

TENDER DOCUMENT FOR

“SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX , CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS ” AT INDIAN BANK, HEAD OFFICE BUILDING, NO: 66, RAJAJI SALAI, CHENNAI 600001.

Through electronic mode only

TECHNICAL BID

CO:EST:SVM:26:2020-21

Date: 27.11.2020

ARCHITECT:

CREATIVE ARCHITECTS AND INTERIORS

1090, POONAMALLEE HIGH ROAD,

1ST FLOOR, A.R. COMPLEX

EGMORE. CHENNAI – 600 084

PH: 044 – 42042303

Email: creative1090@gmail.com



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FORM OF E-TENDER

To,
Assistant General Manager (P&E),
Indian Bank Corporate Office,
Premises, Estate & Expenditure Dept,
No. 254-260, Avvai Shanmugam Salai,
Royapettah, Chennai – 600 014.

Dear Sir/s,

Sub: “ SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001”.

Having duly examined the tender documents including the drawings, specifications, designs bill of quantities relating to the works specified in the under written memorandum and having visited / inspected the site of the said works and having acquired all the requisite information relating there to as affecting this tender, I/We hereby offer to execute the works specified therein at the rates specified in the Bill of quantities **(while submitting Price Bid)** and in accordance, in all respects, with the specifications, designs, drawings and instructions in writing referred to in the conditions of tender, the Articles of Agreement, Special Conditions, if any, the Bill of quantities and Conditions of Contract and with such materials as specified, by and in all other respects in accordance with such conditions in the Bill of quantities and conditions of contract so far as applicable.

Thanking You,

Tenderers Name & Signature

Date and Company Seal:



NOTICE INVITING TENDER (e-tender)

Indian Bank, Corporate Office, Estate Department, Chennai invites e-tender under 2 bid system from reputed and resourceful bidders for executing “**SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001**”.

| | | |
|----|-----------------------------------|---|
| 1. | Name of Work | “SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS ”AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001. |
| 2. | Estimated cost of work | Rs. 43 lakh |
| 3. | Period of completion | 75 days reckoned from the 7 th day of issue of the work order or handing over of site whichever is earlier. |
| 4. | Validity of e-Tender | 90 days from the date of opening |
| 5. | Earnest Money Deposit (EMD) | Rs.86,000/- (Rupees Eighty Six Thousand only) |
| 6. | Initial Security Deposit (ISD) | 2% of the Bid Amount (Including EMD amount) |
| 7. | Retention Money (RM) | 5% against each RA bill |
| 8. | Total Security Deposit EMD+ISD+RM | 7% of the cost. (50% will be released after 15days of payment of the final bill and the balance 50% will be released after the Defect liability Period of One year). |
| 9. | Value of work for Interim Payment | Rs.20,00,000/- (Rupees Twenty Lakhs Only) |
| 10 | Tender Documents | The Tender Documents can be downloaded from the Bank’s website www.indianbank.in and e-procurement |



| | | |
|-----|---|--|
| | | portal: https://www.tenderwizard.com/indianbank |
| 11. | Cost of Tender documents | Free of cost. |
| 12. | Liquidated Damages | 1% for delay per week of the contract value subject to maximum of 10% of contract value. |
| 13. | Pre-bid Meeting | On 08.12.20 at 3.30 PM at Indian Bank, Corporate office, Premises, Estate & Expenditure dept, 1 st floor, No. 254-260, Avvai Shanmugam Salai, Royapettah, Chennai- 600014. All interested bidders can send their queries through email before the prebid date and get their queries clarified during the pre-bid meeting. |
| 14. | Last date of submission of Tenders (Through Online Mode only) | 18.12.2020- 15.00hrs , through online mode only, at Indian Bank, Corporate office, Premises, Estate & Expenditure dept, 1 st floor, No. 254-260, Avvai Shanmugam Salai, Royapettah, Chennai- 600014 |
| 15. | Date of Opening of Technical bid | 18.12.2020- 15.30hrs, through Online mode at Indian Bank, Corporate office, Premises, Estate & Expenditure dept, 1 st floor, No. 254-260, Avvai Shanmugam Salai, Royapettah, Chennai- 600014. |
| 16. | Date of Opening of Financial bid | Will be intimated later to the qualified Tenderers only. After this the Reverse Auction will be held on-line. |
| 17. | Defect Liability Period | 12 Months from the date of Virtual Completion of work. |
| 18. | Bank Account Details (for EMD) | Bank/Branch: Indian Bank, Harbour Branch IFSC : IDIB000H003 A/c Name : HO Expenditure Dept A/c Number : 432438421 |



Note:

1. The Final Financial price bid will be decided through Online Reverse Auction through the e-Auction portal: <https://www.tenderwizard.com/indianbank>
2. The bank reserves the right to reject any or all tenders/bids without assigning any reason.
3. The rates quoted by the Tenderer shall be based only on the specifications and conditions of the tender documents.
4. Bank is not liable to make any payment to tenderers either for inspection of site or for preparation to submit the tender/bid, regardless of the conduct or outcome of the bidding process.
5. Bank reserves the right to cancel the tender of the bidder who fails to submit their tender in the prescribed format of bank.
6. The bidding will be done through Reverse Auction.
7. The Companies who are registered with Micro, Small & Medium Enterprises and also those having valid NSIC certificate under Government Store Purchase Programme having certificate clearly indicating the amount of “Quantitative Capacity Per Annum” (amount of Quantitative Capacity Per Annum shall be more than the estimated cost of work) are exempted from the submission of Tender document fee/EMD on submission of requisite proof in the form of valid certification from MSME and NSIC.

ASSISTANT GENERAL MANAGER (P & E)

Indian Bank, Corporate Office
Premises, Estate & Expenditure Dept,
First Floor,
No. 254-260, Avvai Shanmugam Salai,
Royapettah, Chennai – 600014
Email: hoestate@indianbank.co.in



PRE QUALIFICATION DOCUMENT

“SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI -01.



Sub: SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001.

The intending bidders shall fulfill the following minimum **Criteria for pre-qualification** bidding for the above jobs: -

1.0 EXPERIENCE

| S.no | Eligible Work | Value – Rs. In Lakhs |
|------|--|----------------------|
| 1 | Three similar completed works each costing not less than | 17 |
| 2 | Two similar completed works each costing not less than | 22 |
| 3 | One similar completed work each costing not less than | 34 |

In the Last five years ending 30.9.2020

Similar work shall mean “SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS” including the scope of work mentioned above, executed in India.

2.0 TURNOVER: Average annual turnover from the works for the last three years ending 31st March 2020 should not be less than **Rs. 43 Lakhs** as per the audited balance sheet.



3.0 **Profit / Loss:** – Tenderer should be a Net Profit making firm and should not have made losses in the last three continuous financial years.

Certificate(s) from Chartered Accountant / Statutory auditors specifying the net worth of the Applicants, as at the close of the preceding financial year.

4.0 **Solvency Certificate:** – The contractor should have a solvency of the amount of Rs **17 Lakhs** duly certified by any Scheduled Bank **obtained on or after 01.10.2020.**

Other conditions

1.0 Interested parties meeting the above Tender criteria can download the tender document from banks website www.indianbank.co.in/tenders/etender or <https://www.tenderwizard.com/indianbank> and submit experience profile, proof of meeting the above criteria, attested copies of completion / work in progress certificates from the clients, audited certified balanced sheet for the last 3 (three) years, EPF /GST, Registration as Contractor with various PSUs, State PWDs, CPWD, MES, Railways and Autonomous Bodies, details of Technical and Administrative employees, etc., through online mode <https://www.tenderwizard.com/indianbank> - Application not accompanied by any of the above documents and EMD will be rejected at the discretion of Indian Bank.

2.0 No Joint Venture or consortium of firms shall be allowed.

3.0 Indian Bank reserves the right to verify the authenticity of the documents submitted by the contractors. Indian Bank also reserves the right to reject any or all applications, split the works or cancel the process without assigning any reason whatsoever may be.

5.0 The Panel of pre-qualified contractors shall be initially valid for three year. However Indian Bank reserves the right to curtail or extend at its sole discretion.

Duplicate copy to be submitted by Superscribing “**SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF CENTRALISED HUB FOR EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001.**”





at the below mentioned address upon the bank's request.

Assistant General Manager (P&E)
Indian Bank Corporate Office,
Chennai – 600014
Tel: 044-28134498, 4401,4307.

SECTION I

INSTRUCTIONS TO TENDERERS

General

1.0 SCOPE OF TENDER BID

- 1.1 The Employer, as defined in the Tender document, hereinafter called “the Owner,” wishes to receive tender documents.
- 1.2 Throughout these bidding documents, the terms “bid” and “tender” and their derivatives (“bidder”/“tenderer”), “bidered /tendered”, “bidding”/“tendering”, etc. are Synonymous. Day means calendar day. Singular also means plural.
- 1.3 The approximate Estimated Value of the works is as indicated in the tender document

2.0 ELIGIBLE TENDERERS

- 2.1 This Invitation to Tender bid is open to all experienced and reputed contractors involved in “ Supply and Installation of EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS ”whether Individual or Sole Proprietor, Partnership firm, Private limited, or Public limited Company who satisfy the qualifying criteria. Joint ventures are not accepted.
- 2.2 The tenderers are required to forward the documents as indicated in the tender documents.

3.0 QUALIFYING CRITERIA

As given in Page No. 8 of this tender document.

Additional Requirement : Even though the tenderers meet the above



qualifying criteria, they are liable to be disqualified if they have

- (a) Made misleading or false representation in the forms, statements and attachments in proof of the qualification requirements;
- (b) Records of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.
- I Their business banned by any Central Govt. Department/Public Sector Undertakings or Enterprises of Central Govt.
- (d) Not submitted all the supporting documents or not furnished the relevant details as per the prescribed format.
- I Any one of the partners (in case of partnership firm) or any Directors in case of pvt ltd., or public ltd firm being convicted by a Court of law.

- 3.1 Tenderer shall submit the general information about them as per ProformaNo-I
- 3.2 Tenderer shall submit the list of major plant & machinery available with the firm as per Proforma No.- II

4.0 SITE VISIT

- 4.1 The tenderer is advised to visit **(upon prior approval)**, and examine the Site of Works and its surroundings and obtain for itself on its own responsibility and cost all information that may be necessary for preparing the bid and entering into a contract for construction of the Works.
- 4.2 The tenderer and any of its personnel or agents will be granted permission by the Employer /Owner to enter upon its premises and lands for the purpose of such visit **(upon prior approval)**, but only upon the express condition that the tenderer, its personnel, and agents, will release and indemnify the Employer/Owner and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 4.3 Before submitting a Bid, the Tenderer shall be deemed to have satisfied himself by actual inspection of the site and locality of the works, Traffic conditions/restrictions, Availability of parking space, Transportation of materials that all conditions liable to be encountered during the execution of the works are taken into account and that the rates entered in the Price Bid document are adequate and all inclusive for the completion of work to the entire satisfaction of the Employer/Owner.



5.0 BID OPENING

5.1 Part-I of the Bid (Technical Bid) will be opened through Online mode and (the date and time intimated in the Notice Inviting tender (NIT)) mentioned in “Tender document” in presence of Tenderers or authorized representatives of Tenderers who wish to attend the opening of Bids. **Bank will decide the Final Financial price through Online Reverse Auction. Advance intimation will be given to all qualifying bidders of Technical Bid about the date, time. The bidders have to register their company in the e-Procurement portal <https://www.tenderwizard.com/indianbank> obtain Digital Signature for participating in the online tender & reverse auction.**

6.0 PROCESS TO BE CONFIDENTIAL

6.1 Information relating to the examination, clarification, evaluation and comparison of bids, and recommendations for Tender shall not be disclosed to tenderers or any of their persons not officially concerned with such process until the Tender process is finalized.

7.0 EXAMINATION OF BIDS AND DETERMINATION OF RESPONSIVENESS

7.1 The Employer shall examine the bids to determine whether they are complete, whether the documents have been properly signed and whether the bids are generally in order, and all documents as per tender document have been submitted.

7.2 Prior to the detailed evaluation, Employer shall determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the tender documents. For purposes of this determination, a substantially responsive bid is one that confirms to all the documents as specified in the Tender document without material deviations, objections, Conditionality or reservation, material deviation, objection, conditionality or reservation is one;

- a) That affects in any substantial way the scope, quality or performance of the contract.
- b) That limits in any substantial way, inconsistent with the bidding documents, the Employers' rights or the successful Tenderer's obligations under the tender document or
- c) Whose rectification would unfairly affect the competitive position of other Tenderers who are presenting substantially responsive bids.

7.3 If a bid is determined to be not substantially responsive, it shall be rejected by the Employer.



8.0 EVALUATION OF TENDER BIDS

- 8.1 The bids, which are determined as substantially responsive, shall be evaluated based upon the criteria as given in qualifying criteria.
- 8.2 No Tenderer is permitted to canvass to Employer on any matter relating to this Bid. Any Tenderer found doing so is liable to be disqualified and his/their bid is liable to be rejected.
- 8.3 The Employer may visit few of the works completed by the tenderers, whom they claim satisfying the eligibility criteria (As a part of tender process).

