



बैंक ऑफ़ बड़ौदा Bank of Baroda



**BANK OF BARODA  
REGIONAL OFFICE, BHUBANESWAR**

**TENDER DOCUMENT  
FOR  
ELECTRICAL WORKS OF CHANDAKA BRANCH & A.T.M  
(ELCTRICAL ,DATA CABLING & A.C WORKS)**

NAME OF THE TENDERER: BANK OF BARODA

ADDRESS OF THE TENDERER: REGIONAL OFFICE, 1<sup>ST</sup> FLOOR, BIVAV  
GULMOHAR BEHERASAHU NAYAPLLI BHUBANESWAR ,751012

DATE OF SUBMISSION OF TENDER: 03/09/2024 UP TO 4:00 PM

DATE OF OPENING OF TENDER: 03/09/2024 AT 5:00 PM

PLACE OF SUBMISSION OF TENDER:

THE REGIONAL MANAGER  
BANK OF BARODA,  
REGIONAL OFFICE, 1<sup>ST</sup> FLOOR, BIVAV GULMOHAR BEHERASAHU  
NAYAPLLI  
BHUBANESWAR ,751012

**CONSULTANT**

**M/s. Techno Arch**

**Plot No - 71/7, Jadupur, Near Ranasinghpur mo bus stop, Bhubaneswar - 19**  
Ph.0674-2551479, Mobile. 9437189632.

## TENDER NOTICE

**Sealed Tenders are invited from the Electrical Contractors (Empanelled with Bhubaneswar Zone) having current IT clearance, GSTIN. & valid electrical contractor license. Having experience of similar nature works, and not involve any Civil Suits / Litigations aroused during execution of the contracts in the last 5 years for the following works:-**

- 1) Name of the work : Electrical, Data cabling & AC work of Branch at **CHANDAKA BRANCH & A.T.M**
- 2) Location of the work : **CHANDAKA**
- 3) Tender documents should be down loaded from bank website.
- 4) Time of completion : 25 Days
- 5) Earnest money : Rs. 4400.00
- 6) Cost of Tender documents : NIL
- 7) Defect liability period : 1 year after actual completion of work (i.e issue of completion certificate)
- 8) Initial Security Deposit : 2 % of executed value of work.
- 9) Retention Money : 8% of gross value of each Bill.
- 10) Liquidate damage : 1.0 % of the tender value per week  
Subject to Maximum 10% of the tender value.
- 11) Tenderers might be called upon before the final awarding of contract for any clarifications regarding the quoting of the tenders
- 12) The Earnest money shall be refunded to the unsuccessful tenderers within fifteen days without any interest.
- 13) The employer will not be bound to accept the lowest tender and reserves the right to reject any or all tenders without assigning any reason thereof.

For & on behalf of  
BANK OF BARODA  
REGIONAL OFFICE, BHUBANESWAR.

### **DOCUMENTS FURNISHED BY THE TENDERER.**

Tender should be summated in two bid system only.

Note: Composite tender will not be entertained.

#### **ENVELOPE MARKED NO.1.**

Envelope marked No.1 shall contain the following documents.

- 1) Forwarding letter without mentioning the cost of Tender value arrived at with quoted rates & tender paper technical volume.
- 2) Earnest money deposit furnished in the form of Crossed Demand Draft/ Banker's Cheque drawn in favor of BANK OF BARODA and payable at BHUBANESWAR for the amount indicated in the Notice of Invitation to Tender.
- 3) Latest Photocopies of up to date IT return certificate and GST No. ( Bank have the right to verify the documents with originals at the time of opening of tender )
- 4) Valid Electrical contractor license (HT / MV) having experience of similar nature for the works. In case of third party license, authorization from the license holder on the stamped paper duly Notarized must be submitted.  
  
(Bank has the right to verify the documents with originals at the time of opening of tender)
- 5) Work order / Completion certificate as per eligibility of similar works done during last seven years .The tender will be rejected if all the documents above said are absent.
- 6) Any comment which the tenderer desires to make in the form of a statement as brief as possible and with reference to the items.

#### **ENVELOPE MARKED NO.2**

- 7) Envelope marked No.2 shall contain the priced tender Volume of the tender paper.

#### **ENVELOPE MARKED NO.3**

- 8) Envelope marked No.1 & 2 shall be put in large envelope of adequate size marked No.3 which shall be properly sealed. This envelope which shall be endorsed on the outside face **"TENDER FOR ELECTRICAL & A.C WORK OF BANK OF BARODA CHANDAKA BRANCH & A.T.M"**

### **GENERAL INSTRUCTIONS TO TENDERERS**

- 1) The term **"Employers"** or **"Bank"** shall mean **"BANK OF BARODA"**, or its authorized representatives at The Regional Office, BHUBANESWAR.
- 2) The term **"Architect(s)"** shall mean "M/s M/s. Techno Arch. Who are the Architect Consultant to the Employer for this project & having office at Plot No - 71/7, Jadupur, Near Ranasinghpur mo bus stop, Bhubaneswar - 19 or its authorized representatives
- 3) The term **"Contractor"** shall mean the **successful tenderer** to whom the Contract shall be awarded.
- 4) The "Works" shall mean the Electrical, data cabling & AC works at **CHANDAKA** Branch & a.t.m.

- 5) The Contractor should quote the rates in figures and words. Any corrections or Over-writing should be initialed/signed by the Contractor.
- 6) The Contractor should submit the tenders with seal and signature on each Page.
- 7) Tender should be submitted in sealed covers with all requisite documents as desired with the top of the envelope superscribed as **“SEALED TENDER for Total Electrical, data cabling works for CHANDAKA Branch & a.t.m.**
- 8) The Contractors should submit the cost of the main items as per tender specifications. Further modification after awarding of the contract shall be not allowed unless there is specific instruction by the Bank/Architect to change specifications.
- 9) The contract is time-bound and the works are to be completed within the time limit specified in the notice inviting tenders.
- 10) Additional Performance Security shall be deposited by the successful bidder when the bid amount is seriously unbalanced i.e. less than the estimated cost by more than 15%. In such an event, the successful bidder will deposit the additional performance security to the extent of the differential cost of the bid amount & 85% of the estimated cost. **(Additional Performance Security = 85% of the Estimated Cost – Bid Amount)**
- 11) Additional Performance Security shall be deposited by the successful bidder when the bid amount is front loaded i.e. if the quoted value is 15% higher than the estimated rates, the bid shall be evaluated as unbalanced bid and additional performance security of 10% shall be retained on the amount of quoted value.
- 12) The additional performance security as per clause 10 & 11 shall be furnished by the bidder before execution of the work in shape of Demand Draft or Fixed Deposit Receipt at any Nationalised bank pledged in favour of **Bank of Baroda, BHUBANESWAR** which will be over and above the security deposit and EMD.. **The additional Performance Security must be pledged within 5 days of opening of the tender or else the tender will be cancelled and the EMD of the contractor will be forfeited.**
- 13) The Contractor shall be penalized if the work is not completed within the scheduled time, the Bank will be entitled to charge liquidated damages @ 1% of the accepted contract sum per week, subject to a maximum of 10% of the accepted contract sum.
- 14) The decision of Employer and the Architect is final and binding.

