - 1 No.	1	Nos
	Outgoing 10/16A SP MCBs -18Nos.		
6	Supply, installation, testing & commissioning of 20/25A Plug Sockets with 3P with 20/25A SP switch (for AC units) with 2x2.5& 1Nos 1.5 sq. mm. wire circuit from AC DB.	18	No
7	Supply,Installation,Testing & Commissioning of 32A/25A DP MCB in M.S box UPS output	2	Nos
8	Supply,Installation,Testing & Commissioning of 40/63A 4P MCB in M.S box.	2	Nos
9	Supply & Installation of 16A AC1, Timer Switch alongwith 1 no. 2NO 40A 3M contactor alongwith suitable size enclosure box for signage, etc. including power circuit wiring of (2x4 + 1x4 Sq.mm) FRLS flexible wires laid through PVC conduit directly taken from DB including all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)	1	Nos
10	Supply & Installation of 63/40A, TPN MCB with weatherproof box for terminating supply to AHU's, Pump machines, etc. alongwith all necessary hardware & accessories, etc. complete as required. (Schneider / Hager / Siemens / Legrand make as approved by client / consultant)	4	Nos
	<b>TOTAL of SECTION (A)</b>		
B	CABELS / MAINS		
1	Supply & Installation of 1100V grade armoured cable having sector / circular shaped aluminium / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathed confirming to IS: 1554, laid on wall / ceiling using GI clamps & spacers as per route shown at site and further as directed by Consultant at site in the following sizes :-		
1.1	31/2 x 120 Sq.mm AL from main source to main panel with 2x 8swg Cu earth wire.	50	Mtrs
1.1	31/2 x 95 Sq.mm AL from main source to main panel with 2x 8swg Cu earth wire.	50	Mtrs
1.2	31/2C x 35 sqmm AL armoured cable from main panel to generator panel & AC panel with 8swg GI earth wire	50	Mtrs
1.3	4C x 6 Sq.mm Copper armoured cable from sub main ( Generator) panel to UPS panel & for AC outdoor Units with bare 12 swg GI wire.	200	Mtrs
1.4	4C x 4 Sq.mm Copper armoured cable from submain ( Generator) panel to LDB panel with bare 12 swg GI wire.	50	Mtrs
1.5	3C x 4 Sq.mm Copper armoured cable for UPS I/P & O/P from main panel to Glow Sign Board.	30	Mtrs

1.6	3C x 4 Sq.mm Copper armoured cable from main panel to Glow Sign Board.	15	Mtrs
1.7	4C x 6 Sq.mm Copper flexible lead wires from UPS input DB to UPS inputs with 1 run of 4sqmm Cu flexible wire for Body earth in PVC rigid or flexible pipe.	10	Mtrs
1.8	4C x 10 Sq.mm Copper armoured cable with bare 12 swg GI wire from generator panel to e-corner	50	Mtrs
2	Supply & Installation of <u>end termination</u> of above mentioned cables including compressed type brass glands, crimping type copper lugs, insulation tape etc. as 'required complete with earthing of glands in following sizes		
2.1	31/2C x 120/95Sq.mm AL	4	Nos
2.2	31/2Cx 35 Sq.mm Al	4	Nos
2.3	4C x 6 Sq.mm Copper	30	Nos
2.4	3C x 4 Sq.mm Copper	5	Nos
2.5	4 x 6 Sq.mm Copper flexible lead wires	2	Nos
2.6	4C x 10 Sq.mm Copper armoured cable	2	Nos
	<b>TOTAL of SECTION (B)</b>		
<b>C</b>	<b>LIGHTING &amp; POWER WIRING</b>		
1	Supply & Installation of concealed / surface <b>point wiring</b> using 600v grade 3 nos of 1.5 sqmm copper conductor PVC insulated <b>FRLS</b> wires (with proper R,Y,B color code ) pulled through heavy gauge PVC conduits / casing-capping laid concealed over false ceiling or in wall chases or on the ceiling in case of an open ceiling as per the instructions given at site including 2.5 sqmm circuit wires from the relevant DB and also including 2.5 sqmm green color copper earth wire and switch plate, switches, etc. as approved by the consultant. The wires from ceiling junction to light points shall be drawn in flexible PVC conduit with adoptor & cover junction box & crimp type lugs at both ends.Saddle & clamps shall be PVC (Each circuit shall not feed more than 8 points OR 800 watts as per following configuration.)		