9.0 The application should be type-written. The applicant should sign and stamp each page of the application.

10.0 Overwriting should be avoided. Correction, if any should be made by neatly crossing out, initialing, dating and rewriting. Pages of the Tender documents are numbered. Additional sheets, if any, added by the contractor, should also be numbered by him.

11.0 Any information furnished by the applicant found to be incorrect either immediately or at a later date, would render him liable to be debarred from Tender / tendering / taking up of work in Indian bank. If such applicant happens to be pre-qualified/enlisted contractor, his name shall be removed from the pre-qualified list of contractors.

12.0 All information called for in the enclosed forms should be furnished against the relevant columns. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even if no information is to be provided in a column, a 'NIL' or 'NO SUCH CASE' entry should be made in that column. If any particulars! Query is not applicable in case of the applicant, it should be stated as "not applicable". The applicants are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the applicant being rejected. Applications/Tender document submitted through Email . The Application/Tender document received after the due date and time of submission shall not be considered.

eProcurementSupport Desk Contact Details

M/s. Antares Systems Limited
#24, Sudha Complex, 3rd Stage, 4th Block
Basaveshwaranagar, Bangalore – 560 079.
Support Contact No. 9943277499/080-40482100





Support Email: gunaseelan.m@antaressystems.com

2.3. SUBMISSION OF BIDS THROUGH E-TENDERING PORTAL

The Bid documents, to be uploaded as part of online bid submission, are as follows:

- a. Eligibility Criteria, along with all supporting documents required.
- b. All Annexure as per this tender on Bidder's letter head with authorizing person's signature and Bidder seal on all pages.
- c. All supporting documents and product literature in support of Technical specifications.
- d. Relevant brochures
- f. Compliance to Technical Specifications as per Technical Bid.
- g. Any other information sought by the Bank with relevant to this tender. Bidder should upload all the copies of relevant documents without fail in support of their bid and as per the instructions given in tender documents. If the files to be uploaded are in PDF format, ensure to upload it in "Searchable" PDF Format. After filling data in predefined forms bidders need to click on final submission link to submit their encrypted bid.

Please take care to scan documents so that total size of documents to be uploaded remains minimum. **All documentation evidence provided to the Bank shall be in PDF Format. The Scanned Documents shall be OCR enabled for facilitating "search" on the scanned document.** Utmost care may be taken to name the files/documents to be uploaded on e-tendering portal.

2.4. BID RELATED INFORMATION

Bidders must ensure that all documents uploaded on e-tendering portal as files or zipped folders, contain valid files and are not corrupt or damaged due to any processing at bidder PC system like zipping etc. It shall be the responsibility of bidder themselves for proper extractability of uploaded zipped files.

Any error/virus creeping into files/folder from client end PC system cannot be monitored by e-tender software/server and will be bidder's responsibility only. In addition to uploading the documents in our e-Tendering portal, Bidders should also submit the following in a sealed envelope, super scribing with the tender Reference number, due date, Name of the Bidder, etc.

- a) Earnest Money Deposit/Bid Security
- b) DD towards Cost of bid document (Bidders may also remit the amount in the account number mentioned in Schedule 9)

Note: Companies registered as Micro/Small Units under MSE/NSIC should submit documentary proof for claiming exemption for Cost of Bid document and EMD.





OTHER INSTRUCTIONS

For further instructions like system requirements and manuals, the bidder should visit the e-tendering portal (<https://www.tenderwizard.com/indianbank>), click on System Requirement Manual/ User Manual.

The following 'Four Key Instructions' for bidders must be assiduously adhered to

- a. Obtain individual Digital Signing Certificate (DSC or DC) well in advance before tender submission deadline on e-tendering portal.
- b. Register your organization on e-tendering portal well in advance before tender submission deadline on e-tendering portal
- c. Get your organization's concerned executives trained on e-tendering portal well in advance before tender submission deadline on e-tendering portal
- d. Submit your bids well in advance of tender submission deadline on e-tendering portal (Bank will not be responsible any problem arising out of internet connectivity issues).

Note: While the first three instructions mentioned above are especially relevant to first-time users of the e-tendering portal, the fourth instruction is relevant at all times.



Proforma – I

General Information

All Individual /Sole Proprietor/Partnership firm/Private limited/Public limited Company applying for pre-qualification are requested to complete the information in this form.

| | | |
|-----|--|--|
| 1 | Name of Tenderer | |
| 2 | Head Office Address | |
| 3 | Address on which Correspondence should be done. | |
| | Tel. No. | |
| | Mobile no. | |
| | Fax No. | |
| | E-mail address | |
| 4 | Place of incorporation / registration | |
| 5 | Constitution of tenderer | |
| i) | Specify, if the tenderer is | |
| | a) An individual | |
| | b) A proprietary firm | |
| | c) A firm in partnership | |
| | d) A Limited Company or Corporation | |
| ii) | Attach a copy of Proprietorship or Partnership Deed or Article of Association or Incorporation of Company as the case may be . | |
| 6 | Bank solvency | |
| 7 | Turn Over for the years given below | |
| | 2016 - 2017 | |
| | 2017 - 2018 | |
| | 2018 - 2019 | |
| 8 | Give particulars of registration with Govt. / Semi Govt. / Public Sector Undertakings / Local Bodies. | |
| 9. | Other details: a) EPF No. b) Labour license no c) PAN No. d) GST Registration No. (Copies to be enclosed) | |



| | | |
|-----|--|--|
| 10. | Any other information considered necessary but not included above | |
| 11. | Names and Titles of Directors and officers with designation to be concerned with this work with Designation of individuals authorized to act for the organization | |
| 12. | Was the applicant ever required to suspend works for a period of more than six months continuously after commencement of works. If so, give the name of the project and give reasons thereof. | |
| 13. | Has the applicant or any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give the name of the project and give reasons thereof. | |
| 14. | Has the applicant or any constituent partner in case of partnership firm, ever been debarred / black listed for tendering in any organization at any time? If so, give details | |
| 15. | Has the applicant or any constituent partner in case of partnership firm, ever been convicted by a court of law? If So, give details | |
| 16. | Detailed description and value of works successfully completed during the last five years as mentioned in Page no. 8 | |
| 17. | Furnish names and address of previous organization for which you have executed similar work in the recent past (At least three) | |

Note: Only self attested copies to be furnished.

Date & Place

Signature & seal of the applicant



PROFORMA – II
List of major Plant and Machinery in possession of the firm

| S. No. | Name of Plant & Machinery / equipment | Nos. Available Owned | *Other than col. No. C |
|--------|---------------------------------------|----------------------|------------------------|
| A | B | C | D |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

Signature & seal of the applicant

Date & Place

Note:

- * In case of any arrangement for getting the equipment on lease, etc., authenticated proof of the same is to be submitted. Use separate sheets for providing more information.



PROFORMA II(a)

**DETAILS OF KEY TECHNICAL AND ADMINISTRATIVE PERSONNEL EMPLOYED BY
THE FIRM / COMPANY**

| S.no | Designation | No of staffs | Names | Qualification | Professional Experience | Years of Experience in this firm |
|------|-------------|-----------------|-------|---------------|----------------------------|--|
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Date and Place

Seal and Signature of the applicant



I Financial Analysis – Details to be furnished duly supported by figures in Balance Sheet/Profit and Loss Account for the last three years ended 31.03.2020 duly certified by the Chartered Accountant, as submitted by the applicant to the Income-Tax Department (Copies to be attached). If the audited statement as of 31.03.2020 is not available, preceding 3 years statements may be furnished. Statement as on 31.03.2020 may be submitted immediately on finalization.



PROFORMA IIIA

**LIST OF SIMILAR WORKS SATISFYING QUALIFICATION CRITERIA
COMPLETED DURING THE LAST 5 YEARS**

| S.No | Clients Name & Address | Name of the work & Location | Scope of work carried out by the bidder | Agreement/ Letter of Award No. & Date | Contract Value | Date of start | Date of completion | Reasons for delay in Completion, if any | Ref. Or Document (with page no.) in support of meeting Qualification Criterion |
|------|------------------------|-----------------------------|---|---------------------------------------|----------------|---------------|--------------------|---|--|
| | | | | | | | | | |
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PROFORMA IIIB

LIST OF WORKS ON HAND

| S.No | Clients Name & Address | Name of the work & Location | Scope of work | Agreement/ Letter of Award No. & Date | Contract Value | Date of start |
|------|------------------------|-----------------------------|---------------|---------------------------------------|----------------|---------------|
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PROFORMA – IV

Certificate of Credit Facility (Solvency) (On Bank's letter Head)

This is to certify that M/s _____, is a reputed firm / company with a good financial standing.

The firm / company is enjoying a fund based credit facility of Rs. _____ to meet its working capital requirements.

Signature

Name, Designation &

Address of Bank

BANK'S SEAL

NOTE: The above certificate shall be from Scheduled Bank.



PROFORMA V

PERFORMANCE REPORT FOR WORKS REFERRED TO IN PROFORMAIII (A)

1. Name of the work / Project & Location.
2. Scope of work.
3. Agreement No.
4. Estimated Cost
5. Tendered Cost
6. Value of work done
7. Date of Start
8. Date of completion
 - a. Stipulated date of completion.
 - b. Actual date of completion.
9. Amount of compensation levied for delayed Completion if any.
10. Performance report based on quality of work, Time Management, and Resources :
Very Good/Good/Fair/Poor

Date and Place

**SUPERINTENDING ENGINEER /
CHIEF PROJECT MANAGER
OR EQUIVALENT.**



SPECIAL INSTRUCTIONS TO E-TENDERERS

Time of Completion, Extension of Time & Progress Chart

Time of Completion:

The entire work is to be completed in all respects within the stipulated period of 75 days. The work shall deem to be commenced within seven days from the date of issue of Work order or date of handing over of site, whichever is earlier. Time is the essence of the contract and shall be strictly observed by the Tenderer.

The work shall not be considered as complete until the Architects have certified in writing that this has been completed and the Defects Liability Period shall commence from the date of such certificate.

The contractor may plan and execute all the works around the clock.

Extension of Time:

If in the opinion of the Indian Bank/Architects / Project Management Consultants the works be delayed (a) by reason of any exceptionally inclement weather, or (b) by reason of instructions from the Indian Bank in consequence of proceedings taken or threatened by or disputes, with adjoining or neighboring owners or (c) by the works, or delay, of other Tenderers or tradesmen engaged or nominated by the Indian Bank and not referred to in the specification or (d) by reason of authorized extra and additions or I by reason of any combination of strikes or lock-out affecting any of the building trades of (1) from other causes which the Indian Bank may consider being beyond the control of the Tenderer, the Indian Bank at the completion of the time allowed for the contract shall make fair and reasonable extension of time for completion in respect there for. In the event of the Indian Bank failing to give possession of the site upon the day specified above the time of completion shall be extended suitably.

In case of such strikes or lockouts, as are referred to above, the Tenderer shall, immediately give the Indian Bank, written notice thereof. Nevertheless the Tenderer shall use his best endeavors all that to prevent delay, and shall do all that may be reasonably required to the satisfaction of the Indian Bank to proceed with the works and on his doing so, it will be ground of consideration by the Indian Bank for a extension of time as above provided. The decision of the Indian Bank as to the period to be allowed for an extension of time for completion hereunder (which decision shall be final and binding on the Tenderer) shall be promulgated at the conclusion of such strike or lock-out and the Indian Bank shall then, in the event of an extension being granted, determine and declare the final completion date. The provision in clause 5 with respect to payment of liquidated damages shall in such case, be read and construed as



if the extended dated fixed by the Indian Bank were substituted for and the damage shall be deducted accordingly.

Progress of Work:

During the period of construction, the Tenderer shall maintain proportionate progress on the basis of a Programme Chart submitted by the Tenderer immediately before commencement of work and agreed to by the Indian Bank / Architects. Tenderer should also include planning for procurement of scarce material well in advance and reflect the same in the Programme Chart so that there is no delay in completion of the project.

2. Defects Liability Period (DLP)

- a) It must be realized that this period is for exposure of “latent defects” such as settlements, shrinkages or expansion cracks, undue weathering and wear due to faulty material and workmanship.
- b) The DLP commences from the certified date of Virtual Completion issued by the Architects. DLP – 1 year from the Date of issue of Virtual Completion Certificate for the work by Architects.
- c) Whenever the Indian Bank is of the view that the defects in the workmanship and/or materials used are likely to be apparent only over a long period, the Defect Liability Period may be extended as deemed fit.

3. Date of Commencement

Normally, Date of commencement shall be either 7 Days from the Work order issued to the Tenderer or the day on which Tenderer is instructed to take possession of the site, Whichever is earlier.

4. Date of Completion

Date of completion shall be arrived at after adding the time allowed for the execution of the work to the date of commencement of work.

5. Period of Final Measurement

The period of final measurement after completion shall be made taken into account the complexity of the work and staff available for carrying out measurements.

