

**RENOVATION OF SBI DGM SECRETARIAT, AO NAGPUR**  
**ELECTRICAL WORKS : BOQ**

**PART A**

**ESTIMATE**

SL NO	DESCRIPTION OF WORK	QTY	UNIT	RATE	AMT.
1	Labour charges for dismantling of existing MSB, cabling, wiring, fan and light fittings, switch boards and conduits including telephone and data lines etc. and arranging temporary light & fans, UPS/Raw Power, telephone connections etc. for the functioning of the Branch during the course of renovation work. All wiring has to be taken through conduits through ELCB. Safety of the Staff & customers has to be ensured by the tenderer during and after the renovation work. All wall openings for switch boards, wiring/cabling/light fittings has to be neatly sealed using cement mortar.	1	Job		
3	<b>CHANGE OVER SWITCH (ESSENTIAL DB) Supply and installation of 125A 4 Pole ON LOAD Change over switch with suitable metallic enclosure with cable entry box and powder coat painted and with 6 nos 2A SP MCB with 6 nos LED indicators for the identification of MSEDCL / DG Set 'ON' &amp; neat marking thereof. (Separate chamber &amp; door for COS chamber &amp; Indicator + MCB Chamber). Use 1/1.5 Sq.mm rigid single core PVC insulated copper conductor for control wiring. Suitable metal supports shall be incorporated to guide/tie the control wiring and neat dressing thereof. All unused knock out holes/gaps shall be properly sealed.</b>	1	No.		
4	<b><u>MSB : Fabrication, Supply, Installation, testing and commissioning of Floor / wall mounting type dust and vermin proof cubicle type switch board made out of 16 SWG CRCA sheet with powder coated painting(siemens grey) and consisting of</u></b> 160A, 16/25kA (at 415 Volts), 4Pole MCCB with operating Handle- 1 No (Incomer - From 160A COS)  125A 16/25kA, TP MCCB with Operating Handle as out going - 1 Nos. (To Non Essential SSB) 100A 16kA, TP MCCB with Operating Handle as out going - 2 Nos. (To APFC Panel & Essential VDB) 63A, 16kA TP MCCB with operating handle - 1 Nos. (Spare) 25 x 6 mm Tinned Copper busbar for 3 phases and neutral. (wxtx1.2A) provided with heat shrinkable PVC sleeve with colour coding. 3 nos. LED indicators for RYB indication : 1 sets ( each for MSEDCL supply indication) Multifunction LCD Display for Voltage, Current and Frequency for 3 phase- 1 No. including CTs. 2A SP MCB - 6 Nos. for control supply.	1	Set		

	Complete with all interconnections. The Panel should be provided with cable alley / cable entry box.		
6	<b>MAIN SWITCH : Supply and Installation of 125A 25/36kA 4 pole MCCB (with operating handle) and with suitable Metallic enclosure. The MCCB should be provided with spreaders at Input &amp; Output Side with SS Nuts and Bolts. (Between MSB and SSB for Grund Floor) (To be installed near entrance/exit of banking hall)</b>	1	Set
7	SITC of 40A MCB with enclosure at entrance	1	Set
10	<b>NON ESSENTIAL VDB -Supply, Installation, Testing and Commissioning of 4 Way Vertical TPN MCCB DB consisting of the following and complete with all interconnections.</b> 125A 16kA (at 415 Volts) TPN MCCB set at 100A as Incomer - 1 No. 63A TP MCB (C-Series) as out going – 2 no. ( To AC ODU) 40A TP MCB (C-Series) as outgoing – 4 Nos. AC IDU DB, AC ODU, PDB & Spare), Dummy plates-6Nos The incoming copper conductors should be connected directly to the DB Earth benches and the body should be earthed from DB earth bench or out side main earth bench if any. Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint.	1.00	Set
11	<b>ESSENTIAL VDB -Supply, Installation, Testing and Commissioning of 8 Way Vertical TPN MCCB DB consisting of the following and complete with all interconnections.</b> 100A 16kA (at 415 Volts) TPN MCCB set at 80A as Incomer - 1 No. 63A TP MCB (C-Series) as out going - 2 nos. (UPS Input)  40A TP MCB (C-Series) as outgoing – 2 Nos. (LDB&, Spare) 20A SP MCB - 3 nos. (Name Board DB & Spares), Dummy Plates-6 Nos The incoming copper conductors should be connected directly to the DB Earth benches and the body should be earthed from DB earth bench or out side main earth bench if any. Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint.	1.00	Set
12	<b>UPS INPUT Control (UPS Room) : Supply and Installation of 8Way SPN MCB DB consisting of 63A 4 Pole MCB and 63A 100mA 4 Pole ELCB. Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint.</b>	2.00	Set
13	<b>VRF AC LOCAL CONTROL (Branch) : Supply and Installation of 8Way SPN MCB DB consisting of 63A 4 Pole MCB and 63A 100mA 4 Pole ELCB. Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good</b>	2.00	Set

quality stickers /paint.