#### **TERMS & CONDITION**

- 1) Unless otherwise mentioned, all works are with no allowance for Lapse waste. Unless otherwise described or measured separately, price for all the items shall include all necessary straight & curved edges.
- 2) Any damage to the work before the site is handed over, is to be replaced or made good at the expense of the contractor to the entire satisfaction of the Architect/Bank.
- 3) Income Tax as applicable shall be deducted at source as per the Income Tax Act/Rules.
- 4) The quantities indicated are subject to change. The payment of the bill shall be made as per the actual measurement as certified by the architect but not exceeding the total value quoted in the tender form.
- 5) The Architect or any officer of the Employers will be free to inspect the work at the site during the period of execution. Any suggestion of change or modification to improve the quality of work will be carried out subject to prior approval of the competent authority of the employers and that of the Architect.

6) In case of failure to take up the work even after accepting the work order, or leaving the work incomplete, or for defective work not rectified, or violation of the terms and conditions, the earnest money deposit will be forfeited.

7) For any item of work not covered or any unforeseen items of work, payment will be made according to the rates approved for similar nature of work, the costing done by the Architect, as per current PWD schedule of rates, or as per analysis of material cost, labour rate and profit to the Contractor at 10%. The Contractor must obtain prior approval in writing before undertaking such additional works.

8) The tenderers shall sign each & every page of the tender documents including the drawings attached here to.

9) The amount is to be quoted in figures as well as in words. In case the rates quoted in words and in figures are in variance, the amount written in words shall be taken as final.

10) The Contractor shall make their own arrangement at their own cost for storing materials, plants, tools etc. The employers will not be liable for security of the Contractor's materials.

11) No tools or plants will be issued by the bank.

12) The Employer / Architect reserves the right to accept or reject any tender without assigning any reason whatsoever and the said decision shall be final and binding upon the tenderer.

13) In case of breach of contract by the Contractor for slow progress of works or any other claim of damage, the Employer or the Architect may have the power to rescind the contract without furnishing further reasons thereof.

14) The Architect/ Employer shall have the power to ask the contractor to furnish the sample/ color / test certificate from any Govt. /Authorized agent for any materials used/ to be used in the Works, the expenditure of which is to be borne by the Contractor.

15) The Employer shall be not be liable for any damages or compensation payable as a consequence of any accident or injury to any workman or other persons in the employment of the Contractor or any sub-contractor.

16) On completion of the Works, all rubbish, debris, materials, tools, Laborers, etc. to be removed by the contractor from the site and the contractor will hand over the site clean & clear & in usable condition within 3 days of completion of the works. Failing this, the employer may dispose the materials at the cost of the contractor.

17) In case of any dispute, the matter will be referred to the **Regional Manager, Bank of Baroda Regional Office, BHUBANESWAR.**

18) The Contractor shall not submit any work bill until he completes the Project completely, as certified by the Architect Consultant.

19) The rates quoted in the tender shall exclude GST but include other taxes, no escalation of rates will be allowed under any circumstances.

### **SPECIAL TERMS AND CONDITIONS**

1. Completion Period : 25 Days
2. Date of Commencement : 2 days from the date of issue of the work order or the date on which the contractor is instructed to take possession of the site, or the date of your acceptance of the work- order, whichever is later?
3. Defect Liability Period : One year after actual completion of work.
4. Initial security deposit (ISD) : 2 % of accepted value ( Including EMD).
5. Limit of variation : 100% without any change in price if work is done within six months of the contract and with prior consent of Architect / Consultant.
6. Additional items : For items where unit rates are not available, contractor shall provide proper cost break-up and proceed only after approval/consent. Any sample to be made for approval shall be at the Contractor's cost.
7. Validity of tender : Three month after the opening of the tender.
8. Rules/ Regulations : The contractor shall have there responsibility of complying with the local shops/establishments Act and other labor/ minimum wages Act and shall keep all such records/ accounts on payment of wages / attendance as deemed necessary. 9. Arbitration As per the standard arbitration clause Under the jurisdiction of Odisha.
10. Organization : The contractor shall employ competent / qualified supervisor /Engineer-in-charge who shall be responsible for the day to day work and coordinate as necessary with the Architect's supervisor. Any workman found guilty of misconduct/theft shall removed from the site.
11. Damage to property : Any damage to the Bank's property during the work period will be recovered from the contractor.
12. Deduction : Income tax at source as per Act.
13. Terms of payment : 100% Payment after completion of Project.
14. Billing Procedure : All measurements shall be recorded in Duplicate on standard measurement sheets Prepared jointly by the Architect's Site Engineer & The Contractor's Representatives duly signed by them. All Bills shall be submitted along with this Checked measurement sheets.



15. Time schedule of work

The Contractor must submit before the Commencement of work, a Bar chart showing the date of commencement & the date of completion of each item of Work as mentioned in the Schedule of Quantities.

16) Release of TSD

: 100% after the Defect liability period. Retention money will not bear any interest.

17. General

The rates should be quoted considering necessary Scaffolding & staging work, Removal of debris as & when necessary, In view of restriction of Local concern Authority.

#### **LIST OF MATERIALS ( ELECTRICAL & DATA WORK )**

- |     |   |                                     |
|-----|---|-------------------------------------|
| 01. | 11 KV (UE) 3 Core, ZLPE :<br>armoured cable (ISI marked).   | CCI/INCAB/RETCO.                    |
| 02. | 11 KV cable termination.  | : INCAB/ CCI/M-SEAL.                |
| 03. | 100/500 KVA, 11/0.433 KV :<br>DYN-II, 0NAN Type cooling.  | OEU/KT PVT. LTD./KEO/ALPHA.         |
| 04. | LT switch board panel.  | : L&T / MDS / HAVELLS               |
| 05. | Switch fuse/fuse switch :<br>units.   | L&T / HAVELLS/ LEGRAND.             |
| 06. | Protective Relays.  | : English Electric/GEC/Seimens/L&T. |
| 07. | TV meter with MDI.  | : GEC / AE/ LEGRAND.                |
| 08. | Voltmeter and Ammeter.  | : A.E / Equivalent or MDS.          |
| 09. | Voltmeter and Ammeter :<br>Selector switch.   | Kaycee / MDS / L&T.                 |
| 10. | HRC Fuse.   | : Havell / L&T / LEGRAND.           |
| 11. | HRC fuse base and carries.  | : Havell / L&T/ LEGRAND.            |
| 12. | 1.1KV grade PVC insulated :<br>& sheathed/ insulated<br>aluminium wire and flexible<br>cord (ISI marked). | INCAB / NICCO / RR.CABLE/RETCO.     |
| 13. | 1.1 KV grade PVC insulat :<br>ed armoured aluminium cable<br>(ISI marked).                                | CCI/INCAB / RETCO./ RR KABLE        |
| 14. | 1.1KV grade PVC insulated :<br>Copper wire and flexible cords.  | Finolex /Havell's./ RR KABLE        |
| 15. | RCCB/ELCB/MCCB.   | : L&T / LEGRAND/ HAVELL'S           |