All hidden works shall have already been measured as the work progressed in presence of Tenderers, Indian Bank, Architect and respective specialized consultants to check up the quality and method of installation. It should be noted that unless a longer period is stipulated, the condition of contract



generally lays down three months (maximum) from the date of completion of the contract as the period of final measurement. Even though the maximum period of three months is mentioned, it shall be endeavored to complete the measurements as expeditiously as possible.

6. **Period of Honoring Interim Certificate**

The period shall be ten days from the date of receipt of the certificate from the Architect along with M Book only signed by the Tenderer consultants & Architect.

7. **Period of Honoring Final Certificate**

The period shall be one month from the date of receipt of the final bill certificate from the Architect along with M book duly signed by Tenderer, Consultant and Architects and statutory Certificates wherever necessary along with as built drawings of the works executed. No due certificate from self as well as from the sub agencies involved by the main contractor should be produced to the bank at the time of submitting final bill by the main contractor.

8. **Retention Money**

The retention percentage (I.e. deduction from interim bill) shall be 5% of the Gross value of each interim bill. The maximum amount of retention money shall be the balance amount of the Total Security Deposit. 50% of the retention amount will be refunded to the Tenderer on completion subject to the following:

- Issue of Virtual Completion Certificate by the Architect.
- Tenderer's removal of his materials, equipment, labour force, temporary sheds/stores etc. from the site. (excepting for a small presence required if any for the Defect Liability Period and approved by the Indian Bank) The remaining 50% of the amount may be refunded 14 (Fourteen) days after the end of defects liability period provided he has satisfactorily carried out all the works and attended to all defects in accordance with the conditions of the Contract, including site clearance.



9. Receiving, Opening and Recording of Tenders

Part-A tender will be opened at **15.30** hours on the same day as the last day of the receipt (through online mode only).

After technical evaluation, intimation will be given to all qualifying bidders about the date, time of opening of e- Price bid with the opening of the lowest value among the quotes shall be treated as Reverse price for online reverse bidding.



GENERAL CONDITIONS OF CONTRACT

Except where provided for in the description of the individual items in the schedule of quantities and in the specifications and conditions laid down hereinafter and in the Drawings, the work shall be carried out as per standard specifications and under the direction of Architects.

1. Interpretation

In construing these conditions, the specifications, the schedule of quantities, tender and Agreement, the following words shall have the meaning herein assigned to him except where the subject or context otherwise requires:

- i. Indian Bank: The term Indian Bank shall denote Indian Bank with their Corporate Office at No. 254-260, Avvai Shanmugam Salai, Royapettah, Chennai – 600 014 and any of its employees representative authorized on their behalf.
- ii. Tenderer: The term Tenderer shall mean (to the firm the contract is awarded) and his / their heirs, legal representatives, assigns and successors.
- iii. Site: The site shall mean the site where the works are to be executed as shown within boundary in red border on the site plan including any building and erections thereon allotted by the Indian Bank for the Tenderer's use.
- iv. Drawings: The work is to be carried out in accordance with drawings, specifications, the schedule of quantities and any further drawings which may be supplied or any other instruction, which may be given by the Indian Bank during the execution of the work.

All drawings relating to work given to the Tenderer together with a copy of schedule of quantities are to be kept at site and the Architects shall be given to such drawings or schedule of access whenever necessary.

In case any detailed Drawings are necessary Tenderer shall prepare such detailed drawings and or dimensional sketches there for and have it confirmed by the Indian Bank/ Architects/PMC as case may be prior totaking up such work.

The Tenderer shall ask in writing for any clarifications.

- v. “The Works” Shall mean the work or works to be executed or done under this



contract.

- vi. "Act of Insolvency" shall mean any act as such as defined by the Presidency Towns Insolvency act or in Provincial Insolvency Act or any amending Statutes.
- vii. "The Schedule of Quantities" shall mean the schedule of quantities as specified and forming part of this contract.
- viii. "Priced Schedule of Quantities" shall mean the schedule of quantities duly priced with the accepted quoted rates of the Tenderer.

2. Tenders

a) Technical Bid

The entire set of e-tender issued to the tenderer should be submitted fully signed on the every page. Signature will indicate the acceptance of the tender papers by the tenderer.

b) Price Bid - –the price should be quoted in the Price Bid format attached to this bid through on-line mode only.

The schedule of quantities shall be filled in as follows:

- a) The "Rate" column to be legibly filled in ink both English figures and English words.
- b) Amount column to be filled in for each item and the amount for each sub head as detailed in the "Schedule of Quantities".
- c) All corrections are to be initialed.
- d) The "Rate Column" for alternative items shall be filled up.
- e) The "Amount" column for alternative items of which the quantities are not mentioned shall not be filled up.

No modifications, writings or corrections can be made in the tender papers by the tenderer, but may at his option offer his comments or modifications in a separate sheet of paper attached to the original tender papers.

The Indian Bank reserves the right to reject the lowest or any tender and also to discharge any or all of the tenders for each section or to split up and distribute any item of work to any specialist firm or firms, without assigning any reason.

The tenderers should note that the tender is strictly on the item rate basis and their attention is drawn to the fact that the rates for each and every item should be correct,



workable and self-supporting. If called upon by the Indian Bank/ Architects detailed analysis of any or all the rates shall be submitted. The Indian Bank/ Architects shall not be bound to recognize the Tenderer's' analysis.

The works will be paid for as "measured work" on the basis of actual work done and not as "lump sum" contract, unless otherwise specified. All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges will be allowed in this connection. In the case of lump-sum charges in the tender in respect of any item of works, the payment of such items of work will be made for the actual work done on the basis of lump-sum charges as will be assessed to be payable by the Indian Bank.

The Indian Bank has power to add to, omit from any work as shown in drawings or described in specifications or included in schedule of quantities and intimate the same in writing but no addition, omission or variation shall be made by the Tenderer without authorization from the Indian Bank. No variation shall vitiate the contract. Please also refer to para 9 hereinafter.

The tenderer shall note that his tender shall remain open for consideration for a period as specified in General rules and Instructions under Item no 10. from the date of opening of the price of the tender .

3. Agreement

The successful Tenderer is required to sign agreement as may be drawn up to suit local conditions and shall pay for all stamps and legal expenses, incidental thereto.

4. Permits and Licenses

Permits and licenses for release of materials which are under Government control will be arranged by the Tenderer. The Indian Bank will render necessary assistance, sign any forms or applications that may be necessary.

The Indian Bank/ Architect / PMC shall be indemnified against all Government or legal actions for theft or misuse of cement M.S. rods and any controlled materials in the custody of the Tenderer.

It may be clearly understood that no compensation or additional charges can be claimed by the tenderer for non-availability of such materials in due time on this account or according to his own requirements.

5. Government and Local Rules



The Tenderer shall conform to the provisions of all local Bye-laws and Acts relating to the work and to the Regulations etc., of the Government and Local Authorities and of any company with whose system the structure is proposed to be connected. The Tenderer shall give all notices required by said Act, Rules, and Regulations and Bye-laws etc., and pay all fees / fines payable to such authority / authorities for execution of the work involved. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses, fees for footpath encroachment and restorations etc., and shall indemnify the Indian Bank against such liabilities and shall defend all actions arising from such claims or liabilities.

6. Taxes and Duties

The tenderers must include in their tender prices quoted for all duties royalties, cess and sale tax or any other taxes or local charges if applicable. GST will be payable extra as applicable.

No extra claim on this account will in any case be entertained.

The tenderer shall keep necessary books of A/C & other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by duly authorized representative of the Indian Bank and or the Engineer-in-charge and further shall finish such other information / document as the Indian Bank may required from time to time.

7. Quantity of Work to be executed

The quantities shown in the schedule of quantities are intended to cover the entire new structure indicated in the drawings but the Indian Bank reserves the right to execute only apart or the whole or any excess thereof without assigning any reason therefore. Variation in the value is however not expected to be more than 25%.

10. Persons Engaged by the Indian Bank

The Indian Bank reserves the right to execute any part of the work included in this contract or any work which is not included in this contract by other Agency or persons and Tenderer shall allow all reasonable facilities and use of his scaffolding for the execution of such work. The main Tenderer shall extend all cooperation in this regard.

9. Earnest Money and Security Deposit

The tenderer will have to deposit an amount of Rs. 86,000/- (Rupees Eighty Six Thousand Only) in the form of Bankers Demand Draft or Bank Guarantee from scheduled commercial bank in India drawn in favour of " Indian Bank," payable at Chennai or through RTGS / NEFT at the time of submission of tender as an Earnest



Money. The Indian Bank is not liable to pay any interest on the Earnest Money. The Earnest Money of the unsuccessful tenderers will be refunded without any interest soon after the acceptance of the selected tenderer after award of work or after the expiry of the validity period of the tender

Apart from the EMD, retention money shall be deducted from progressive running bills @ 5% of the gross value of each running bill until the Total Security Deposit, i.e., EMD and the retention money equals 7% of the project cost. 50% of the total security deposit shall be released on successful completion of the works and after obtaining Virtual completion certificate from the Architect and No Claim certificate by the tenderer to the Indian Bank.

The balance retention amount 50% will be refunded after the end of defects liability period as mentioned in point no.2 of this special condition of contract provided he has satisfactorily carried out all the work and attended to all defects in accordance with the conditions of the contract. No interest is allowed on retention money. A part of the Security Deposit if and as decided by a constituent Indian bank can also be furnished in the form of a Indian bank guarantee on a Indian bank other than that of the constituent Indian bank

10. Tenderer to provide everything necessary

The Tenderer shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, schedule of quantities and specifications taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the Tenderer finds any discrepancies therein he shall immediately and in writing, refer the same of the Indian Bank/ Architects / PMC whose decision shall be final and binding.

The Tenderer shall provide himself for ground and fresh water for carrying out of works at his own cost. The Indian Bank shall on no account be responsible for the expenses incurred by the Tenderer for hired ground or fresh water obtained from elsewhere.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of the contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and/or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

The Tenderer shall supply, fix and maintain at his own cost, for the execution of any work, all tools, tackles, machineries and equipments and all the necessary centering, scaffolding, staging, planking, timbering, strutting, shoring, pumping, fencing, boarding, watching and lighting by night as well as by day required not only for the proper execution and protection of the said work but also for the protection for the public and





The Tenderer shall indemnify the Indian Bank against any breach of rules in respect of anti-malarial measures.

The Tenderer shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any boarding, gantry, building structure other than those approved by the Indian Bank.

Protective Measures: The Tenderer from the time of being placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Tenderer shall indemnify the Indian Bank against any possible damage to the building, roads, or members of the public in course of execution of the work.

The Tenderer shall provide necessary temporary enclosures, gates, entrances, etc., for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

Storage of materials: The Tenderer shall provide and maintain proper sheds for the proper storage and adequate protection of the materials etc. and other work that may be executed on the site including the tools and materials of sub-Tenderers and remove same on completion. Cement should be stored one foot above the ground level and have raised floor.

Tools: The theodolite levels, steel and metallic tapes and all other surveying instruments found necessary on the works shall be provided by the Tenderer for the due performance of this contract as instructed by the Site Engineer. All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for safely taking measurement shall be supplied by the Tenderer.

The masteries and the supervisors on the works shall carry with them always a one meter or two meter steel tape, a measuring tape of 3 meters, a spirit level, a plumb bob and a square and shall check the work to see that the work is being done according to the drawing and specifications. The Site Engineer will use any or all measuring instruments or tools belonging to the Tenderers as he chooses for checking the works executed or being executed on the contract. The Tenderer should cover in his rates for making provisions for all reasonable facilities for the use of his scaffolding, tools and plant etc. by sub-Tenderers for their work.

12. Notice and Patents of Appropriate Authority and Owners

The Tenderer shall confirm and adhere to the provisions of any Acts of the Legislature relating to the work, and to the Regulations and Bye-laws of any authorities, and/or any water, lighting and other companies, and/or authorities with whose systems the



any damage caused must be made good by the Tenderer at his own expenses. The contractor shall prepare for approval of Architect the “Co-ordinated services drawings” for pre-planned openings so that the alterations are reduced to the minimum.

17. Removal of Improper Work

The Indian Bank shall during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of the Indian Bank / Architects are not in accordance with specification or instructions, the substitution or proper re-execution of any work executed with materials or workmanships not in accordance with the drawings and specifications or instructions. In case the Tenderer refuses to comply with the order the Indian Bank shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by the Indian Bank/ Architects shall be borne by the Tenderer or may be deducted from any money due to or that may become due to the Tenderer. No certificate which may be given by the Architects shall relieve the Tenderer from his liability in respect of unsound work or bad materials.

18. Site Engineer/Project Management Consultant:

The term "Site Engineer/PMC" shall mean the person/agencies appointed and paid by the Indian Bank to superintend the work. The Tenderer shall afford the Site Engineer/PMC every facility and assistance for examining the works and materials and for checking and measuring work and materials. The Site Engineer/PMC shall have no power to revoke, alter, enlarge or relax any requirements of the Tenderer or to sanction any day work, additions, alterations, deviations or omissions or any extra work whatever, except in so far as such authority may be specially conferred by a written order of the Indian Bank.