- 14 **VRF AC ODU LOCAL CONTROL : Supply and installation of 40A / 63A 4 Pole MCB Isolator in 'Sintex' make weather proof enclosure. Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint.** 2.00 Set
- 15 **AC IDU DB : Supply, Installation, testing and commissioning of Double door 4 way VERTICAL TPN MCB DB consisting of the following.**  
40A 4 pole MCB and separate 63A 4 Pole 100mA ELCB as Incomer - 1 No.  
6A SP MCB (C-Series) as outgoing – 10 Nos.  
Dummy Plates – 2 Nos.  
The incoming copper conductors should be connected directly to the DB Earth benches and the body should be earthed from DB earth bench or out side main earth bench if any.  
Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint. 2.00 Set
- 16 **PDB : Supply, Installation, testing and commissioning of Double door 4 way VERTICAL TPN MCB DB consisting of the following.**  
40A 4 pole MCB and separate 40A 4 Pole 100mA ELCB as Incomer - 1 No.  
10A SP MCB (C-Series) - 12 Nos.  
The incoming copper conductors should be connected directly to the DB Earth benches and the body should be earthed from DB earth bench or out side main earth bench if any.  
Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint. 2.00 Set
- 17 **LDB: Supply, Installation, testing and commissioning of Double door 6 way TPN MCB DB consisting of the following.**  
**(GF & FF)**  
32A 4 Pole MCB (C-Series) and separate 40A, 30mA 4P ELCB as Incomer - 1 No.  
6A 'C' Series SP MCB as out going - 18 Nos.  
The incoming copper conductors should be connected directly to the DB Earth benches and the body should be earthed from DB earth bench or out side main earth bench if any.  
Complete with all inter connections and neat marking/identification of DB Name, Cable Size and outgoing MCBs using good quality stickers /paint. 2.00 Set

- 18 **UPS O/P DISTRIBUTION DB) Supply, erection, testing and commissioning of wall mounted type double door dust and vermin proof 12 way SPN MCB DB fixed on wall comprising the following:**  
63A DP MCB as Incomer - 1 No.  
32A DP MCB- 3 Nos. (To computer DB-2 Nos & Spare)  
The DB Earth Bench and DB enclosure should be directly connected to the UPS Main Earth Bench using 4 Sq.mm PVC insulated copper wire with copper lugs, SS Nuts and bolts etc. Complete with all inter connections and neat marking/identification of DB Name, I/C Cable Size and outgoing MCBs using good quality stickers /paint. 1.00 Set
- 19 **COMPUTER DB: Supply, erection, testing and commissioning of wall mounted type double door dust and vermin proof 12 way SPN MCB DB fixed on wall comprising the following:**  
20A DP MCB as Incomer - 1 No.  
6A SP MCB – 10 Nos.  
The DB Earth Bench and DB enclosure should be directly connected to the UPS Main Earth Bench using 4 Sq.mm PVC insulated copper wire with copper lugs, SS Nuts and bolts etc. Complete with all inter connections and neat marking/identification of DB Name, I/C Cable Size and outgoing MCBs using good quality stickers /paint. 2.00 Set
- 25 Supply and installation of 16A combined Power plug & 10A SP MCB in suitable PVC/metallic box. for Kitchen Power plug. (corresponding MCB rating in PDB shall be 16A) 8 Nos.
- 26 Supply and Installation of Surface mount single load 360 degree PIR Occupancy Sensor having a detection range of 7 x 7 Metre. (Approved Make:Shneider/Hager/Legrand) 12 Nos.
- 28 **CABLE LAYING AND TERMINATIONS Supply, laying and dressing of the following size of 1.1 KV grade PVC insulated armoured cable with aluminium conductor concealed or clamped on wall / ceiling / trench / cable tray/lamps if necessary.**
- i) 3.5 x 120 Sq.mm AYFY 120 Mtr.
- ii) 3.5 x 70 Sq.mm AYFY 80 Mtr.
- iv) 4 x 16 Sq.mm AYFY 60 Mtr.
- v) 4 x10 Sq.mm AYFY 120 Mtr.
- vi) 3 x 6 Sq.mm Armoured Copper Cable (UPS Output to Computer DB) 60 Mtr.
- vii) 4 x 16 Sq.mm Armoured Copper Cable (From Non Essential SSB to VRF AC ODU thru VRF AC ON/OFF Control & ODU Local CONTROL) 120 Mtr.