16. Switch fuses with rewirable fuses. : L&T/ LEGRAND/ HAVELL'S
17. Isolator. : L&T / LEGRAND/ HAVELL'S
18. Changeover Switch. : L & T / LEGRAND/ HAVELL'S
19. MCB Distribution Board. : MDS / L&T/LEGRAND/HAVELL'S
20. MCB/MCB type Isolator. : MDS / L&T/ LEGRAND/HAVELL'S
21. 30/32A DP molded Isolating Switch. : HAVELL'S / LEGRAND/ L & T.
22. 15/5 Amp switch & plug Socket. : CRABERTEE / LEGRAND/ GREAT WHITE
23. 15/5Amp modular switch And socket. : CRABERTEE / LEGRAND/ GREAT WHITE
24. 15/5 Amp piano key type Switch/flushed type plug Socket. : CRABERTEE / LEGRAND/ GREAT WHITE
25. Ceiling Rose. : ANCHOR / CONA / GREAT WHITE.
26. Buzzer/Call Bell. : CONA / L.K FUGA
27. Data wire : DLINK / AMPS / RR KABLE
28. I.O box : DLINK / AMPS / LEGRAND
29. Electrical fitting fixtures : SYSKA, CROMPTON, WIPRO (LIGHT),  
CROMPTON / BAJAJ/ORIENT (FAN)
30. AC : CARRIER, HITACHI, BLUE STAR

बैंक ऑफ बड़ोदा  
Bank of Baroda



**B.O.Q OF ELECTRICAL WORK FOR BANK OF BARODA BRANCH AT CHANDAKA BRANCH.**

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
	<b>1. ELECTRICAL WIRING WORK</b>				
	<b>1.1 LIGHT &amp; POINT WIRING WORK</b>				
1.0	Concealed / resessed / surface point etc. wiring using 1100V FR grade 3R (P+N+E) x 1.5 Sq.mm FR multi stranded copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through rigid FR PVC conduits of 20mm Dia 1.5 mm thick laid concealed over false ceiling or in wall chases or on the ceiling in case of an open ceiling, with modular type switch plate, switches, GI concealed back box, etc. of legrand mylinc or equivalent make. S.I.T.C.( Supply Installation Testing And Commissioning) as directed by the Engineer-in-charge. (Each circuit shall not feed more than 8 points OR 800 watts as per following configuration.)				
	NOTE:- 1. Only FR wire shall be used; 2. The wires from ceiling junction to light points / light fixture shall be drawn in flexible PVC conduit with adaptor & cover for junction box & crimp type lugs at both the ends alongwith necessary hardware & accessories, etc. as required; 4. Looping of Neutral / Earth wire between two separate Primary / Full Points is strictly not allowed; 5. Looping of Neutral / Earth wire between two separate circuits on similar or other phase is strictly not allowed; 6. Ferruling / numbering / tagging to wires with circuit number & db name for all lighting & raw / ups power shall be strictly followed at both DB & switch board / switch socket boards ends.				
1.1	Primary light/Call bell points including the cost of clip in type 6A Modular switch of legrand mylinc or equivalent make. S.I.T.C. as directed by the Engineer-in-charge.( 1 light controlled by one switch)	Nos.	22.00		
1.2	Secondary point same as item No. 1.1 ( 2 light/fan controlled by one switch)	Nos	15.00		
1.3	Primary Fan points including the cost of clip in type 6A Modular switch of legrand mylinc or equivalent make. S.I.T.C. as directed by the Engineer-in-charge.( 1 fan controlled by one switch)	Nos.	5.00		
1.4	Independent point using one 6 Amp Modular Switch and one 6 Amp, 2/3 pin Modular socket mounted on a suitable size Box for wall fans.	Nos	9.00		
1.5	6 Amp 2/3 pin Modular socket with 6A Modular switch. ( on common switch Board.)	Nos.	4.00		
	<b>1.2 POWER POINT WIRING WORK</b>				
1.0	Concealed power point using 16 Amp 3 Pin plug socket with 16 Amp Modular switch of legrand mylinc or equivalent make mounted on separate board using suitable size galvanized iron junction & switch boxes & clip in type modular type switch plate,etc. Supply taken from R.D.B./ Nearest L.D.B wiring using 1100V FR grade 2R (P+N) x 2.5 Sq.mm +1R (E) x 1.5 Sq.mm FR multi stranded copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through rigid FR PVC conduits of 20mm Dia 1.5 mm thick . The point should not taken from any switch Board. S.I.T.C. as directed by the Engineer-in-charge.	Nos	3.00		

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
2.0	Concealed raw power point using 6 Amp, 2/3 Pin Modular plug socket with 6 Amp Modular switch of legrand mylinec or equivalent make on separate board using galvanized iron junction & switch boxes & clip in type modular type switch plate, switches, GI/PVC concealed back box, etc. Supply taken from Nearest L.D.B.wiring using 1100V FR grade 2R (P+N) x 2.5 Sq.mm +1R (E) x 1.5 Sq.mm FR multi stranded copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through rigid FR PVC conduits of 20mm Dia 1.5 mm thick. Maximun 3 Points per Circuit for counter & Table	Nos	8.00		
3.0	Supply and installation of Concelaed 20A/25A, industrial socket with inbult MCB mounted in a prefabricated powder coated metal enclosure (legrand make or equivalent make ) concealed and complete to the satisfaction of Bank for inverter input .S.I.T.C. as directed by the Engineer-in-charge ( for inverter )	Nos	1.00		
<b>1.3 GLOW SIGN BOARD WIRING WORK</b>					
1.0	Supply,installation and testing of timer with contactor ( L&T / Legrand ) make controlling the glowsign board with 16 Amp Modular switch of legrand mylinec or equivalent make mounted on separate board using suitable size galvanized iron junction & switch boxes & clip in type modular type switch plate,etc all accessories complete enclosed in Powder coated metal box as required,Supply taken from Nearest L.D.B.wiring using 1100V FR grade 2R (P+N) x 2.5 Sq.mm +1R (E) x 1.5 Sq.mm FR multi stranded copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through rigid FR PVC conduits of 20mm Dia 1.5 mm thick as per direction of Engineer in charge. The system will be apart of the panel board.	Nos.	1.00		
<b>1.4 COMPUTER WIRING WORK</b>					
1.0	Supplrt and fixing of concealed UPS power points using 1 nos. of 16 Amp, Modular switches to be provided on table top + 4 nos. 6 Amp 3 Pin Modular socket below table top of legrand mylinec or equivalent make taken from Nearest C.D.B with suitable size galvanized iron/PVC junction & switch boxes & clip in type modular type switch plate, GI/PVC concealed back box, etc. Maximun 3 Points per Circuit for counter & Table. S.I.T.C. as directed by the Engineer-in-charge.	SET	7.00		
2.0	Concealed power point using 16 Amp 3 Pin plug socket with 16 Amp Modular switch of legrand mylinec or equivalent make mounted on separate board using suitable size galvanized iron junction & switch boxes & clip in type modular type switch plate,etc. Supply taken from R.D.B./ Nearest L.D.B. The point should not taken from any switch Board. S.I.T.C. as directed by the Engineer-in-charge.	Nos	1.00		