The Site Engineer/PMC shall have power to give notice to the Tenderer or to his foreman, of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the Indian Bank is obtained. The work will from time to time be examined by the Architects, Engineer from the Premises Department of the Indian Bank and the Site Engineer if any. But such examination shall not in any way exonerate the Tenderer from the obligation to remedy any defects which may be found to exist at any stage of the work or after the same is complete. Subject to the limitations of this clause the Tenderer shall take instructions only from the Architects/Indian Bank or his representative.

19. Tenderer's Employees

The Tenderer shall employ technically qualified and competent supervisors for the work who shall be available (by turn) throughout the working hours to receive and comply with instructions of the Indian Bank/ Architects. The Tenderer shall engage at least one experienced Engineer as site-in-charge for execution of the work. The Tenderer



shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently. The Tenderer shall employ local labourers on the work as far as possible. No labourer below the age of eighteen years and who is not an Indian National shall be employed on the work.

Any labourer supplied by the Tenderer to be engaged on the work on day-work basis either wholly or partly under the direct order or control of the Indian Bank or his representative shall be deemed to be a person employed by the Tenderer.

The Tenderer shall comply with the provisions of all labour legislation including the requirements of

- a) The Payment of Wages Act 1936
- b) Indian Bank's Liability Act 1938
- c) Workmen's Compensation Act Contract Labour (Regulation & Abolition) Act, 1970 and Central Rules 1971.
- d) Apprentices Act 1961
- e) Minimum Wages Act 1948
- f) Any other Act or enactment relating thereto and rules framed there Under from time to time.

The Tenderer shall keep the Indian Bank saved harmless and indemnified against claims if any of the workmen and all costs and expenses as may be incurred by the Indian Bank in connection with any claim that may be made by any workmen.

The Tenderer shall comply at his own cost with the order of requirement of any Health Officer of the State or any local authority or of the Indian Bank regarding the maintenance of proper environmental sanitation of the area where the Tenderer's laborers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The Tenderer shall provide, maintain and keep in good sanitary condition adequate sanitary accommodation and provide facilities for pure drinking water at all times for the use of men engaged on the works and shall remove and clear away the same on completion of the works. Adequate precautions shall be taken by the Tenderer to prevent nuisance of any kind on the works or the lands adjoining the same.

The Tenderer shall arrange to provide first-aid treatment to the laborers engaged on the works. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the works, report such accident to the Indian Bank and also to the Competent Authority where such report is required by law. Compliance of labour regulations:

20. Dismissal of Workmen

The Tenderer shall on the request of the Indian Bank immediately Withdrawal / remove from works any person employed thereon by him, who may in the opinion of the Indian Bank be unsuitable or incompetent or who may misconduct himself. Such Withdrawal / Remove shall not be the basis of any



claim for compensation or damages against the Indian Bank or any of their officer or employee.

21. Assignment

The whole of the works included in the contract shall be executed by the Tenderer and the Tenderer shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take a new partner, without written consent of the Indian Bank and no subletting shall relieve the Tenderer from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

22. Damage to Persons and Property Insurance Etc.

The Tenderer shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-Tenderer or of any of his or a sub-Tenderer's employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract. The clause shall be held to include inter-alia, any damage to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, foot paths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather. The tenderer is also responsible for the damages/injury/accidents caused to any public in general / vehicles in general and pay necessary compensation or settlement or whatsoever in this regard.

The Tenderer shall indemnify the Indian Bank and hold harmless in respect of all and any expenses arising from any such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.

The Tenderer shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

The Indian Bank shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or accruing from or in respect of any such claim or damages from any sums due or to become due to the Tenderer .

23. Insurance

The Tenderer shall arrange to take “Tenderers all risk insurance policy including third party liability”, covering the entire period of contract till virtual completion of the



contract (including extended period if any) for the entire scope of works for a risk cover not less than the contract value. The third party insurance shall be for a sum of Rs. 5 Lakh per accident.

The Tenderer shall effect the insurance necessary and indemnify the Indian Bank entirely from all responsibility in this respect. The insurance must be placed with a company approved by the Indian Bank and must be effected jointly in the name of the Tenderer and the Indian Bank and the policy lodged with the latter. The scope of insurance is to include damage or loss to the work and workman due to carelessness accident, including fire, earthquake and floods etc., damage or loss to the contract itself till this is made over in a complete state. Insurance is compulsory and must be effected from the very initial stage. The Tenderer shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

Unless otherwise instructed the Tenderer shall insure the works and keep them insured until the virtual completion of the contract against loss or damage by fire and /or earthquake, flood. The insurance must be placed with a company approved by the Indian Bank, in the joint names of the Indian Bank and the Tenderer for such amount and for any further sum if called to do so by the Indian Bank, the premium of such further sum being allowed to the Tenderer as an authorized extra.

The Tenderer shall as soon as the claim under the policy is settled or the work reinstated by the Insurance Company should they elect to do so, proceed with due diligence with the completion of the works in the same manner as though the fire has not occurred and in all respects under the conditions of the contract. The Tenderer in case of rebinding or reinstatement after fire shall be entitled to extension of time for completion as the Indian Bank may deem fit.

24. Accounts, Receipts & Vouchers

The Tenderer shall, upon the request of the Indian Bank furnish them, with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the Tenderer shall use materials less than what he is required under the contract, the value of the difference in the quantity of the materials he was required to use and that he actually used shall be deducted from his dues. The decision of the Indian Bank shall be final and binding on the Tenderer as to the amount of materials the Tenderer is required to use for any work under this contract.

25. Measurement

All the Measurements should be taken in the presence of Bank officials/ Architects.



And the measurements shall be countersigned by the Bank officials.

26. Payments

All bills shall be prepared by the Tenderer in the form prescribed by the Indian Bank / Architects. **Normally one interim bill shall be prepared each month subject to minimum value for interim certificate as stated in these documents.** The bills in proper forms must be duly accompanied by detailed measurements in support of the quantities of work done and must show deductions for all previous payments, retention money, etc.

The Indian Bank/ Architect shall issue a certificate after due scrutiny of the Tenderers' bill stating the amount due to the Tenderer from the Indian Bank and the Tenderer shall be entitled to payment thereof, within the period of honoring certificates named in these documents. In case of delay due to some reasons in the processing of such bills for payment, an advance of 75% of the billed Amount may be paid on the request of the Tenderer for the smooth progress of the work. The amount stated in an interim certificate shall be the total value of work properly executed and 75% of invoiced value of material brought to site for permanent incorporation into the work up to the date of the bill less the amount to be retained by the Indian Bank as retention money vide clause 11 of the general conditions of contract, less TDS, and less installments previously paid under these conditions, provided that such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against weather or other casualties.

The Indian Bank will deduct retention money as per tender conditions.

If the Indian Bank has supplied any materials or goods to the Tenderer, the cost of any such materials or goods will be, progressively deducted from the amount due to the Tenderer in accordance with the quantities consumed in the work.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually, done and completed, and shall not preclude the Requiring of bad, unsound, and- imperfect or unskilled work to be; removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, it conclude, determine or affect in anyway the power of the Indian Bank under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract. The final bill shall be submitted by the Tenderer within one month of the date fixed for completion of the work or of the date of certificate of completion furnished by the Site Engineer and payment shall be made after checking the work completely. Payment will be





made 75 % against supply of materials & 25 % against erection and commissioning, less statutory deductions.

27. Final Payment

The final bill shall be accompanied by a certificate of completion from the Consultants & Architects. Payments of final bill shall be made after deduction of Retention Money, which sum shall be refunded after the completion of the Defects Liability Period after receiving the Indian Bank's Architects' certificate that the Tenderer has rectified all defects to the satisfaction of the Indian Bank/ Architects. The acceptance of payment of the final bill by the Tenderer would indicate that he will have no further claim in respect of the work executed.

The contractor has to submit 2 copies of "As built drawings" of A2 or A1 size and CD duly certified by the Architect to the Bank along with final bill documents. Along with Every bill the contractor has to submit the photographs of the work executed

28. ENHANCEMENT IN RATES AND QUANTITY VARIATION

The tender rates shall be fixed, firm and applicable for any increase or decrease in the tendered quantities. The Employer / Architect can increase or decrease any quantities to any extent or even delete particular item as per the site requirements and the contractor shall not be paid anything extra on this account. Nothing extra will be paid by the Indian Bank on account of omission /deletion of items or decrease in the quantity of items. The Bank shall not entertain any claim whatsoever from the contractor on this account. The price of all additional items / non-tendered items will be worked out on the basis of rates quoted for similar items in the contract wherever existing. If similar items are not available, the rates for such items will be derived as per standard method of rate analysis based on prevalent fair price of labour, material and other components as required with 15% towards contractor's profit and overheads.

29. UNQUOTED ITEMS

The bidders to offer their competitive rates for each and every item listed in the Schedule of rates, the bidders who have not quoted for all the items as required in the SORs shall be liable for rejection. In case a bidder who has left certain items unquoted and if they happen to be overall lowest on evaluation, then their offers shall be considered subject to the unquoted items being taken as NIL cost. The bidder shall also give a clear undertaking to the effect that they shall execute the said items (unquoted) free of cost. In the event the bidder refuses the



above conditions and insists on additional cost for the unquoted items, then such an offers shall be rejected as invalid.

For Extra works at the time of work in progress the contractor should submit the reasonable rate with the rate analysis and after approval given by the Architect/ Bank that amount will be given.

30. ABNORMAL RATES

The Contractor is expected to quote rate for each items after careful analysis of costs involved for the performance of the complete item consisting all specifications and conditions of the contract. If it is noticed that the rates quoted by the tenderer for any items are unusually high (or) unusually low it will be sufficient cause for rejection of the tender unless the owner is convinced about the reasonableness of the rate on scrutiny of the analysis for such rate to be furnished by the tenderer on demand. Not with standing anything there in stand, the rate once accepted by the owner shall be final and shall not be subject to any claim either on account of un-workability of rates or on any other ground whatsoever.

31. Substitution

Should the Tenderer desire to substitute any materials and workmanship, he/they must obtain the approval of the Indian Bank/ Architects in writing for any such substitution well in advance. Materials designated in this specification indefinitely by such term as "Equal" or "Other approved" etc. specific approval of the Indian Bank/ Architects has to be obtained in writing.

32. Preparation of Building Works for Occupation and Use on Completion

The whole of the work will be thoroughly inspected by the Tenderer and deficiencies and defects put right. On completion of such inspection the Tenderer shall inform the Indian Bank that he has completed the work and it is ready for inspection. On completion the Tenderer shall clean all windows and doors including the cleaning and oiling if necessary, of all hardware, inside and outside, all floors, stair-cases, and every part of the building. He will leave the entire building neat and clean and ready for immediate occupation and to the satisfaction of the Indian bank.

33. Clearing Site on Completion

On completion of the works the Tenderer shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workman like condition to the



satisfaction of the Indian Bank/ Architects.

The main /Principal contractor is only responsible for the cleanliness of the site/building irrespective of numbers of sub agencies deployed by them to carryout various other works in the tender.

34. Defects after Completion

The Tenderer shall make good at his own cost and to the satisfaction of the Indian Bank all defects, shrinkage, settlements or other faults which may appear within 12 months after completion of the work. In default the Indian Bank may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto shall be made good and borne by the Tenderer and such damages, loss and expenses shall be recoverable from him by the Indian Bank or may be deducted by the Indian Bank, in lieu of such amending and making good by the Tenderer, deduct from any money due to the Tenderer a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient, recover that balance from the Tenderer from the amount retained under General Rules and instruction Special Instruction Clause 5 together with any expenses the Indian Bank may have incurred in connection therewith.

35. Concealed Work

The Tenderer shall give due notice to the Indian Bank/ Architects whenever any work is to be buried in floor / earth, concrete, ceilings or in the bodies of walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions taken before such burial, in default whereof the same shall, at the opinion of the Indian Bank/ Architect be either opened up for measurement at the Tenderer's expense or no payment may be made for such materials. Should any dispute or differences arise after the execution of any work as to measurements etc., or other matters which cannot be conveniently tested or checked, the notes of the Indian Bank/ Architects shall be accepted as correct and binding on the Tenderer.

36. Escalation

The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any, granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, sales tax, octroi, etc. unless specifically provided in these documents.

37. Idle Labour

Whatever the reasons may be no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.



38. Suspension

If the Tenderer except on account of any legal restraint upon the Indian Bank preventing the continuance of the work or in the opinion of the Indian Bank shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default, the Indian Bank shall have the power to give notice in writing to the Tenderer requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this clause.

After such notice shall have been given the Tenderer shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the Tenderer fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, the Indian Bank may proceed as provided in clause 40 (Termination of Contract by Indian Bank).