- 29 End termination of the following size of cables using flange type cable glands and heavy duty tinned aluminium crimping type cable sockets including gland earthing.
- |                                      |   |      |
|--------------------------------------|---|------|
| i) 3.5 x 120 Sq.mm AYFY              | 2 | No.  |
| ii) 3.5 x 70 Sq.mm AYFY              | 4 | Nos. |
| vi) 4 x 16 Sq.mm AYFY / Copper Cable | 8 | Nos. |
| vii) 4 x 10 Sq.mm AYFY               | 8 | Nos. |
- 30 **GI PLATE EARTHING: Supply and providing GI Plate earthing as per IS 3043 with 600 x 600 x 6 mm GI plate with 25 mm dia B class G.I. pipe providing GI clamp at the top of the GI pipe test joint, filling around the GI Plate at the radius of 15cm with homogeneous mixture of charcoal, commol salt and river sand and the rest of the portion with excavated soil, providing brick work masonries, plastering, fixing cast iron/concrete cover of 30x30cm size etc. complete. (Use only SS Nuts, Bolts and washers along with copper sockets for giving connections).**
- |  |   |      |
|--|---|------|
|  | 6 | Nos. |
|--|---|------|
- 31 **EARTH CONDUCTORS Supply and laying of the following size of bare copper conductor along with above cables, for interconnections between panels, DBs, change over switches etc.and also for interconnections between earth pits.**
- |  |       |      |
|--|-------|------|
| i) 25 x 3mm Copper Strip (single run)  | 80.00 | Mtr. |
| ii) No.10 SWG (rate for single run) (From MSB/SSB to Sub DBs)  |       |      |
| Total 2 runs 10SWG Cu for single and Independant DB  |       |      |
| Total 3 Runs 10 SWG Cu for two DBs placed nearby. (One run each to each DB and third one for interlinking)     | 200   | Mtr. |
| Total 4 Runs 10 SWG Cu for three or more DBs placed nearby. (One Run each to each DB and one for interlinking. |       |      |
- 32 Supply and laying of 2 Runs No.8 SWG bare copper conductor through 25mm Dia rigid PVC conduit (UPS Earthing)
- |  |    |      |
|--|----|------|
|  | 60 | Mtr. |
|--|----|------|
- WIRING FOR LIGHT, FAN, PLUG, SOCKETS ETC**
- 33 **POINT WIRING Supply and wiring for light/fan/exhaust fan/calling bell/mirror lamp/bulk head light/wall fans etc.with 3 plate ceiling rose and by using 3 X 1.0 Sqmm FRLS PVC insulated copper conductor wire in 20mm dia 1.5mm thick rigid PVC conduit, controlled by 6 Amps modular type switch with provisions for modular type ceiling fan regulator on separately fabricated MS Box. The M. S. box should be earthed properly. One way point. (The switch boards shall be placed at user friendly locations for easy ON/OFF. Separate controls for EB/UPS lights for BM cabin and Cash Officer. All other counters including 1 row of customer area, 2 SBs + UPS SB on back side wall of counters. Separate SB near entrance & Visitors lounge).**