1.1	Primary light points including the cost of MS concealed box grid plate & 6A switch.	130	Nos
1.2	Secondary light points looped from the above point	60	Nos
1.3	Two way light points including the cost of MS concealed box grid plate.	2	Nos
1.4	6A 2/3 -pin combined shuttered socket points separately on boards(primary)	15	Nos
1.5	Secondary 6A Plug point on switch board / looped from above 6A primary plug point.	5	Nos
1.6	<b>Exhaust/wall fan points</b> comprising of 5A socket near fan and switch on light switch board or exhaust/wall fan	4	Nos
1.7	<b>Ceiling fan points</b> comprising of wiring as above with steps type electronic regulator on lighting board(120 watts) and supply and installation of anchor fastener & hook to suspend the ceiling fan	32	Nos
1.8	BELL POINT comprising of wiring as above including G- Magic wireless out door bell 4061 with remote, 32 -melodies & flash light.	3	nos
2	Supply,laying,installation & testing of following concealed <b>SOCKET POINT wiring</b> using 1100 v grade 3 nos of 2.5 sqmm Copper conductor PVC insulated <b>FRLS wires</b> (with Proper RYB colour code) pulled through rigid /flexible 25mm /20mm PVC conduits of medium quality & crimp type lugs at both ends for pantry/toilet/strong room etc .Each circuit feeding not more than three points.		
2.1	5/15 A socket & 16 A switch point directly taken from lighting DB	5	nos
2.2	5/15 A socket & 16 A switch point loop from above point	5	nos
	<b>TOTAL of SECTION (C)</b>		
<b>D</b>	<b>CONDUITS / RACEWAYS FOR POWER WIRING:</b>		
1	Supply and laying of following <b>RACEWAYS/CONDUITS</b> in required size trenches with proper ties / clamps at appropriate intervals. The rate shall be inclusive of carefully removing the floor tiles by machine cutting &removing the malwa below the tiles for laying raceways conduits for power, telephone,Data cables etc. The depth of the trenches shall be minimum 2" or upto the RCC of slab from the finished floor level . The rate shall also inclusive of back filling the trenches with mix of 1:2 PCC after laying the raceways /conduits for smooth finish upto the floor level.		

1.2	25 mm dia ISI mark PVC heavy duty conduits	500	Mtrs
2	Supply and laying of following sizes of FLOOR JUNCTION BOXES with top cover for above raceways /conduits fabricated out of hot dip Galvanized Steel with removable screwed cover plates on all four sides for blocking the entry All the junction boxes to be properly earth bonded with raceways pipe using 14 SWG Copper bare wire. Stainless Steel plate of 14 SWG paper coated mirror finish for junction boxes with mirror screws for fixing		
2.1	300mm X 300mm X 50mm X 2mm thick	20	Nos
2.2	200mm X 200mm X 50mm X 2mm thick	10	Nos
2.3	100mm X 100mm X 50mm X 2mm thick	5	Nos
3	Supply,laying,installation & testing of following <b>RAW /UPS POWER SWITCH SOCKET POINTS</b> on skirting/walls by using 3 X 2.5 sqmm Copper conductor PVC <b>FRLS wires</b> pulled through already laid floor . raceways/conduits and taken upto the position marked, using PVC rigid /flexible conduits run concealed within walls/partitions/ work station etc with concealed MS box flush to the surface, front plate etc & hardware as required .Not more than three points in one circuits .Rate is inclusive of all raiser PVC flexible conduits as required.		
3.1	5/16 A socket & 16 A switch point directly from UPS/RAW DB	10	Nos
3.2	5/16 A socket & 16 A switch secondary point .	10	Nos
3.3	6 A 2/3 pin socket & 6 A switch point directly from UPS DB	10	Nos
3.4	6 A 2/3 pin socket & 6 A switch Secondary point	10	Nos
4	Supply,laying,installation & testing of following <b>COMPUTER SWITCH SOCKET POINTS</b> on skirting/walls by using 3C X 2.5 sqmm Copper conductor PVC <b>FR sheathed WHITE colour</b> flexible cable pulled through already laid floor . raceways/conduits and taken upto the position marked, using PVC rigid /flexible conduits run concealed within walls/partitions/ work station etc with concealed MS box flush to the surface, front plate etc & hardware as required .Not more than three points in one circuits .Rate is inclusive of all raiser PVC flexible conduits as required.		