39. Termination of Contract by Indian Bank

If the Tenderer being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater Part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the Tenderer in insolvency, shall repudiate the contract, or if a Receiver of the Tenderer's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Indian Bank that he is able to carry out and fulfill the contract, and if so required by the Indian Bank to give reasonable security therefore. or if the Tenderer shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the Tenderer, or shall assign, charge or encumber this contract or any payments due or which may become due to the Tenderer, there under, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the Tenderer within three clear days after the notice shall have been given to the Tenderer in manner hereinafter mentioned requiring the Tenderer to observe or perform the same or shall use improper materials or workmanship in carrying on the works, or shall in the opinion of the Indian Bank not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the Indian Bank after three clear days notice requiring the Tenderer so to do shall have been given to the Tenderer as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, the Indian bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the Indian Bank of the obligations and liabilities of the Tenderer the whole on which shall





shall make the selection and appoint the selected person as the Sole Arbitrator.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid.

The work under the Contract shall, however, continue during the, arbitration proceedings and no payment due or payable to the Tenderer shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.

The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute, in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be in chennai only as may be fixed by the Arbitrator in his sole discretion.

The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid. The award of the Arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the “Arbitration and Reconciliation Act 1996” or any statutory modification or re-enactment thereof and the rules made there under, and for the time being in force, shall apply to the arbitration proceeding under this clause.

The Indian Bank and the Tenderer hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

The arbitration proceedings will not preclude the right of approaching legal forum by the parties.



Wherever men above the age of 18 are employed on the work of precautions should be taken:

- iii. Overalls shall be supplied by the Tenderer to the workers and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.
- iv. When the work is done near any public where there is risk of necessary equipments should be provided and kept ready for use and all necessary steps take for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

First Aid

At every work place, there shall be maintained in readily accessible place, first aid appliance including an adequate supply of sterilized dressings and sterilized cotton wool. The appliance shall be kept in good order and in large work place, they shall be placed under the charge of a responsible person who shall be readily available during working hours.

Electricity & Water

Construction water shall be provided by Bank at one point at the cost of Rs.10000/- per month. The tenderder has to make his own arrangements for electrical power to carry out the work, in view of the Power restrictions imposed by State Electricity Board. If the contractor need power, the same will be provided at one / two points on chargeable basis by having separate energy meters at Rs.10/- per Unit.

Before starting the work the contractor has to submit the Scaffolding drawings and it is to be approved by the Architect/Client. The Contractor is directly responsible for any accident, injury disableness and other such things that may happen to his workmen during working hours or outside working hours if they happen to be in the work site and that he will pay adequate compensation to such people. And the contractor has to take the full responsibility for these disabilities. The Contractor will be responsible for any accident or unto ward incident that may happen to any person in the work site or near about due to inadequate safely measures, carelessness, negligence, incorrect procedures, inadequate supervision, improper methods, and that he will attend to all related police enquiry, court attendance and will bear the cost for all such expenses including compensation, if any, to be paid.



ARTICLES OF AGREEMENT

THIS AGREEMENT is made on this day ofmonth of between Indian Bank and having its Corporate Office at No. 254-260, Avvai Shanmugam Salai, Royapettah, Chennai – 600 014 (hereinafter referred to as the “Employer”) which expression shall include its successor, legal heirs and assignees of the one part.

AND M/s. having its office at

.....

(hereinafter referred to as the “Contractor”) which expression shall include its successor, legal heirs and assignees of the second part.

WHEREAS the Employer has caused drawings and tender documents for “**SUPPLY,INSTALLATION,TESTING & COMMISSIONING OF EPABX, CCTV , NETWORKING, PUBLIC ADDRESS SYSTEM & ALLIED COMMUNICATION WORKS AT INDIAN BANK, HEAD OFFICE, MAIN BUILDING , NO:66, RAJAJI SALAI, CHENNAI 600 001.**”

AND whereas the Employer has called for tender vide ref. no. dated.....

AND whereas the contractor has submitted the tender ref. no. dated to the Employer on

AND whereas the Employer has issued the work order ref dated..... to the contractor to do the work.

AND whereas the Contractor has agreed to execute the work as per drawings, specifications, conditions of contract and Work Order.

AND whereas the Employer has accepted the Contractor's tender as aforesaid and whereas the tender submitted by the contractor has been accepted for such sum as may be ascertained to be payable in terms of the Bill of Quantities and which sum is estimated to be Rs. (Rupees) hereinafter referred to as the said “Contract Agreement”.



NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:-

- 1) consideration of the said Contract Sum to be paid at the times and in the manner set forth in the said Conditions the Contractor shall carry out and complete the Repair & Painting Works in terms and conditions herein contained and according to the general conditions of the contract, notice inviting tender, special conditions of contract, general scope of work, technical specifications, schedule of rates and instructions to be given by and the supervision of and to the entire satisfaction of the Employer.

S Contract Price, Taxes and Payment Terms :

Total contract price is Rs. which is inclusive of cost of materials, equipment, installation charges and tools and tackles required for execution of the job. Above price is exclusive of all taxes (GST) in respect of this contract.

Interim payment will be made as per the site measurements on Item Rate basis.

- 2) **Completion Period:**

Time is the essence of the Contract. The work is to be completed in all respects within **75 days reckoned from 7th day from the date of issue of the Work Order or handing over of site whichever is earlier.** If the Contractor fails to complete the job within the agreed time period the Contractor will have to bear liquidated damages as per the relevant clause mentioned in the Tender Documents.

- 3) **Earnest Money:**

The Contractor has deposited an amount of Rs. 86,000/- (Rs. Eighty Six Thousand only) as earnest money.

- 4) **Inspection of Site:**

The Contractor has inspected the site before submitting his tender and has satisfied himself as to the nature of the work to be executed on the site. Any difficulties which the Contractor may come across in the course of the work shall in no way relieve the contractor to claim or receive extra payment unless the Employer is of the opinion that such difficulties could not have been foreseen and the Employer consents in writing.

- 5) **Supply of Material and Labour:**

The Contractor shall arrange all labour, materials, equipments, tools, tackles and everything necessary for the completion of the work. The Contractor will assume all responsibility for the safety, protection and accounting of all material and equipment and the work during construction. All materials used by the Contractor shall be of the best

quality conforming to the required specification mentioned in the tender document and will be subject to the approval of the Employer. All such materials not approved by the Employer shall be removed at once by the Contractor at his own expense. The Contractor shall also at his own expense arrange for carrying out any test of materials which the Employer may from time to time require or if so desired by the employer.

- 6) **Defective Work / Materials:**



If any part of the work done by the Contractor is found defective in workmanship or if bad or inferior materials have been used the Contractor shall at his own risk and cost demolish all such defective work and rebuild the same and / or replace the bad or inferior materials used within a time frame mentioned to the satisfaction of the Employer. The decision of the Employer in this regard shall be final and binding on the Contractor. In case of default of the contractor to remove the defective work and rebuild the same or replace bad or inferior materials as directed by the Employer, the Employer shall be entitled to employ anyone else to carry out the same at risk and cost of the Contractor and recover all expenses incurred in this regard from the contractor.

7) **Inspection of Work:**

During progress of the work the Employer shall be entitled at all times to have access to and inspect the work.

8) **Supervision:**

The Contractor shall provide one or more competent and technical qualified engineers duly and fully authorized to act on his behalf in all matters relating to the works to be carried out under or any other matter concerning this agreement and who shall at all times be present at the works while any work is in progress as per directions, explanations & instructions of Employer.

9) **Compliance with Statutory Regulations & Work Rules:**

The Contractor shall be responsible for complying with the applicable laws / bye laws / Regulations in force from time to time and shall have to bear all statutory liabilities to the workers / personnel engaged for the job. Nothing will be paid extra in this regard. If any amount is paid by the Employer with this regard the same amount shall be deducted from the Contractor's dues. The Contractor shall have to arrange insurance cover for the workers / personnel engaged by him for the job.

10) **Determination of Contract:**

In the event of Contractor failing to keep / adhere to agreed schedule of work, or in the event of the Contractor failing to comply with the provisions of this contract by default and / or negligence and / or suspension of work or in the event of Contractor failing to complete the work within the stipulated period, the Employer may terminate this Agreement forthwith and employ, at the Contractor's risk and cost, another contractor or sufficient number of workmen to complete the work.

11) **Force Majeure:**

This clause will be operative only if the work is delayed by

- a) Acts of God
- b) Earthquake or floods or similar natural calamities.





c) Serious loss or damage by fire or lightning.

In case any Force Majeure condition herein mentioned occurs and continues for a period exceeding 15 days the parties here to undertake to sit together and devise ways for expeditious and proper performance of the obligations of the parties under this order.

12) **Arbitration:**

" In the event of any dispute or difference relating to interpretation and application of provisions of the contract and all disputes/claims whatsoever which shall either during the continuance of the contract or afterwards either between the parties to the contract or the respective representatives touching the construction/application of any provision/clause mentioned in the contract or any account or liability between the parties to the contract or as to any act or deed or omission of any party to the contract, in any way relating to these presents, shall be first at the discretion of the Bank attempted to be resolved in good faith by mutual discussion within 30 days of the dispute or question being raised failing which the same shall be settled by arbitration in accordance with provisions of Indian arbitration and Conciliation act 1996.

The Parties concerned shall designate an arbitrator on mutual consent/consensus. In the event of no consensus being arrived, an Arbitral Tribunal shall be constituted comprising three Arbitrators, each party appointed one arbitrator and a third arbitrator to be appointed by the two arbitrators so appointed by the parties. The venue of the arbitration shall be exclusively at Chennai and any award passed by arbitrator or the arbitral Tribunal shall be final, conclusive and binding upon the parties and shall be deemed to have been made between parties themselves. The parties to the dispute shall share equally the cost of arbitration as intimated by the arbitrator".

The arbitration proceedings will not preclude the right of approaching legal forum by the parties.

IN WITNESS whereof the said contracting parties have set their hands and seals on the day and year first hereinabove witness.

Witness Address

Employer

Witness Address

Contractor

GENERAL SPECIFICATIONS

To be read in along with particular specifications and bill of quantities

These specifications are for work to be done, item to be supplied and materials to be used in the works as shown and defined on the drawings and described herein, to the satisfaction of the Employer / Architect.



- 1). The workmanship is to be the best possible and of a high standard. The contractor shall take all steps immediately to make up deficiency if any noticed by the Employer/ Architect. Use must be made of special tradesman in all aspects of the work and allowance must be made in the rates for the same.
- (ii). The materials to be provided by the contractor shall be in accordance with the samples already got approved from the Employer/ Architect by the contractor and in conformity with specification and approved list of manufactures and brand. The contractor shall produce all invoices, vouchers or receipts for any materials if called upon to do so by the Employer/ Architect.
- (iii). Samples of materials are to be submitted to the Employer/ Architects for their approval before the contractor orders or delivers the materials to the site. Samples together with their packing are to be provided free of charge by the contractor and should any materials be rejected they will be removed from the site at the contractors expense. All samples will be retained by the Employer/ Architects for comparison with materials which will be delivered at site. Also the contractor will be required to submit specimen finishes of colors, fabrics, etc. for the approval of the Employer/ Architects before proceeding with the works.
- (iv). The contractor shall be responsible for providing and maintaining temporary coverage required for the protection of finished work. He is also to clean out all wood shavings, cuts ends and other waste from all parts of the works before covering or in fillings is constructed.
- (v). The contractor shall maintain uniform quality and consistency in workmanship throughout the execution of the work.

ELECTRICAL/COMMUNICATION WORK:

The entire installation work shall be carried out in accordance with approved drawings and in general conformity with the requirements of the Indian Electricity Act, 1910 the Indian Electricity Rules , 1956, the relevant I.S. Codes of Practice, as amended to date, wherever applicable and the regulations of the local licensing bodies/ C.E.I.G. etc and where such installations are subject to inspection and approval of Fire Insurance and Explosives



Authorities the Installation shall be planned and executed also conforming to their regulations / rules.

1.1 In case of difference between

(a)The specifications here in and the IEE Rules /Regulations of the local licensing authority/ CEIG or/and of the Fire Insurance / Explosives Authorities, the later shall prevail.

Drawings and Schedules:

The tender papers include only the general site plan and the main and sub main circuit diagram to the rising main and the distribution board in the various floors of the building and the layouts of the various points therein. These show the general scheme of things. Should the tenderer feel that design, the specifications or the drawing / layouts require modifications either due to manufacturing practice or special requirements under regulations/rules or for other substantial reasons, he is required to set out in his covering letter the modifications needed, stating reason therefore, with complete information to enable the Employer to properly appreciate the modified proposal. The tenderer shall quote for the tender proposal but state separately the rates/sums necessary for such modification, as alternatives.

The precise positions of all points, controls, switch boxes, main and distribution board, tap off points etc, shall be subject to approval by the Architects. Wherever required, the contractor shall prepare whatever detailed drawing are necessary, complying with the requirements under para-1, General above, for proper execution of the work and under the approval of the Architects shall submit them to the Electrical Inspectorate or other appropriate State Authority along with necessary forms and papers and obtain the approval. Fees or charges for such purpose shall initially paid, on behalf of the Employer, to the appropriate authority, by the contractor, the payments so made being reimbursed by the Employer to the contractor in due course on production of necessary proof of payment supervision:

From the contractor's side shall be carried out by person/persons holding certificates of competency of appropriate class issued by the respective State Government bodies authorized to issue such certificate under statutory rules and regulations in force. The names of such supervising personnel shall be approved by the architects.