	The Raw Power & UPS Power Supply to Record Room / Compactor Room / Document room etc.shall be taken through 16A S/S (Raw Power) fixed outside the respective entrance and to be taken to SBs inside respective room using 6/16A plug Top with 3 core 2.5 Sq.mm flexible cable with braided flexible hose.	125	No.
34	Same as above but for secondary points (looped points).	30	Nos.
35	Same as item no.33 but for Two way control of light/fan points	2	Nos.
36	Supply and fixing of Modular type 6A, 2/3 pin plug points controlled 6A modular switch mounted on suitable box. (on common switch board)	25	No.
37	Same as above but for modular type 6A 2/3 pin plug points with 6A modular type switch in separate location. 3	10	No.
38	Same as above but for 2 Nos. modular type 6 A 2/3 pin plug points with 2 nos. 6A modular type switch in separate location.	2	No.
39	Same as above but for 2 Nos. modular type 6 A 2/3 pin plug points with 1 nos. 6A modular type switch in separate location.	1	Nos.
40	Supply and fixing of modular type 6/16A, 3 module plug socket with 16A modular type switch mounted on suitable Box.	10	No.
41	Same as above but for 2 Nos. modular type 6/16A, 3 module plug points with 2 nos. 16A modular type switch in separate location.3	6	Nos.
42	<b>RAW POWER STATION : Supply and installation of combined 6A, 3pin modular plug socket &amp; 16A combined 3 module modular plug socket in suitable single PVC box.</b>		
43	for raw power supply in counters, tables etc. 1 No. each in all tables including CM/AGM.	45	Nos.
44	Supply and providing 6/16 A plug top and 1.5m long 3 core 2.5Sqmm flexible copper cable for taking incoming supply from 6/16A socket. (For Raw Power & UPS power supply to Strong room (Cash), Record Rooms and Water Pump. The 3 core cable shall be laid through braided hose (green) with supporting clamps placed inside strong room/locker room/record room for safe keeping of connecting cable.	2	Nos.
45	CIRCUIT WIRING Supply and wiring wall / floor etc. / recessed / surface as per colour code with 3 runs of 1.1KV grade1.5 Sqmm FRLS PVC insulated flexible copper wire for phase neutral and earth conductor with standard colour coding, through ISI marked 20mm dia rigid PVC conduit with all accessories. The rate includes the cost of complete wiring from switch box to switch box. (For lighting circuit & sub circuit & VRF IDU Wiring)	650	Mtr.
46	Same as above but with 3 x 2.5 Sq.mm FRLS PVC Insulated copper wire. (UPS Circuit- Max 3 Computers per circuit, Raw Power Circuit- Max 3 tables per circuit, Name Board, Water	500	Mtr.

pump, etc.)

47	Same as above but with 3 x 4 Sq.mm FRLS PVC Insulated copper wire. (for 1Tonne AC and and for Name Boards if there are multiple Nameboards or extra ordinarily lengthy Name Boards)	250	Mtr.
48	Same as above but with 5 x 16 Sq.mm FRLS PVC Insulated copper wire. (from UPS Input control to UPS)	20	Mtr.
49	<b><u>UPS POWER STATIONS Supply, install, test and commissioning of computer power stations with 4 Nos. 6A modular type two module 2/3 pin sockets mounted on suitable PVC / M.S.Box. The boxes should be fixed on wall / partitions (wooden) consealed or open as required at site. (2 Sets per table / counter including BM and cash officer)</u></b>	50	No.
50	Supply, install, test and commissioning of 16A modular type master switch with indicator with suitable PVC box for the main control of UPS & Raw Power Station in the Tables.	80	No.
51	Supply and Marking of Panels, DBs, its switch and fuse ratings, cable size, location etc (Neat identification from top to extreme load end of both light and power distribution including Raw Power / UPS plug sockets and generator switch boards) using white / black paint and stencil. (free hand writing not allowed). Good quality stickers may also be used.	1	LS
52	Supply and Charges for fixing wooden/steel framed laminated copies of Electrical Inspectorate/Goa State Electricity Department/Bank's Engineer/Architect approved as fitted drawings inside the UPS room.( Copy of final as fitted drawing approved by Electrical Inspectorate. both schematic and layout drawings.)	1	LS
53	Charges for marking the telephone sockets and its correspondonding cable in the KRONE Box and preparation of single line diagram / layout of the whole telephone wiring showing location and numbering marked in the plan using AutoCAD, lamination and displaying it near the Telephone KRONE Box.	1	LS
54	<b>FLOOR RACEWAYS / CONDUITS / JUNCTION BOXES : Supply and installation of following raceways / conduits / Junction Boxes in flooring.</b>		
a.	80 x 40 mm Aluminium Raceways	80	Mtr.
b.	25mm Rigid Heavy Guage PVC Conduit	100	Mtr.
c.	200x200mm 14 SWG Junction Box with Stailless Steel Cover	16	Nos.
55	<b><u>LIGHT FIXTURES &amp; FANS</u></b>		
a.	Supply and Installation of Philips make recess mounting (gypsum board ceiling) 30 Watts LED FULL GLOW type square luminaire Cat. No.RC380B G5 LED 36S-6500 PSE OD WH Or OSRAM Luxpower (including fixing frame if	52	Nos.