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
3.0	Suppl't and fixing of concealed UPS power points using clip in modular type 5 No. of 6/16 amp socket points controlled by 2 No of 16 amp modular switch with indicator of legrand myline or equivalent make taken from Nearest C.D.B with galvanized iron junction & switch boxes & clip in type modular type switch plate, switches, GI concealed black box, etc. . The point should not from any switch Board S.I.T.C. as directed by the Engineer-in-charge.	SET	1.00		
	<b>1.5 A.C. WIRING WORK</b>				
1.0	Supply & Installation of all required materials and wiring to Split AC point 25 Amp 3 Pin Modulat socket mouted on suitable size concealed GI Box near to the AC controlled by 25 Amp DP isolator Enclosed in Powder coated DP Encloser of Legrand Ekinox3 model or Equivalent make taken from Nearest A.C..D.B/ M.L.D.B. with galvanized iron junction & switch boxes & clip in type modular type switch plate, switches, GI concealed back box, etc. of legrand myline or equivalent make.The point should not taken from any switch Board S.I.T.C. as directed by the Engineer-in-charge.	Nos.	4.00		
	<b>1.6 CABLE, MAINS &amp; SUBMAINS.</b>				
1.0	Supply of all required materials and wiring to circuits/ submains with following number and sizes of PVC insulated 1100 volt grade multi standard FR copper wire run inside rigid FR PVC conduits of 20mm Dia 1.5 mm thick of ISI mark as required and copper wire as earth continuity conductor and complete in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge.				
1.1	Recessed wiring with ( 2Rx2.5sqmm +1Rx1.5sqmm) copper wire ( LDB/RDB to Common Switch board and power Points / UPS points etc )	Mts	190.00		
1.2	Recessed wiring with ( 2Rx4.0sqmm +1Rx2.5sqmm) copper wire ( UPS output to CDB / AC points )	Mts	120.00		
1.3	Recessed wiring with ( 2Rx6.0 sqmm +1Rx4.0 sqmm ) copper wire ( PANEL to L.D.B/ INVERTER./UPS INPUT)	Mts	80.00		
1.4	Recessed wiring with ( 1Rx2.5sqmm ) copper wire for inverter wairing .	Mts	35.00		
2.0	S & I of 1100V grade <b>copper</b> armoured cable having sector / circular shaped aluminium 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 or ceiling using GI clamps and spacers as per route shown at site and further as directed by Bank / Architect in the following sizes.				

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
2.1	Surface wiring with (10 sqmm) 4C core unarmored copper cable . (From main Panel to master AC DB Contoller )	Mts	10.00		
2.2	Surface wiring with (16 sqmm) 4C core unarmored copper cable . (From main Panel to master AC DB Contoller )	Mts	10.00		
	<b>2. DISTRIBUTION BOARDS.</b>				
1.0	<b>Main Panel Board</b>	Set	1.00		
	Supply, delivery, installation , testing , commissioning , of L&T indoor wall ,floor , mounted , type distribution boards made out of 2 mm thk. CR sheet metal duely acid treated premised & painted with 2 coats of enamel paint compartment arrangement for each equipment & bus bar chamber on the top of the panel running horizontal through out its length duly lamp , vermin proof having provision cable by conduit entry , earthling stud as per specification mentioned below duly factory wired confirming to the relevant ISS & as per special condition of contract , making good the damages M.S. Cubical type Panel board should have hinged door at the front. The panel shall be provided with all accessories & following arrangements complete in all respect & direction of EIC (before fabrication of panel board drawing is to be approved by Engineer-in-charge).				
	Incoming-				
	Incoming-				
	<b>1No 125A- 25KA - 4POLE -MCCB.</b>				
	1 set of 100A TPN copper bus bar				
	63A, 4-POLE Change over				
	1 set of 63 A TPN copper bus bar				
	Out going-				
	1 Nos 40A, 4P MCB, for U.P.S.				
	1 Nos 40A, 4P MCB, Spare				
	1 Nos100A, 4P MCB, forA.C				
	1 Nos 32A, 4P MCB, Spair				
	1 Nos 32 A DP MCB for L.D.B.				
	1 Nos 25 A DP MCB for Glow sign board & Outer Lighting				
	1 Nos 25 A DP MCB Spare				
	1 Nos 32 A DP MCB Spare				
	1No. VAF Digital meter with (100/5A)CT.				
	6 Nos Phase indicator lamps				
2.0	Supplying & Fixing 100 Amp, 415 V Wireable IC Cutout - 3nos in MS enclouser withj lock & key arrangements.	Set	1.00		
3.0	Supply and installation of SPN, Double Door, Metal type Distribution Board. (hager IP43, legrand make Ekinox3 model or equivalent make as approved by Engineer-in-charge ), surface / flush mounted on wall, interconnected wiring complete with earthing lugs, including DB wiring, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears :				
3.1	<b>L.D.B (Light Distribution Board)</b>	Set	1.00		
	12 way SPN DB				
	Incoming :- 1 No. 32A DP MCB				
	Outgoing :- 10 No. 6-10 A SP MCB				
	All MCB must be 'C' Series				

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
3.2	<b>C.D.B (Computer Distribution Board)</b>	<b>SET</b>	<b>1.00</b>		
	12 way SPN DB				
	Incoming :- 1 No. 32A DP-10 kA - MCB				
	Outgoing :- 10 No. 6-10 A SP-10 kA - MCB				
	All MCB must be class C Type				
3.3	<b>U.P.S Incoming DB</b>	<b>SET</b>	<b>1.00</b>		
	4 way SPN DB				
	40 Amp DP-10 kA - MCB – 2 nos (1main & 1 spare).				
	All MCB must be class C Type				
3.4	<b>U.P.S Outgoing DB</b>	<b>SET</b>	<b>1.00</b>		
	4 way SPN DB				
	Incoming :- 40 Amp DP-10 kA - MCB – 1 No				
	Out going :- 2 No. 25 A SP-10 kA - MCB				
	All MCB must be class C Type				
3.5	<b>U.P.S Changeover DB</b>	<b>SET</b>	<b>1.00</b>		
	4 way SPN DB				
	40 Amp DP Changeover MCB type 2 nos.				
3.6	<b>AC.D.B (AC Distribution Board)</b>	<b>SET</b>	<b>1.00</b>		
	4 way TPN DB				
	Incoming :- 1 No. 63A TPN-10 kA - MCB				
	Out going :- 5 No.25 A SP -10 kA -MCB				
	All MCB must be class C Type				
4.0	Supply and installation of Single isolation switch for entire branch combination of SPN, Single Door, Metal type Distribution Board. (hager IP43, legrand make Ekinox3 model or equivalent make as approved by Engineer-in-charge ), surface / flush mounted on wall, interconnected wiring complete with earthing lugs, including DB wiring, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears :				
4.1	8 way SPN DB	<b>SET</b>	<b>1.00</b>		
	1 No. 100 A -415V-4P isolator. ( for A.C )				
4.2	8 way SPN DB	<b>SET</b>	<b>1.00</b>		
	2 No. 63 A -415V-4P isolator ( for Light /Inverter )				
	<b>3. FITTINGS OF FIXTURES</b>				
	(NOTE : ANY OF FIXTURES AND FITINGS SHALL BE RE-CONFIRMED WITH THE ARCHITECTS / CONSULTANTS BEFORE ORDERING THEM.				
	Supply , Installation, testing and commissioning of lighting fixtures with lamps and LED driver as per the details below including necessary hardware such as clamps, nuts, bolts, nails, screws and suspension rods as required for fixing the fixtures in position as directed by architect / consultant / client including supply and fixing flexible wires from holder to fixtures hardwares etc. Note :- All Light Fixtures, Fans, Exhaust Fans & other fittings samples shall be approved by the Client / Architect / Consultant before placing order to the Light Fixture Vendor / Supplier makes are specified. Client / Architect / Consultant reserves right to approve / select final Light Fitxtures from any make as required.				