Service Connection:



It is the responsibility of contractor to obtain the necessary service connection from the local electric supply undertaking or system the necessary fees or charges begin paid by the Employer.

Testing and Commissioning:

On completion of the work and /or at the appropriate stages of the work as necessary the contractor shall arrange for all the necessary tests for safety, resistance, continuity etc, of the installation/equipment/Plant, etc. in Provided that the work shall not be deemed to be complete and the installation will not be taken over if the test results are not within satisfactory limits. In case the results are unsatisfactory the contractor is required to carry out all necessary rectifications/modifications at his own cost to bring the installation/plant/equipment to the level of acceptability within a period of 4 (four) weeks from the date of test and the defects liability period of 12 months will stand extended by the period of delay in such rectification/modification . modification, that is in excess of the said period of 4 weeks

On completion of work four prints each of the completion drawings (wiring diagrams and electrical layouts) incorporating all the modifications, carried out from time to time shall be submitted by the contractor to the employer through the Architects, indicating therein the position of all points board, mains, sub mains, circuits, etc. Properly number, the point bearing the same numbers as the circuit to which they belong. The contractor shall also where necessary furnish 4 sets of complete data of the equipment / plant installed, manufacturer' maintenance and operating instruction and the relevant literature to enable proper operation and maintenance to be carried out after he hands over the work / installation.

Workmanship

First class workmanship and neat appearance are essential requisites for compliance with these specifications.

Materials and Makes

All materials, equipment, fittings, fixtures, appliances, accessories, etc. to be used in the installation shall conform to the relevant Indian Standard Specifications and for such items as are not covered by I.S.S. the British Standards shall become applicable. They must be of the best quality obtainable in the makes/manufacture specified below, samples being approved by the Architects.



Note:

The tenderer will specify the makes (one in each category) of goods, accessories, fittings, etc. which he proposes to use, in column 4 of the “List of approved makes of electrical goods and statement of makes proposed to be used by Tenderer etc. “attached to the Form of Tender. If he specifies more than one make in any category, the Architects shall be entitled to assume that the best of the different makes so specified will be used by the contractor on the works or other equivalent make/maker as the Architects shall decide upon.

The word Equivalent used in these papers means “make of Equivalent Chipping, Chasing, Holing, Conduit Work:

The contractor shall be deemed to have inspected the General Builders work (and of others) in progress (or if it has been finished, the building) prior to submission by him of his tender and his rates shall be deemed to include the following:

- (a) In the case of all RCC work (slabs, columns etc.) wherein conduits are required to be buried the contractor or his representative/supervisor shall be continuously watching the work so that before concrete is laid in, he may lay and fix the conduits securely in place to proper alignment and in proper position, ensuring that during the process of laying of the concrete the conduits laid remain rigidly in their proper positions.

Note :

(chipping, chasing, holding to be done in walls/ floors and the like (whether bare or plastered or finished or not) shall be done neatly and the surfaces made good (or restored) by the contractor at his cost, after the conduits or other accessories are buried and fixed in place, without any delay begin caused to the General Builder work or work of other contractors on the job the walls, floors, etc. So made good are to match with the adjoining / contiguous wall/floor surfaces. All such work shall be done neatly and efficiently in the best workman like manner.

| <u>Technical Specifications of communication system:</u> | |
|---|---|
| 1 | <u>1000 port Communication System Architecture:</u> |
| | The communication system should be latest state of art new generation SIP based for converged IP telephony deployment. The communication system should have 32/64 Bit RISC processor. It should be possible to reach the maximum capacity of system up to 1000 extensions, 20 PRI and 100 digital extensions, 100 CO lines,90 SIP trunks,2000 IP extension,15 radio ports & 30 E&M and 60 GSM trunk on the same |



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| | platform without adding any cabinet and with single power supply. |
| | Communication System should be scalable, distributable and modular and the operating system shall be LINUX based. System shall employ IP at its core with IP switching technology and 100% non-blocking |
| | The communication system should have VOIP and Voice mail server at its core .i.e. VOIP and Voice mail server should not consume any slot in system. |
| | System shall be converged communication with ability to run TDM and IP on the same platform, it should support Analog, Digital, IP Telephones, mobile smart clients, PC UC clients & SIP based video desk phones. |
| | The communication System should be built on a universal slot architecture and modular in design to enable seamless growth, by adding the desired necessary cards as and when required. Any peripheral card can be inserted in any slot of the platform, whereby it is possible to increase or decrease the interface of the system as per the requirement in future as per mentioned maximum requirement. |
| | The architecture of the System shall be capable of seamless migration to its maximum capacity by simply adding peripherals cards in the same chassis without compromising function/features of the system. The architecture should be non-stackable eliminating individual power supply for each chassis |
| | The system should support hot redundancy in Active: Standby mode. I.e. if one Control card fails the second control card will take the complete load of the calls automatically without any manual intervention & without dropping any existing calls (IP, TDM & PRI). |
| | There should be no restriction on number of endpoints being backed up in case of call manager card/control card failure. |
| | The redundant CPU should be separate Hardware not sharing elements like Hard drives, RAM, etc. to avoid a single point of Failure |
| | All the peripheral cards should be hot-swappable. I.e. it should be possible to replace a peripheral card while system power is on |
| | The communication system should have distributed architecture using single box or multiple boxes. All the entities in the network shall be configurable from any location. It should be possible to provide Voice mail and UC features to all the users of the solution. |
| | The communication system should support 99.99% uptime of internal and external communications with no single point of failure. It should allow addition of new applications and new sites with lot of ease. |

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| | The System must be fully redundant which should offer 100% duplication of Power Supply and Control card. The System should provide duplication for power supply as well as for Control Cards configured in Hot Standby Mode. In the event of failure of primary power supply or control Card, the standby set should automatically and transparently take over, without any disruption of services or disconnection of ongoing calls. It should be possible to remove the power supply or control card in Power on condition for maintenance without affecting functioning of the system. |
| | The communication system shall have multiple port interfaces such as analog extension lines, digital key phone, IP Extension, C.O. Line, GSM/3G, E & M Line, PRI/E1 and VoIP. All interfaces shall be in the form of expansion cards and can be plugged into the universal slots of the system as and when require in the future. VoIP and Voice mail server should not consume any universal slot. |
| 2 | <u>1000 port Communication System Capabilities:</u> |
| | It should be possible to reach the maximum capacity of system up to 1000 extensions, 20 PRI and 100 digital extensions, 100 CO lines, 90 SIP trunks, 2000 IP extension, 15 radio ports & 30 E&M and 60 GSM trunk on the same platform without adding any cabinet and with single power supply. |
| | The communication system must build up high reliable software architecture running on Linux operating system. |
| | The offered communication system should provide communications solutions over IP, no restriction should evolve in terms of quality of service, reliability and security |
| | The communication system should support networking of two or more communication system over IP infrastructure |
| | The system must be suitable with adequate interfaces to provide control of communication process |
| | Support of different standard concerning the connection of voice terminals |
| | Provision of different solution to support availability of voice services |
| | Provide open interfaces and standard protocols for current and future applications |
| | Enable networking of system via TDM and IP infrastructure. |
| | Support of session initiation Protocol (SIP) to provide interface connection to ITSP and service providers |
| | Support 64 port Voice mail server, Voice mail server shall support features like call queuing, multi-language support, multiple MOH |
| | The system shall provide IP functionality at its core to support SIP/IP extensions and trunks over SIP protocol. It should be possible to support SIP Trunks and SIP/IP Extension with the single SIP server |
| | The system shall support in-skin voice mail server on CPU with 2000 hours of storage capacity and dedicated mailbox for each extension. |

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| | It should have built-in multi-party conferencing. It should have minimum 15 conference possible of 3-party. The maximum number of participants required in single conference would be 20 or better. |
| | The system should have inbuilt Power failure transfer functionality on card. No external devices for Power failure required. |
| | The system shall have the inbuilt auto attendant facility and shall be able to answer minimum 9 or better calls simultaneously and should support dial-by-name. |
| | The system should be Pure DC power operable (48V DC) through FCBC |
| | It shall have be IPV6 enabled from day one without any license |
| | It shall support Mobile and PC Apps (Own Developed) for mobile/PC as extensions. – With Features like click to call, auto Sign in, screen sharing etc. |
| | Unified Communication platform built in especially with E-mail to SMS, Voice Mail to E-mail, Bulk SMS, and SMS on no reply and Computer Telephony Integration etc. |
| | It shall support IVRS, Voice Mail & Conversation Recording up to 2000 Hours and unlimited recording in network drive |
| | It shall have Gateways of same OEM proving tight integration between server and gateway |
| | System shall support E1 over OFC; E1 on fiber can be directly connected to E1FO port of IP PBX without any media convertor. |
| | It shall support Splitting of E1 in to voice and data both using Data card. |
| | Voice message broadcasting should be supported and it shall support recording of message from telephone for broadcasting. |
| | Voice Message shall be broadcasted on mobile number of the users and also to the users of the networked systems. |
| | It shall also Support different AC impedances on CO line to tune to any CO line for best speech performance. It shall support automatic testing of CO line for AC impedance matching |
| | It shall support unanswered calls made to external caller return back to original Caller. |
| | System should force the administrator to change password on first login and every 90 days for enhanced security of the system configuration. |
| | It shall also Call Back on Missed call on trunk line. system should automatically call external caller on received missed call on trunk lines. |
| | It shall support Bulk SMS up to 1000 contacts for sending emergency meeting invite using GSM SIM inserted in IP PBX |
| | It shall auto changeover Hot Standby support on both PSU and CPU |
| | System shall have Fully Universal Slots architecture, where any cards can be plugged in any slots. |
| | It should be Fully Hot Swappable System, where we can insert or pull out any card randomly when system is in working condition. |
| | It should be Single Chassis and Single power solution till 1000 TDM and 2000 IP Ports. |

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| | It shall also support In skin GSM SIM connectivity with 4G Volte support |
| 3 | <u>Interface Connectivity :</u> |
| 3.1 | IP Trunk: |
| | <ul style="list-style-type: none"> The system should support VoIP solutions as an integral part of the system. The VoIP media gateway should not consume any universal slot. Universal slots should be usable for TDM port expansion. VoIP should be implemented by plug and play daughter board on server card Support of minimum 90 SIP trunk from Day 1, SIP trunk should be License free. System should have capability to support Video call Over IP The system must support following features of IP telephony: Dynamic DNS, Registrar Server, Proxy Server, Presence Server, NAT and STUN, voice codec G.711u, G.711a, G.723, G.729, GSM, iLbc. Only trusted IP address should be allowed for calling via Peer to Peer trunk. Digest authentication shall be supported on peer to peer SIP trunk. At least 500 IP addresses should be allowed in Trusted IP List. |
| 3.2 | CO Trunk : |
| | <ul style="list-style-type: none"> System should have in skin CO card with 8/16 co ports CO card should have power fail transfer facility, min 2 no's of CO ports shall have power fail transfer features and should function even if system in in Power off state. 1200 ohm or better loop resistance Loop start or ground start signaling The CO trunk card so offered should extend CLI from DOT junction on to Analog Telephones, Digital Telephones and IP Telephones. Should accept/extend CLIP features (FSK V.23, FSK Bell core 202 & DTMF) Should support impedance matching. Power failure transfer capability should be supported on card without addition of any external device Support of AC impedance test for clear, audible and Echo free speech over CO trunk. |
| 3.3 | ISDN E1/PRI Trunk : |
| | <ul style="list-style-type: none"> System shall have Single port/dual port E1/PRI card. System should support PRI port on single card with fiber E1 and copper E1 termination. The system shall have an ISDN Digital platform and shall be compatible with ISDN PRI line of Local Service Provider, system should support networking over PRI with fiber optic connectivity. External media converter should not be required. |

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| | <ul style="list-style-type: none"> The offered exchange should be an ISDN ready switch. The system platform should always be ready for ISDN and only the necessary in skin ISDN cards need to be added for functionality The offered system should be QSIG compliant (for PRI) for networking and Feature Transparency between two or more Systems. System shall support bifurcation of E1 channels for voice and data. The offered system shall support configurable E1 CAS Cards. It should be possible to terminate fiber patch cord for connecting 2MB on any of the E1 ports. Should support DTMF, MFCR2 and QSIG standard of interoperability between two exchanges |
| 3.3.1 | QSIG Features: |
| | <ul style="list-style-type: none"> System Network support (Main exchange and Satellite exchanges) should support international telephone standard like QSIG for interoperability between two exchanges. QSIG-BC-SS. Heterogeneous, open numbering plan. Calling/Connected Line Identification Presentation and Restriction. Calling/Connected Name Identification Presentation and Restriction. Call Forwarding Unconditional, Busy, No Reply, Call Transfer. Call Completion to Busy Subscriber, on No Reply, call Offer. System should have options to network over IP and ISDN technologies. System must support the following external telephony interface signaling:- |
| 3.4 | GSM trunk: |
| | <ul style="list-style-type: none"> System shall have in skin GSM card with min 8 port It shall support 2G/3G/4G Volte types of GSM network The system should have in-skin GSM card so that the multiple SIMs can be inserted on the GSM card plugged on to the PBX platform. Hence, the calls on GSM mobile can be routed through this SIMs and contribute in reduction of overall telecom bill. GSM trunk should not be provided through external device or GSM gateway/FCT GSM trunk support SMPP protocol to send/receive SMS using in-skin GSM SIMs within System. Any software required to send/receive SMS shall also to be quoted separately. Provision SMS to Email and Email to SMS , SMS on no reply Feature without use of any additional software |
| 3.5 | Radio Interface: |
| | <ul style="list-style-type: none"> It should have minimum 4 radio interface port per card, maximum 16 ports should be supported. |