any required)

b	Supply & installation of 1 X 13.5 Watts Philips Greenperform sleek DN 296B LED 15S-6500 PSU WH led Down Light fitting with lamps and white reflector on false ceiling or Osram Luxstar 13/14Watts.( including UPS Lights)	50	Nos.
c	Supply and Installation of 21 watts LED type weather proof Yard lighting Luminaire with suitable angle GI pipe support for wall mounting. Philips GreenLine Smart Hi power LED BRP 022	10	Nos.
d	Supply and Installation of 20 / 21W, 4 Feet LED Batten Light fitting with suitable mounting clips. Philips Slimline / Panasonic Harrow AL	10	Nos.
e	Supply and installation of 6W LED Bulkhead Philips Endura WT202W LED 6S	0	Nos.
f	Supply and providing IP 20 type, 4.8w / Metre LED Strip light ( Blue Colour) with the corresponding driver of 5/10A including cost of driver unit. Wipro Garnet make.	150	Mtr.
g	Supply & installation of Mains power operated electronic calling bell	2	No.
h	Supply and installation of Angle batten holder with 9W Cool Day Light LED bulb on suitable PVC box (for toilets/UPS Room UPS light point)	4	Nos.
i	Supply and installation of 9" size medium duty exhaust fan with metallic blade and body. (Toilets) Crompton / Almonard make. The cost shall be inclusive of cost of wall cutting, its re-plastering finishing and fabricated mettalic grill grouted to the outside wall.	4	Nos.
j	Supply and installation of 12" size Heavy duty exhaust fan with metallic body in the new UPS Room with required wall opening and its finishing thereof. The cost shall be inclusive of cost of wall cutting, its re-plastering finishing and fabricated mettalic grill grouted to the outside wall. (UPS Room & Pantry)	1	No.
k	Supply and installation of 1200mm Sweep BLDC ceiling fan (existing lengthy down rodes may be reused after ensuring its strength)	15	Nos.
l	Supply and installation of 400 or 600mm Wall Fans with metallic leaf , body and grill.	5	Nos.
m	Supply and Installation of step type 2 Module modular electronic regulator.	15	No.
n	Supply and providing fan rod with painting (upto 1m length) (other than that supplied with fan and if required)	2	Nos.
o	Supply and providing fan hook on ceiling.	2	No.
p	Supply and providing tinned copper earth bench using 25 x 3 mm copper strip (25 Cm in length)	4	Nos.
q	Supply and providing of Electrical Grade Rubber Mat (2m x 1m x 6mm) (for COS & UPS room)	2	Nos.



r	Supply and fixing of wooden/steel framed Shock Treatment chart with glass of Standard size. (UPS room & Near VDB)	2	Nos.
s	Supply and fixing of LT DANGER BOARD Sticker (Red back ground with white letters and size of Min. 15x10 Cms) (on All DBs & UPS Room Door)	10	Nos.

#### **PART - B**

##### **TELEPHONE**

1	Supply and wiring using 2 pair telephone cable 20mm PVC conduit from the EPABX to the individual points. One separate cable for each point. Number of cables in one conduit limited to 5.		
a.	2 pair telephone cabling (0.50 Sq.mm)	800	m
b.	10 pair Armoured telephone cabling (0.50 Sq.mm)	100	m
2	Supply and fixing of RJ 11 type modular telephone socket on suitable PVC / metal boxes.		
a.	Telephone socket - single (modular type)	45	No.
b.	Telephone socket - double (modular type)	2	No.
3	Supply and installation of KRONE connector telephone junction box of 10 pair. (Outside)	1	Nos.
4	Supply and installation of KRONE connector telephone junction box of 50 pair.(Inside)	1	Nos.

#### **PART - C**

##### **MUSIC SYSTEM**

	Supply and wiring as per colour code with 2.50Sqmm PVC insulated stranded copper wire 2 runs through ISI grade 20mm conduit for speakers.		
1		250	m
2	Supply and fixing 9W recessed type speakers on ceiling. Ahuja CS-663T	16	No.
3	Supply and installation of Ahuja make 50W Amplifier with USB port. Model: Ahuja DPA 770	1	No.

#### **GRAND TOTAL**