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
1.0	Supply,installation and testing of recess LED lights fittings ( 31 - 34 W) of squire type ( 2'-0"x2'-0") with all accessories complete of Crompton LCTLRN-36-FO-CDL Equivalent Make as required as per direction of Engineer in charge.	Nos.	14.00		
2.0	Supply,installation and testing of recess LED lights fittings (12W) of spot type with all accessories complete of Crompton LSCRM-6W-CDL/NW/WW Equivalent Make as required as per direction of Engineer in charge.	Nos.	18.00		
3.0	Supply,installation and testing of recess LED lights fittings ( 2-3 Wt) of spot adjustable type with all accessories complete of Philips / Crompton/ Wipro as required as per direction of Engineer in charge.	Nos.	4.00		
4.0	Supply,installation and testing of recess LED lights fittings ( 18Wt) of squire type with all accessories complete of Philips / Crompton/ Wipro as required as per direction of Engineer in charge.	Nos.	2.00		
5.0	Providing and fitting of 450 mm sweep High Flo Wall fan of Orient/ Crompton Equivalent Make as required as per direction of Engineer in charge.	Nos.	9.00		
6.0	Providing and fitting of 225 mm sweep heavy duty Exhaust fan of Orient/ Crompton Equivalent Make as required as per direction of Engineer in charge.	Nos.	2.00		
7.0	Providing and fitting of 1200 mm sweep ceiling fan of Orient/ Crompton High Speed Equivalent Make as required as per direction of Engineer in charge.	Nos.	2.00		
8.0	Providing and fitting of Modular type step fan regulator of approved make .	Nos.	2.00		
9.0	Supply & fixing of fan-hook,by cutting roof slab and welding 10 mm dia.Fan hook with main re-Inforcemerit of roof slab complete in all respect.	Nos.	2.00		
10.0	Supplying , fixing of 1x 20W LED Batten lights fittings with aall accessories complete of Philips BN021C LED20S PSU CDL/NW GR Equivalent Make as required as per direction of Engineer in charge.	Nos.	8.00		
11.0	Supply,installation and testing of LED Bulb fittings (1x9wt) with angle holder of Philips/ Crompton/ Syska or equivelent as required as per direction of Engineer in charge.	Nos	4.00		
12.0	Providing and fitting of call bell Remote Controlled with Battery of approved make .	Nos.	1.00		
13.0	Supply,installation and testing of recess LED 5M length strip lights fittings with all accessories complete of Philips / Crompton/ Wipro as required as per direction of Engineer in charge.	Nos.	10.00		
	<b>4. EARTHING</b>				
1.0	Providing and fixing Earthing with G.I. earth plate 600 mm X 600 mm X 6.36 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with alternative layer of 150mm thick charcoal/ coke and salt as required. For SPD/ Panel.	Nos.	2.00		



SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
2.0	Supplying and fixing of Earthing with copper earth plate of size 600 mm X 600 mm X 3.18 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with alternative layer of 150mm thick charcoal/ coke and salt as required.	SET	1.00		
3.0	Supplying and laying 25 mm X 5 mm G.I strip at 0.50 metre below ground as strip earth electrode, including connection/terminating with G.I. nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of G.I. nut bolt & spring washer spaced at 50mm)	Mts	20.00		
4.0	Supplying and laying 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Mts	25.00		
	<b>5. COMPUTER NETWORKING</b>				
1.0	Supply and laying of Cat6 4-pair 23AWG LSZH UTP Cable for data and voice in existing conduits/trunking. <b>Make: Legrand/ Schneider/ Digisol</b>	Mtr.	180.00		
2.0	Supply , installation and testing of RJ-45 Jack of Category 6 with single-port British-style Modular Face Plate. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	8.00		
3.0	Supply , installation and testing of Cat 6 24-port loaded Patch Panel. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	1.00		
4.0	Supply and Fixing of Cat6 Factory crimped moulded 1mtr patch cord. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	8.00		
5.0	Supply and Fixing of Cat6 Factory crimped moulded 2mtr patch cord. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	8.00		
6.0	Supply , installation and testing of 24port 10/100/1000Mbps L2 Unmanaged Switch with Four SFP Ports. <b>Make: Cisco/ HP/ Digisol</b>	Nos.	1.00		
7.0	Supply & fixing 9 U wall mounted modem rack with power distribution box, cable manager, cantilever shelf, fan & mounting kit etc all complete. ( Make Valrack, Comrack, HCL )	Set	1.00		
	<b>6. TELEPHONE SYSTEM</b>				
1.0	Supply of all required materials & laying 2 pairs 0.51 cross section telephone wires of ITI approved laid through rigid FR PVC conduits of 20mm Dia 1.5 mm thick of ISI mark duly buried under floor with necessary chasing / breaking in floor and to be refinished with all necessary civil material etc. or to be cleated on wall / ceiling with saddles / spacer etc. necessary termination etc. complete as in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge.	Mtrs.	30.00		
2.0	Supply , fixing , testing of RJ45 Modular Telephone socket point with suitable GI boxes complete in all respect as per direction of EIC .	Nos.	2.00		
	<b>TOTAL</b>				



SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
<b>B.O.Q OF ELECTRICAL WORK FOR BANK OF BARODA A.TM AT CHANDAKA.</b>					
SL.N	DESCRIPTION OF ITEMS	UNIT	QUANTI	RATE	AMOUNT
	<b>1 ELECTRICAL WIRING WORK</b>				
1.0	Concealed / resessed / surface light point / fan point / call bell point etc. wiring using 1100V <b>FRLS grade 3R</b> (P+N+E) x 1.5 Sq.mm FRLS multi stranded copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through rigid <b>FR/FRLS</b> PVC conduits of 20mm Dia 1.5 mm thick laid concealed over false ceiling or in wall chases or on the ceiling in case of an open ceiling, with modular type switch plate, switches, GI concealed back box, etc. of legrand mylinc or equivalent make. S.I.T.C.( Supply Installation Testing And Commissioning) as directed by the Engineer-in-charge. (Each circuit shall not feed more than 8 points OR 800 watts as per following configuration.)				
	NOTE:- 1. Only FRLS wire shall be used; 2. The wires from ceiling junction to light points / light fixture shall be drawn in flexible PVC conduit with adptor & cover for junction box & crimp type lugs at both the ends alongwith necessary hardware & accessories, etc. as required; 4. Looping of Neutral / Earth wire between two seperate Primary / Full Points is strictly not allowed; 5. Looping of Neutral / Earth wire between two seperate circuits on similar or other phase is strictly not allowed; 6. Ferulling / numbering / taggning to wires with circuit number & db name for all lighting & raw / ups power shall be strictly followed at both DB & switch board / switch socket boards ends.				
1.1	Primary light points including the cost of clip in type 6A Modular switch of legrand mylinc or equivalent make. S.I.T.C. as directed by the Engineer-in-charge.( 1 light/fan controlled by one switch)	<b>Nos.</b>	<b>2.00</b>		
1.2	Secondary point same as item No. 1.1 ( 2 light/fan controlled by one switch)	<b>Nos</b>	<b>2.00</b>		
2.0	Supply,installation and testing of timer with contactor ( L&T / Legrand ) make controlling the glowsign board with all accessories complete enclosed in Powder coated metal box as required as per direction of Engineer in charge. The system will be apart of the panel board.	<b>Nos.</b>	<b>1.00</b>		
	<b>2 COMPUTER WIRING WORK</b>				
1.0	Concealed power point using 16 Amp 3 Pin plug socket with 16 Amp Modular switch of legrand mylinc or equivalent make mounted on separate board using suitable size galvanized iron junction & switch boxes & clip in type modular type switch plate,etc. Supply taken from R.D.B./ Nearest L.D.B. The point should not taken from any switch Board. S.I.T.C. as directed by the Engineer-in-charge.	<b>Nos</b>	<b>2.00</b>		