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| | <ul style="list-style-type: none"> System shall support in skin radio card with HF/VHF/UHF radio integration support on same single card. Incoming call detection on Radio call shall be on single PTT/Multiple PTT Radio card shall support two-way radio functionality in half-duplex mode. Card shall be universal and can be inserted in any universal slot Port of card should be universal for all type of Radio HF/VHF/UHF. Any type of Radio should be connected to any port of card. Card shall support communication between different frequency Radio like HF to VHF, HF to UHF, UHF to VHF and vice versa. It should be possible to assign an extension number to the radio port |
| | <ul style="list-style-type: none"> Integration should be in such a way that Radio user should have facility to communicate with Exchange user by pressing PTT button or by directly dial user extension number or Radio user can directly dial external number via trunk lines connected to exchange It should support radio net to radio net auto disconnection on silence It should support DTMF detection and generation PTT activation should be on speech detected or by pressing access code It should support calling between Radios to IP Trunk. Conference call should work between Radio user, IP trunk, IP user, analog telephone, Digital Telephone and PSTN network |
| | <ul style="list-style-type: none"> The offered System should have programmable parameters of Radio port individually for VAD Threshold level, timer to activate/deactivate PTT, Radio incoming call with single PTT/Multiple PTT, gain levels and other related parameters. |
| 3.6 | E&M Trunks: |
| | <ul style="list-style-type: none"> The E&M Trunk Card shall provide at least 4/8 Ports per Card. The E&M card shall be available for interfacing either 4 wire E&M or 6 Wire E&M E&M signaling TYPE IV & TYPE V (Should support E (RON) / M (TRON) in 2- or 4-wire circuits Protocol Selection The choice of protocol should be selectable by hardware or by software. Provision of Immediate, Seizure pulse, Express trunk seizure types. Should support pulse as well as tone dialing. |
| 4 | <u>Subscriber Cards:</u> |
| 4.1 | Analog Subscriber: |
| | <ul style="list-style-type: none"> System shall support subscriber line card with 8/16/24/32 ports Single subscriber line card should support 32 subscriber port Each Port to support CLIP Feature both DTMF and FSK. The presentation of CLIP should be card dependent and should not be dependent on Central Resources. Should be work on copper 0.5 mm cable without degradation of service up to minimum distance of 8 Kms. |

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| | <ul style="list-style-type: none"> The loop resistance of the subscriber card should be at least 1800(inclusive of the phone resistance) ohms or more |
| 4.2 | Digital Subscriber: |
| | <ul style="list-style-type: none"> System shall support digital port card with 8/16/32 ports. It shall also support special card for digital port card with Digital phone connectivity up to 1 km. Each Port to support CLIP feature for both DTMF and FSK. There should no compulsion of using different hardware for DTMF or FSK CLIP. All the ports should support both DTMF and FSK CLIP. Should be work on copper 0.5 mm cable without degradation of service up to minimum distance of 500 meter or more. Should have capacity to receive 10 or more calls simultaneously. |
| 4.3 | IP Subscriber : |
| | <ul style="list-style-type: none"> The communication system should support all known 3rd party SIP phones IP Subscriber should be able to register any IP hard Phone/soft phone over the entire network Varied type of open SIP IP Terminals such as IP Phone, SIP soft phone and Mobile SIP Client shall be supported. System shall also support an application for Android and iPhone so that the enterprise mobility can be extended for the Smartphone users. Supplied IP Phones and PC based soft phones should be of the same manufacturer IP phone operational functionality should be same as Digital Extension of PBX System should have capability to support Video call Over IP |
| 5 | <u>System Security :</u> |
| | <ul style="list-style-type: none"> The system must incorporate advance security features like real time medial encryption. System should have facility to disable Telnet and FTP server access to have maximum security. Support of SIP over TLS and SRTP without any licenses. It should be IPv6 ready from first day System SIP trunk must accept traffic from trusted IP source and it must support digest authentication for security of SIP traffic. System should block GUI access after certain unsuccessful attempts of login. Also it should support Password Ageing. SMS and Email notification should be sent of all Activity and Fault logs to predefined minimum two mobile numbers and two Email respectively. |
| | <ul style="list-style-type: none"> Operating System used by the communication system must not use or natively support network resource sharing services such as NFS, samba, LPR etc. Password and access control must include at least:- |

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| | § Shadow Passwords to prevent the possibility of an aggressor to easily read or deduce system or account access passwords. |
| | § Password Aging with configurable time periods. |
| | § Usage of MD5 algorithm (or stronger) for password encryption. |
| | · Internal OS controls for remote point of access restriction and service availability. (i.e. TCP Wrappers and Trusted Hosts) |
| | · IP Phones should not support direct, external initiated, connections via HTTP, telnet, FTP, TFTP or any other protocol as means to prevent distributed Denial of Service attack exploitation. |
| | · IP Phones must support 802.1x (EAP-MD5 or better) for authentication and access control to the network, this mechanism must allow the user to be connected to the system once he has passed the authentication process; not before |
| | · System should have options to configure voice VLAN number , allowing for the separation of voice and data traffic |
| | · Administration users connecting directly to the Call Server (console) shall be authenticated |
| | · All management traffic between a remote console/session and the system must be encrypted. (HTTPS for web sessions etc.) |
| | · The management platform must provide Role Based Account Management to define different levels of administrator access depending on specific function responsibility. |
| 6 | <u>Software Up gradation ,Maintenance & Management:</u> |
| | · Web based GUI for maintenance, administration and configuration. Dedicated programming terminal should not be required. |
| | · System should support remote configuration Over WAN or any computer in LAN |
| | · System should support up gradation with direct GUI upload and there must minimum breakdown while up gradation of system. |
| | · The system can be programmed through Ethernet directly with online GUI without any external devices or modem. |
| | · The system shall have a built-in remote maintenance facility. The system can be programmed remotely over the internet without any modem required on the System side |
| | · System should maintain logs of all faults occurred. |
| | · Provision of notifying system admin by sending SMS on specific mobile number and by sending email on specific email Id. |
| | · Reports of faults/activity should be available through GUI in Printable format |
| | · System should have buffer of storing minimum 500 faults/error logs |
| | · System Fault logs should be available in online/offline mode |
| | · Fault log notification on operator console. |

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| | <ul style="list-style-type: none"> SNMP support for warning messages traps, Errors must be sent to SNMP server with any SNMP v1, v2 & v3 protocols. |
| | <ul style="list-style-type: none"> System should have notification of all alarms, logs to be saved in system. |
| | <ul style="list-style-type: none"> System shall support notification of faults over SMS. |
| | <ul style="list-style-type: none"> System must allow simultaneous GUI login from with 3 levels of access |
| | <ul style="list-style-type: none"> Management platform must provide a single graphical client (Graphical User Interface (GUI)) |
| | <ul style="list-style-type: none"> Management platform must provide web access allowing the administrator to manage the system to use any PC with an internet browser. |
| | <ul style="list-style-type: none"> Configuration and Programming of services, users, categories and all system parameters and features. This must provide management in local or remote environments of a single system or a network. The network manager will be able to configure all locations users |
| | <ul style="list-style-type: none"> Fault and error log notification availability on NMS software |
| | <ul style="list-style-type: none"> Generate reports about faults and errors in PDF format |
| | <ul style="list-style-type: none"> Access to exchange directory should be available through system GUI.it should be possible to Export/import Exchange directory in excel, csv format. |
| | <ul style="list-style-type: none"> Integrated Directory. It shall be possible to provide display equipped voice terminals with access to system directory on digital and IP phones. |
| | <ul style="list-style-type: none"> System shall have the provision of automatically identifying and isolating faulty trunks. This should be done on daily basis automatically or invoked by System administrator and results output on Maintenance terminal. |
| | <ul style="list-style-type: none"> It should relieve the user from remembering lengthy procedure and formats for data changes and shall use simple English commands. |
| | <ul style="list-style-type: none"> It should have options to record voice help message that can be available to all users by dialing voice help code |
| | <ul style="list-style-type: none"> The administration should be secured by way of password protection. It should be possible to have different layers of password. |
| | <ul style="list-style-type: none"> The system management terminal shall be capable of adding/ modifying hardware/software at main location and remote Location from main location only |
| | <ul style="list-style-type: none"> System usage: The usage display should enable users to view the results of running calls. |
| | <ul style="list-style-type: none"> Performance/status/information. The software, through real time monitoring should be able to provide the status of extension and trunks to the EPABX performance at any time on request basis through screen displays |
| | <ul style="list-style-type: none"> Fault Detection/Alarm: The software should constantly monitor the exchange performance and report/generate suitable alarms during any failures to indicate/localize the faults besides keeping the error-logs for various hardware failure detected. |
| 7 | <u>Certification and Environmental Specification:</u> |
| | <ul style="list-style-type: none"> The offered system shall be compatible with tropical climate prevalent in India |

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| | <ul style="list-style-type: none"> The system should be able to operate in relative humidity of 0-95% System should be Fully operational between Temperature 0°C to +45°C and storage temperature should be -20°C to +70°C Valid TEC certificate should be available for proposed model System should be certified for EMI/EMC, CE, RoHS and FCC15B. |
| 8 | System Features: |
| | Mobility: System shall support UC client application for Android/IOS and windows platform for extension mobility on smartphones and computers. It shall have features like Outlook Integration, BLF, Drag and Drop Conference and other Telephony Features. |
| | System shall support in-skin GSM card with Features like RCOC (Return Call to Original Caller), SIM Balance Check, BHCC selection, SMS notification on faults etc. |
| | System shall support SMS to Email and Email to SMS Feature without use of any additional software. |
| | System shall support SMS on NO reply. |
| | Call Routing: It shall support direct call routing of Trunk to Trunk call without intervention of Operator, Least cost routing, alternate number translation, Strip digit etc. |
| | Voice Message to be broadcasted can be recorded from telephone. It should not mandate recording the broadcast message on a PC. |
| | Voice Message can be broadcasted on mobile number of the users and also to the users of the networked systems. |
| | Support 16 different AC impedances on CO line to tune to any CO line for best speech performance. |
| | Last 250 unanswered calls made to external caller return back to original Caller. |
| | System forces the administrator to change password on first login and every 90 days for enhanced security of the system configuration. |
| | Call Back on Missed call. |
| | Bulk SMS up for sending emergency meeting invites |
| | Conferencing and built in Auto attendant: It shall support built in dial in and ad-hoc conference. Conferencing feature should be available from day 1 and it should be license free. |
| | It should have built-in multi-party conferencing. It should have minimum 15 conference possible of 3-party. The maximum number of participants required in single conference would be 21 minimum |
| | Voice guided auto-attendant shall be preferably built-in. |
| | The system shall have the inbuilt auto attendant facility and shall be able to answer minimum 9 calls simultaneously and should support dial-by-name |

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| | Call billing: Detail reports of all system parameters should be generated through the CDR port of System. External third party Billing software shall not be required for basic report generation. Reports shall be directly saved in PDF format. Facility of online and scheduled report also should be available. |
| | Call Accounting Data Export: The Call Accounting Data Export feature should enable users to export information on station maintenance terminal. Accounting of all calls generated by the users including cost, date, hour. Must provide different options to group the monitoring of the calls (extension number, trunk). EPABX system should have optimum storage buffer call details in case of Call billing system/ management system failed Import/Export Capability. This should include easy graphical exporting and importing of directory numbers. |
| | The call ringing sequence would be programmable and have options such as simultaneous, hunting off, round robin and delayed simultaneous. |
| | System features shall have class of service, night service, conference, auto diagnostic etc. Class of service shall be unrestricted, STD restricted and semi restricted or customized. |
| | Scheduling. Features: The scheduling capability should enable users to specify a features to run at a specific time zone like call forward, schedule conference, scheduled message wait notification and scheduled call detailer report printing |
| | SNTP client should be inbuilt in System. |
| | The system shall have features as CLI based routing, call duration control, least cost routing i.e. time, number or combination of both. |
| | Extension features shall have an extension to extension call, extension to central office, extension to operator, automatic call back, call transfer, call forward, follow me, executive/secretary, do not disturb, barge-in, raid, Boss ring, Priority, emergency reporting etc. |
| | Operator features shall have the assistance to extension, attended call transfer, call intercept, indication of call waiting, night service control etc. |
| | The system shall have a built-in remote maintenance facility. The system can be programmed remotely over the internet without any modem required on the PBX side. |
| | The call ringing sequence would be programmable and have options such as simultaneous, hunting off, round robin and delayed simultaneous. |
| | Caller line identification (CLI) on Analog and digital/PRI trunks shall be built-in for both DTMF and FSK telephone instrument. |
| | Each port of the system shall be programmable. It shall have programmable features port-wise/extension-wise. |
| | The system shall support flexible numbering for extensions such as it may have extensions with 1 digit, 2 digits and up to 6 digits numbers as well as in combination of all. |
| | Access codes, system timers and access to features shall be programmable. |