4.2	3nos of 6A 3-pin socket below the work station on 8 module plate & 1 no 5/16 A 3-pin socket and 16 A SP switch with indicator above the work station with above mentioned wiring from UPS DB	25	Nos
4.3	2nos of 5/16A 3-pin socket & 2 no 16A SP switch with indicator above the work station	5	Nos
<b>TOTAL of SECTION (D)</b>			
<b>E</b>	<b>LIGHTING FIXTURES</b>		
1	Supply ,installation and commissioning of the following concealed or surface mounted <b>LIGHT FIXTURES</b> with lamps of makes as specified or equivalent ( <b>from approved makes only</b> ) with all accessories like suitable ballast/Drivers etc. The fixtures shall be assembled and installed at position with necessary required for installation hardware such as clamps,nuts, bolts, screws,S-hook,chain and suspension rods as required or as per the requirement of light fixtures.		
1.1	2x2 full glow 36w LED (Equivalent To Philips cat no. RC380B LED 34S 6500 L60 W60 PSD OD S1) or eq.	148	Nos
1.2	15W LED SPOT LIGHT with metal body	14	Nos
1.7	(1 X 18W) LED Tubelight.	10	Nos
1.8	(1 X 9W) LED Tubelight.	4	Nos
1.9	S & I of Wall mounted <b>Exhaust fan</b> (9" dia,230V,1400 rpm ) of decorative plastic body and blade with louvers outside.		Nos
1.10	S & I of Wall mounted <b>Ceiling fan</b> (48" ).	32	Nos
1.11	S & I of Wall mounted <b>wall fan</b> .	5	Nos
<b>TOTAL of SECTION (E)</b>			
<b>F</b>	<b>EARTHING</b>		
1	Preparation and commissioning of <b>earth pits</b> as per IS 3043-1987 made up of the following size electrode embedded 3 meter in ground with 115mm alternate layer of charcoal ,salt and sand. The bus bar bolted to earth plate by a bolt and check nut & washer. Watering arrangement of funnel for chamber with cast iron cover for whole assembly.		
1.1	<b>GI</b> earthing pit made up of 600 x 600 x6mm thick hot dipped galvanized electrode.	1	Nos

1.2	<b>COPPER PLATE</b> earthing pit made up of 600 x 600 x6mm thick hot dipped galvanized electrode.	2	Nos
1.3	25 X 3mm thick copper strip	20	Mtrs
1.4	25 X 3mm thick GI strip	50	Mtrs
1.5	1C x 10 sq.mm flexible Cu. Wire through heavy guage PVC conduit (Dedicated UPS Earthing)	100	Mtrs
	<b>Isolated Earthing bus bar</b> comprising of 300 X 40 X 6 mm thick Copper bar fixed on insulated support and having 25 nos of holes and nut and bolts for clamping the earth leads. The whole assembly in MS box of size 400mmX 300mm X50mm deep and having transperant acrylic cover etc.	2	Nos
	<b>TOTAL of SECTION (F)</b>		
<b>G</b>	<b>VOICE NETWORKING</b>		
1	Supply and fixing of 50 Pair telephone MDF consisting of tag blocks in groups of 10 Pair krone, disconnecter type, with S.S brackets for krone complete with powder coated metal enclosure, krone tag block mounting arrangement, telephone distribution chart and locking arrangement (for EPABX Field side)	2	Nos.
2	Supply and laying of 50 pair Cu ARM jelly field cable of 0.5 sqmm electrolytic grade tinned copper PVC insulated twin twisted pairs with terminations and ferruling in respective of Krone type connector wherever necessary <b>through already laid conduits/ Raceways</b>	150	mtrs
3	Supply & installation of Telephone point wiring on workstations/tables/partitions by using 2-pair cable pulled through already laid floor raceways/conduits and taken upto the table top using PVC rigid / flexible conduits run concealed. Each point consists of one RJ-11 jack type telephone socket, MS box flush to the surface, front plate etc & hardware as required.	25	Nos.
4	Providing temporary supply to work stations, lighting ,telephone connections during the work in progress. Removing all unwanted wires, casing cap, conduits etc	1	lumsum
	<b>TOTAL of SECTION (G)</b>		
<b>H</b>	<b>BUYBACK OF ALL ELECTRICAL ITEMS INCLUDING PANELS,DBs, LIGHT FITTINGS, FANS ETC</b>	-1	lumsum
<b>Nos</b>	<b>Description of Items</b>		
A	MAIN / SUB MAIN DB'S		
B	CABLES / MAINS		
C	LIGHTING & POWER WIRING		
D	CONDUITS & RACEWAYS FOR POWER WIRING		
E	LIGHTING FIXTURES		
F	EARTHING		
G	VOICE NETWORKING		
	<b>TOTAL - (A to G)</b>		
	<b>BUYBACK (H)</b>		
	<b>TOTAL AFTER BUYBACK</b>		
	<b>GST(18%)</b>		
	<b>TOTAL INCLUDING GST</b>		

### Design Ideas