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
	<b>3 A.C. WIRING WORK</b>				
1.0	Supply of all required materials and wiring to 2 nos of Split AC point in System Room with 2 nos 16 Amp Modular socket of legrand myline or equivalent make mounted on suitable size GI concealed Box controlled by 25 Amp Digital timer operated Alternately ( Alternate at every 4 hour) supplied by a 25 Amp RCBO Sensitivity 30mA Enclosed in 8 way SPN DB of Legrand or Equivalent make taken from Nearest M.L.D.B. with galvanized iron junction & switch boxes & clip in type modular type switch plate, switches, GI concealed back box, etc. .The point should not taken from any switch Board. S.I.T.C. as directed by the Engineer-in-charge.	Nos.	1.00		
2.0	Supply and Installation of all required materials and wiring to circuits/ submains with following number and sizes of PVC insulated 1100 volt grade standard <b>FRLS</b> copper wire run through rigid <b>FR/FRLS</b> PVC conduits of 20mm/32mm Dia 1.5 mm thick ISI mark as required and copper wire as earth continuity conductor and complete in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge.				
2.1	Concealed wiring with 2 X 4sq. mm + 1 X 2.5sqmm copper wire ( From Main Panel Board to Split A.C. points. )	Mts	20.00		
	<b>3.1.PANEL BOARD &amp; DISTRIBUTION BOARDS.</b>				
1.0	Supply and installation of SPN, Double Door, Metal type, (hager IP43, legrand make Ekinox3 model or equivalent make as approved by SBIIMS), surface / flush mounted on wall, interconnected wiring complete with earthing lugs, including DB wiring, termination of circuits with ping type copper lugs, blank plates, etc. housing following switchgears :				
1.2	C.D.B (Computer Distribution Board)	SET	1.00		
	4 way SPN DB				
	Incoming :- 1 No. 32A DP-10 kA - MCB				
	Out going :-2 No. 6-10 A SP -10 kA -MCB				
	All MCB must be class C Type				
	<b>4. FITTINGS OF FIXTURES</b>				
1.0	Supply,installation and testing of recess LED lights fittings ( 18Wt) of square type with all accessories complete of Philips / Crompton/ Wipro as required as per direction of Engineer in charge.	Nos.	2.00		
2.0	Supply,installation and testing of recess LED lights fittings ( 12Wt) of sport type with all accessories complete of Philips / Crompton/ Wipro as required as per direction of Engineer in charge.	Nos.	3.00		
	<b>5.CABLE, MAINS &amp; SUBMAINS.</b>				
1.0	Supply of all required materials and wiring to circuits/ submains with following number and sizes of PVC insulated 1100 volt grade multi standard FR copper wire run inside rigid FR PVC conduits of 20mm Dia 1.5 mm thick of ISI mark as required and copper wire as earth continuity conductor and complete in all respect including making good to all damages caused and as per the direction of Consultant and Engineer-in-charge.				

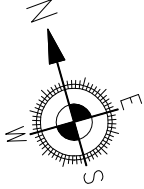
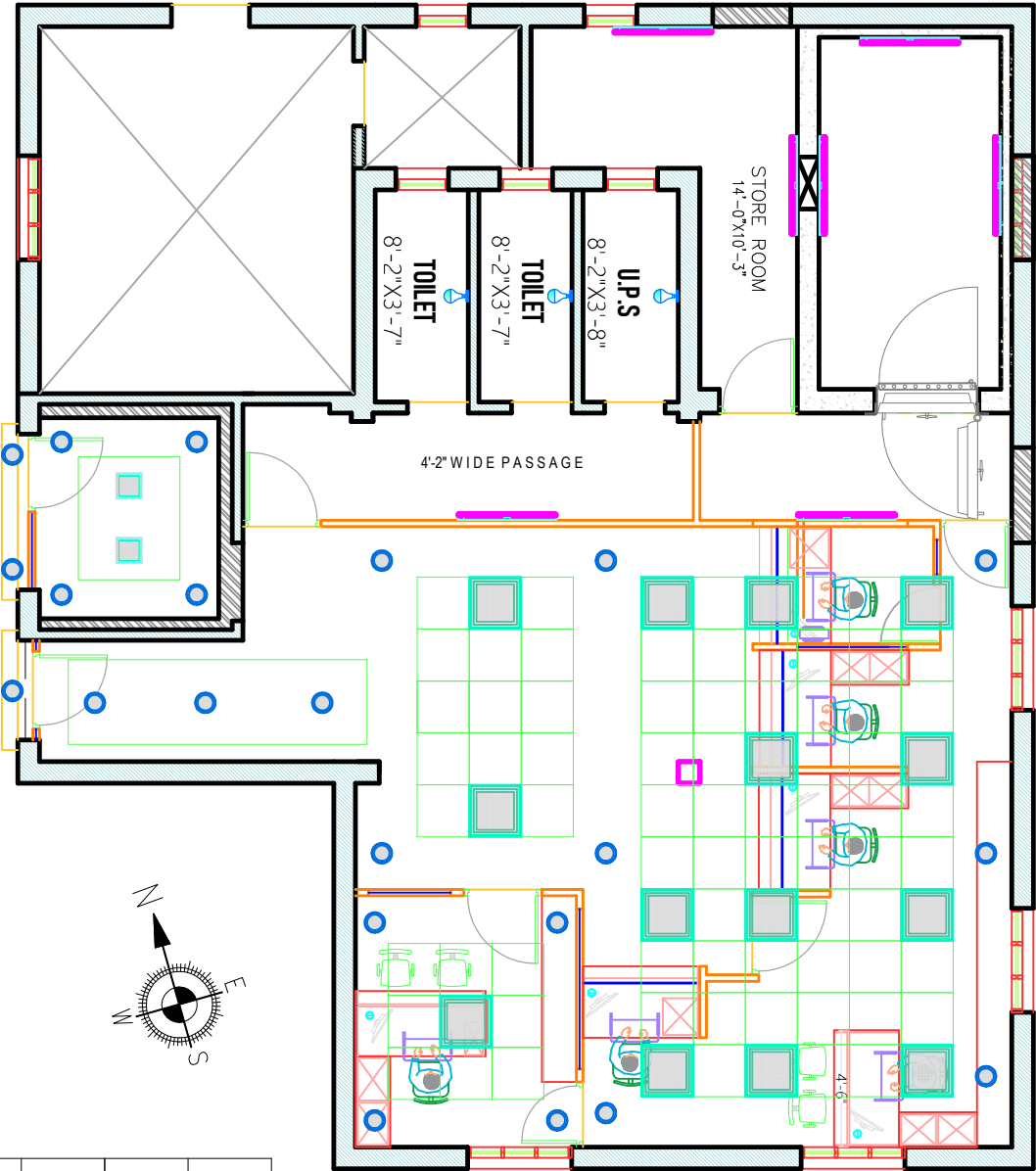
SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
1.1	Recessed wiring with ( 2Rx2.5sqmm +1Rx1.5sqmm) copper wire ( LDB/RDB to Common Switch board and power Points / UPS points etc )	Mts	20.00		
1.2	Recessed wiring with ( 2Rx4.0sqmm +1Rx2.5sqmm) copper wire ( UPS input to CDB / AC points )	Mts	40.00		
<b>6. EARTHING</b>					
1.0	Providing and fixing of Earthing with copper earth plate 600 mm X 600 mm X 3.18 mm thick including accessories, and providing masonry enclosurewith cover plate having locking arrangement and watering pipeof 2.7 metre long etc. with alternative layer of 150mm thick charcoal/ coke and salt as required. For UPS.	SET	1.00		
2.0	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing as required.	Mts.	20.00		
<b>7. DATA WORK</b>					
1.0	Supply and laying of Cat6 4-pair 23AWG LSZH UTP Cable for data and voice in existing conduits/trunking. <b>Make: Legrand/ Schneider/ Digisol</b>	Mtr.	40.00		
2.0	Supply , installation and testing of RJ-45Jack of Category 6 with single-port British-style Modular Face Plate. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	2.00		
3.0	Supply and Fixing of Cat6 Factory crimped moulded 1mtr patch cord. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	2.00		
4.0	Supply and Fixing of Cat6 Factory crimped moulded 2mtr patch cord. <b>Make: Legrand/ Schneider/ Digisol</b>	Nos.	2.00		
	<b>TOTAL</b>				

SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
<b>B.O.Q FOR AC FITTING WORK OF BANK OF BARODA , CHANDAKA BRANCH .</b>					
SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
	<b>A.C FITTING</b>				
1.0	Supplying, erection, testing and commissioning following wall mounted Split units of ( <b>Toshiba/ Blue Star/ Carrier / Daikin</b> ) of 3 star rating with cordless remote complete with all necessary fittings duly insulated with 9 mm thick nitrile rubber pipe insulation with (evaporator coil – copper only), fan and fan motor, machine control panel improved Refrigerant Joints, .Air conditioners shall be fitted with hermetically sealed type suction cooled reciprocating or discharge cooled rotary compressor or scroll compressor. Compressor unit operating on R-22/ R-410. All complete as per drawing, approval and instructions of the Employer (Rates to be inclusive of Copper refrigerant pipe with insulation and Drain pipe up to 5 Mtr. length).				
1.1	1.5 TR Split type unit with air flow including all necessary fittings and mountings as specified by the manufacturer (Single phase).	<b>Nos</b>	<b>5.00</b>		
	<b>TOTAL PART-A</b>				
	<b>LOW SIDE WORK</b>				
	<b>EXTRA REFRIGERANT PIPING</b>				
1.0	Supplying and laying of Extra copper refrigerant piping with nitrile rubber pipe insulation, both of size as specified by the manufacturer suitable for 1.0 TR/ 1.5/2.0 TR Split type AC and 1.5 to 4.0 TR Cassette AC (From Indoor to outdoor Units) Beyond 3M.				
1.2	For 1.5 T split unit	<b>Rmt.</b>	<b>10.00</b>		
	<b>DRAIN PIPING</b>				
2.0	Providing and fixing drain piping up to drain as directed by the engineer in charge with all accessories e.g. elbows, unions, sockets, reducers, reducing tees, nipples etc. Complete job including cutting chiseling in walls, fixing with GI clamps,floor and making good of all chases/ cuts etc. and discharging the drain into a floor trap/ gully as per site conditions with insulation, both as specified by the manufacturer.				
2.1	40mm dia PVC drain pipe for Cassette AC	<b>Rmt.</b>	<b>10.00</b>		






SL.N O.	DESCRIPTION OF ITEMS	UNIT	QUANTI TY	RATE	AMOUNT
	<b>AIR-CONDITIONERS STAND</b>				
1.0	MS-STAND -Providing and fixing of lockable caging for outdoor unit grouted on wall or on roof with open able shutter made of 10 X 10 mm MS square bars placed vertically @ 5” c/c welded with 40 X 3 mm MS flat all- round. The frame shall be of angle 35mm*35mm and it shall be fixed to wall or roof with proper MS bracket to tackle the weight of outdoor unit. Item includes all necessary hardware, priming coat, synthetic enamel paint, hanger, clamps other accessories etc. All complete as per approval and instructions of the employer.Size shall be adequate for AC outdoor size & sufficient space around the outdoor suitable for servicing purpose for Outdoor unit.				
	<b>Powder coated readymade stands</b>				
1.2	For 1.5 TR ceiling split unit	<b>Nos.</b>	<b>5.00</b>		
	<b>ELECTRICAL STABLISER</b>				
1.0	Providing and fixing wall mounting 4KVA automatic stabliser of ELPOWER/Sakti make/V-Guard ( Input Voltage- 130V-280V, Output Voltage-230V ) as per direction of enigneering in charge including all labour and material.	<b>No.</b>	<b>5.00</b>		
	<b>CORE CUTTING</b>				
1.0	Core cutting member in Non RCC	<b>Nos.</b>	<b>5.00</b>		
	<b>TOTAL PART-B</b>				

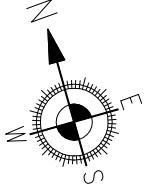
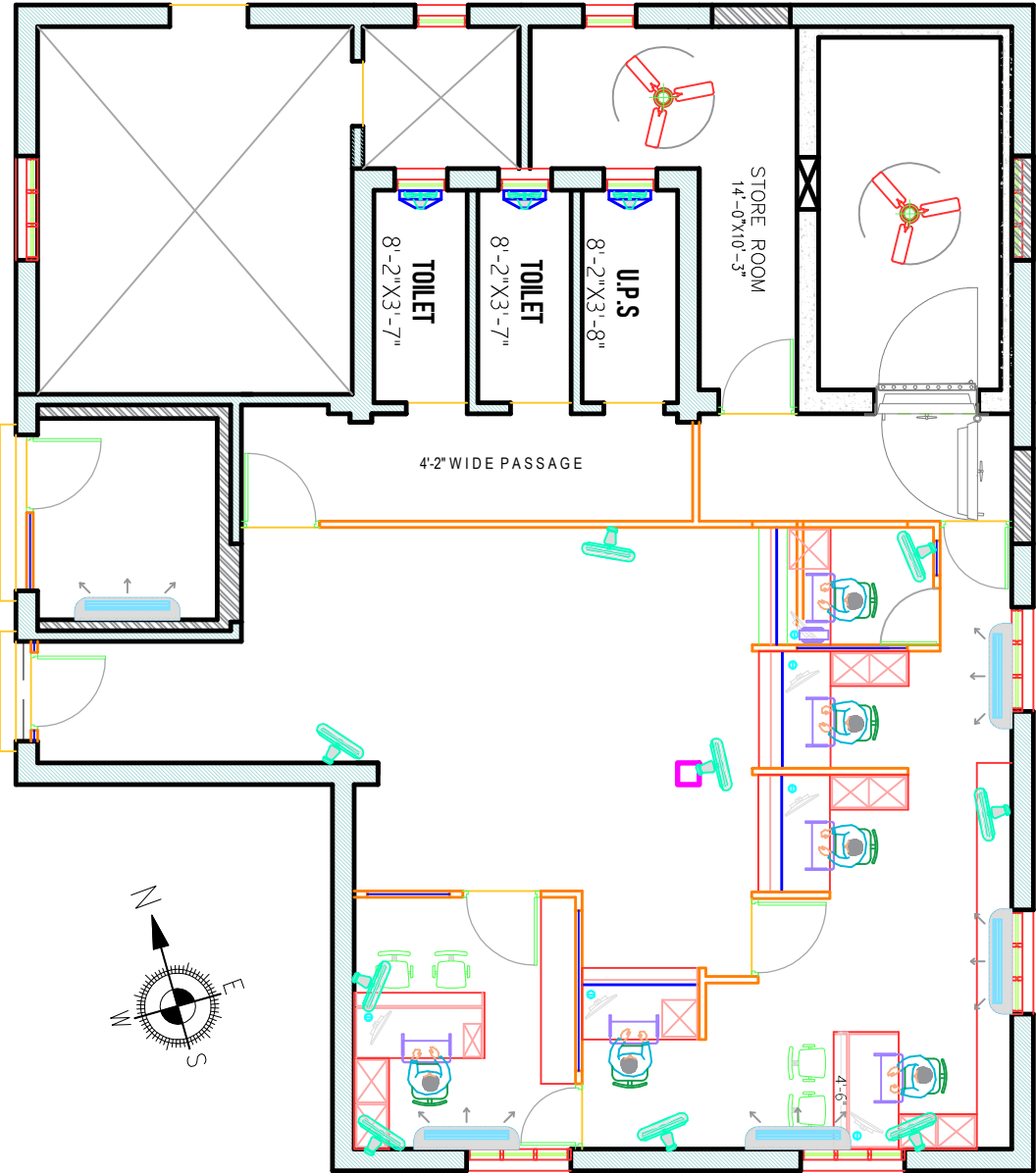
	<b>ELECTRICAL WORK :-</b>			
	BRANCH	Rs.		A
	GST @18%	Rs.		B
	A.T.M	Rs.		C
	GST @18%	Rs.		D
	<b>A.C WORK :-</b>			
	A.C FITTING	Rs.		E
	CGST @14%	Rs.		F
	SGST @14%	Rs.		G
	LOW SIDE WORK FOR A.C	Rs.		H
	GST @9%	Rs.		I
	GST @9%	Rs.		J
	<b>G. TOTAL ( A+B+C+D+E+F+G+H+I+J)</b>			

*Total Amount in Words :-*



INTERIOR LAYOUT PLAN

SCHEDULE OF LIGHT		NOS
	1X28W SURFACE MOUNTED TUBE LIGHT	7
	33-36 W/ RECESS TYPE LED ( 2'-0"X2'-0" )	14
	12-18 W/ RECESS TYPE LED	16+6
	ANGLE HOLDER WITH 9 W LED LIGHT	3
	18 W/ RECESS TYPE LED ( Squre Type )	2

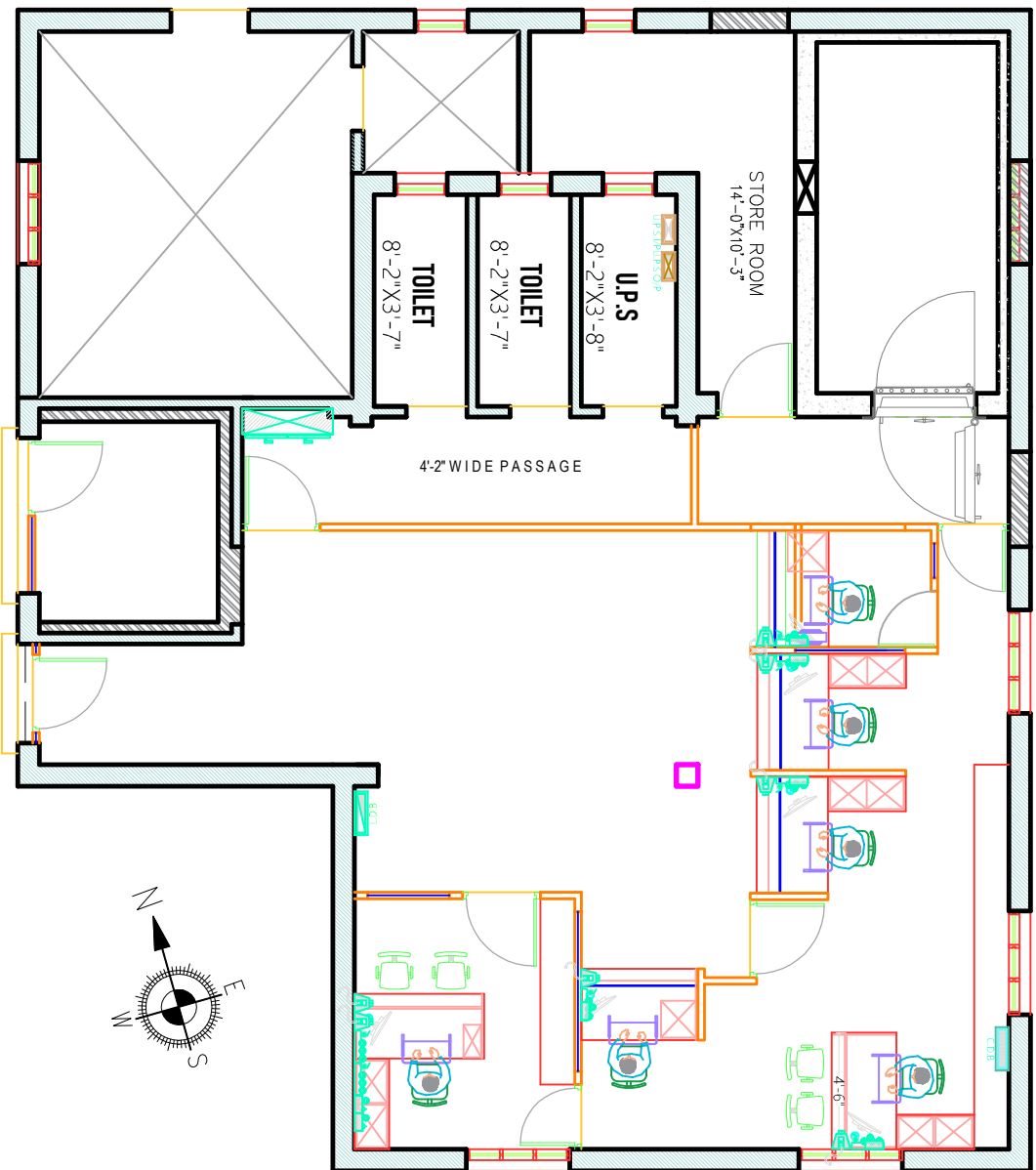


INTERIOR LAYOUT PLAN

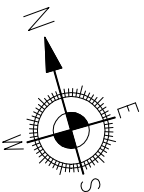
SCHEDULE OF FAN & A.C		NOS
	1200 MM. CEILING FAN	2
	WALL FAN	9
	EXHUST FAN	3
	SPLIT A.C (1.5 / 2.0 TON)	4+1

Clint Name.	BANK OF BARODA		
Location.	CHANDAKA		
Drg. Title.	ELECTRICAL LAYOUT PLAN(Fan & a.c)		
Rev no	Drg. No.	Drawn by:SSA	Date.





## INTERIOR LAYOUT PLAN



LEGEND	
MARK	DESCRIPTION
	4nos 6A SOCKET WITH 1nos 16A SWITCH
	5 NO OF 6/16A SOCKET + 2 No of 16 A SWITCH
	COMPUTER TERMINAL ( CAT 6 I/O BOX )
	TELEPHONE TERMINAL ( CAT 6 I/O BOX )
	MAIN PANEL BOARD
	L.D.B
	C.D.B
	U.P.S INPUT & U.P.S OUTPUT
	6 A SOCKET WITH 6 A SWITCH. IN SEPARATE BOARD
	16 A SOCKET WITH 16A SWITCH. IN SEPARATE BOARD
	SWITCH BOARD WITH 5A. SOCKET
	SWITCH BOARD
	DATA RACK