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| | Voice guided auto-attendant shall be preferably built-in. |
| | System should support dial form the directory. There shall be minimum 2900 numbers possible and shall also possible to dial it as an abbreviated number. |
| | Features given to an extension shall be accessed from any other extension by dialing the secret codes. |
| | System features shall have class of service, night service, conference, auto diagnostic etc. Class of service shall be unrestricted. STD restricted and semi restricted |
| | System shall support 128 Voice mail extensions over QSIG |
| | Assistance beep feature support while operator is on conversation, |
| 9 | <u>Other features:</u> |
| | <ul style="list-style-type: none"> Return call to original caller 4 digit pin dialing, Virtual Stations Emergency conference Account Codes (Forced) Allowed and Denied Lists, trunk reservation Alternate Number Dialing Backup CDR Anonymous Call Rejection (SIP) Backup-System Configuration Barge-in Call Budget on Trunks Call Cost Calculation Call Duration Control Call Progress Tones (Programmable, Call Taping, Voice Prompts for Tones CLI based Routing, Routing of calls to only permissible legal networks (Logical Partitioning) Closed User Group (With/Without System ID) Conference Dial-in Conference – Multiple Participants Conversation Recording Daylight Saving Time (DST) Direct Inward Dialing (DID) Direct Dialing-In (DDI on T1/E1/PRI) Direct Inward System Access (DISA) Dynamic DNS (DDNS) E-mail Notification (VMS) Embedded Registrar and Proxy Servers (SIP Server) |

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| | <ul style="list-style-type: none"> · Fax over IP (T .38 Relay and Pass-Through) · Hot Outward Dialing (With/Without Number & Delay) · Least Cost Routing (Number , Time and Service provider) · Live Call Screening (VMS) · Message Wait Indication · Multi-Stage Dialing · Online CDR · Peer-to-Peer Calling · Real Time Clock · Region Selection · CDR Posting (Call Accounting System Interface) · SMS Gateway & SMS server · Inbuilt Call Detail Records · System Activity Log and Display |
| 10 | <u>Voice Mail features:</u> |
| | <ul style="list-style-type: none"> · The system shall integrate in-skin voice mail module on CPU with 2000 hours of storage capacity and dedicated mailbox for each extension. · The Voice mail server support 64 channel expansions; VMS shall support features like call queuing, multi-language support, multiple MOH. · Attend as much as 64 calls simultaneously with flexibility of routing callers to desired extension or delivering information depend upon the selection · Dial-by-Name to reach the intended user directly without knowing/remembering extension number · Selectively allocate voicemails to users with the flexibility of customizable mailbox size and greetings for All/Selective users · Group mailbox to share messages between departmental groups · Anywhere access to voice mail with just a phone call · Password protected secured voice mail access · Record important conversations for future reference and record maintenance · Redirection of voice mails to another extension in case of non-availability · Tag voice mails while Forwarding Messages to Another Mailbox · Broadcast voice message to a group of personnel, at a go · Distribution lists for delivery of voice mails to different set of users or groups · Message wait indication via ring, change in dial-tone, voice message or message wait lamp · Notification of a new voice mail via email alert or a phone call · The system shall have a conversational recording in the mail box should be available with voice mail system card of System. Conversation recording should be possible on Analog/Digital/IP as well as Mobile SIP Smartphones (Android/iPhone). |

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| | <ul style="list-style-type: none"> Voice mail box availability for all users of system |
| 11 | <u>Specification of Operator Console/Digital Phone:</u> |
| | <ul style="list-style-type: none"> Graphical LCD with Backlit LED for Incoming/Ongoing Call, Mute, Hold 16 memory/speed dial keys Should be able to use server integrated directory backlight display panel LED for Incoming/Ongoing Call, Mute, Hold Add on 32 key module support, maximum 4 key modules shall be supported Should be possible to connect additional key modules up to 128 keys Should be able to attach a headset to the operator console Intuitive User Interface with Icons Multiple Languages Caller ID with Name, Number 45 or more keys including 4 Context Sensitive Hard Keys RJ9 Handset Port, RJ9 Headset Port 3.5 mm Headset Port Installation: Wall Mount, Table-top, CE, FCC-15. RoHS certified Mute, Call Hold, Do Not Disturb, Speed Dial, Hotline Redial, Call Back, Auto Answer, Call Forward, Call Waiting, Call Transfer Room Monitoring, Conference, Directory, Call Logs ,Dial-by-Name Message wait Lamp, Ringer Lamp. Voice Mail ,Call Pickup – Group and Selective |
| 12 | <u>Specification of Type-1 IP Phone:</u> |
| | <ul style="list-style-type: none"> 2.3 inch Graphical Display Context Sensitive and Fixed Function Keys Full Duplex Speakerphone with AEC, VAD, CNG TLS/SRTP for Voice Security Integrated PoE (802.3af) Auto Provision, TR069 IPv6 Ready, PC and LAN Ports LED for Incoming/Ongoing Call, MWI, Mute, Hold Intuitive User Interface with Icons and Soft keys Multiple Languages Caller ID with Name, Number 2 x 10/100 Mbps LAN & PC Ports |

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| | <ul style="list-style-type: none"> 25 or more keys including 4 Soft Keys, 1 x RJ9 Handset Port, 1 x RJ9 Headset Port Installation: Wall Mount, Table-top, CE, FCC-15 (Class-B), RoHS |
| 12.1 | Phone Book <ul style="list-style-type: none"> Local Phonebook up to 1000 entries Black List, XML Remote Phonebook, Intelligent Search Method, Phonebook Search/Import/Export, Call History: Dialed/Received/Missed/Forwarded |
| 12.2 | Phone Features <ul style="list-style-type: none"> Full-duplex Hands-free Speakerphone with AEC Codecs: G.711(A/μ), G.722, G.723, G.729, G.726, iLbc DTMF: In-band, Out-of-band (RFC 2833) and SIP INFO VAD, CNG, AEC, PLC, AJB, AGC 1 VoIP Account Call Hold, Mute, DND One-touch Speed Dial, Hotline Redial, Call Return, Auto Answer Call Forward, Call Waiting, Call Transfer Local 3-way Conferencing Direct IP Call without SIP Proxy Ringtone Selection/Import/Delete Keypad Lock, Emergency Call Set Date & Time Manually or Automatically Dial Plan, XML Browser, Action URL/URI Instant Messaging (Web UI and Phone) |
| 12.3 | Call Management <ul style="list-style-type: none"> Anonymous Call (CLIR), Anonymous Call Rejection, Message Waiting Indicator (MWI), Voicemail, Call Pickup, Intercom, Music on Hold, Call Completion, Hot-desking, Dial out Number from Web UI |
| 12.4 | Networking and Security <ul style="list-style-type: none"> SIP v1 (RFC2543), v2 (RFC3261), IPv6, NAT Transverse: STUN Mode, Proxy Mode and Peer-to-Peer SIP Link Mode, IP Assignment: Static/DHCP/PPPoE, HTTP/HTTPS Web Server, Time and Date Synchronization using SNTP, UDP/TCP/DNS-SRV (RFC 3263) QoS: 802.1p/Q Tagging (VLAN), Layer 3 ToS, DSCP, SRTP for Voice, Transport Layer Security (TLS), HTTPS Certificate Manager, AES Encryption for Configuration File, Digest Authentication using MD5/MD5-sess, IEEE802.1X, SNMP v1/v2 |
| 12.5 | Management <ul style="list-style-type: none"> Configuration: Browser/Phone/Auto Provision |

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| | <ul style="list-style-type: none"> Auto Provision via FTP/TFTP/HTTP/HTTPS for Mass Deploy Factory Reset Soft Reboot Package Tracing System Log |
| 12.6 | Power Supply <ul style="list-style-type: none"> Power Adapter: 5VDC/600mA (Included in the Box) Power over Ethernet (IEEE 802.3af), Power Consumption: 5W (Typical) Connector: DC Power Jack |
| 13 | <u>Specification for Type-2 IP Phone</u> |
| | <ul style="list-style-type: none"> 2 x 10/100 Mbps LAN & PC Ports Graphical LCD with Backlit LED for Incoming/Ongoing Call, Mute, Hold Add on 32 key module support, maximum key modules shall be supported Intuitive User Interface with Icons Multiple Languages Caller ID with Name, Number 45 or more keys including 4 Context Sensitive Hard Keys RJ9 Handset Port, RJ9 Headset Port, 3.5 mm Headset Port Installation: Wall Mount, Table-top CE, FCC-15, RoHS, Power over Ethernet (IEEE 802.3af) Power Consumption: 5W (Typical) Connector: DC Power Jack, 5VDC/600mA Operating Temperature Range = 0 to 45°C Storage Temperature = 0 to 55°C Message wait Lamp, Ringer Lamp, Voice Mail, Call Pickup– Group and Selective, Paging |
| 13.1 | Phone Features |
| | <ul style="list-style-type: none"> Mute, Call Hold, Do Not Disturb, Speed Dial, Hotline, Redial, Call Back, Auto Answer, Call Forward, Call Waiting, Call Transfer, Room Monitoring, Conference, Directory, Call Logs, Paging Dial-by-Name |
| 14 | <u>Specification of Mobile UC client for Android/iPhone:</u> |
| | <ul style="list-style-type: none"> Shall be installed on android OS 5.1/ IOS 7 or later Comprehensive Call Management, One-Touch Access to PBX Features Corporate Directory Integration, Video Calling, Favorites Presence Sharing and Instant Messaging, Voice Mail Access |

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| | <ul style="list-style-type: none"> It shall support UC features like Auto sign in using Email, Siri/Voice Assistant integration Conversation Recording, Call management – call hold, transfer, forward, DND and intercom Multiparty audio conferencing, Blind transfer Menu options - –all Pickup, Paging, Message wait, Call Retrieve, Alarm and Reminder, Dynamic Lock, Dial-In Conference, CLIR, Room monitoring & Call supervision Dial by extension Call Screening - –CB, Forced Answer, Global Hold, General Call Park, Call Chaining, IR & Barge-IN Multiple call support, SMS over IP, One touch transfer, Wi-Fi to cellular handover Multiple language support, Call toggle, Auto call back, Auto redial, Forced answer Open a door, Call logs, Missed calls notification, DND override |
| 15 | <u>Specification of Windows Desktop based UC Soft client:</u> |
| | <ul style="list-style-type: none"> Windows Desktop based UC Client for Seamless Collaboration, shall support installation on windows 7 service pack 1 or higher Corporate Directory Integration, 1000 DSS & 600 BLF keys for Monitoring Popup Window for Incoming Message and Call, Presence Sharing and Instant Messaging Video Calling Drag and Drop Conference, Contact Grouping, Video call, Voicemail, Favorites It shall support UC features like screen sharing , application sharing, click to call etc. Call management – call hold, transfer, forward, DND and intercom Multiparty audio conferencing, Blind transfer Menu options - –all Pickup, Paging, Message wait, Call Retrieve, Alarm and Reminder, Dynamic Lock, Dial-In Conference, CLIR, Room monitoring & Call supervision Handover to external number, Smart directory access Dial by extension Call Screening - –CB, Forced Answer, Global Hold, General Call Park, Call Chaining, Call Recording, IR & Barge-IN, Multiple call support, SMS over IP One touch transfer, Call toggle, Auto call back, Auto redial, Forced answer Open a door, Call logs ,Missed calls notification, DND override, Click to Call, Outlook Integration Calendar Integration, Keyboard Integration |

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| 16 | <u>Specification for Type-3 IP Phone (Video IP phone)</u> |
| | <ul style="list-style-type: none"> 7 inch (1024 x 600) capacitive adjustable touch screen 720p30 HD video Runs Android 5.1.1 Built-in Bluetooth 4.0+ for headsets and pairing mobile devices Built-in Wi-Fi (802.11b/g/n) USB 2.0 port (2.0 compliant) for USB headset, media and storage applications Opus Codec support Up to 16 VoIP accounts Up to 3-party video conferencing Up to 5-party video/audio mixed conferencing Wall mountable |
| 16.1 | Audio Features |
| | <ul style="list-style-type: none"> HD voice: HD handset, HD speaker Hearing aid compatible (HAC) handset Audio codec: Opus, G.722, G.722.1, G.722.1C, G.711 (A/μ), G.723, G.726, G.729AB, iLbc DTMF: In-band, Out-of-band (RFC 2833) and SIP INFO Full-duplex hands-free speakerphone with AEC VAD, CNG, AEC, PLC, AJB, AGC |
| 16.2 | Video Features |
| | <ul style="list-style-type: none"> 720p@30fps HD video call Video codec: H.264 High Profile, H.264, VP8 Camera: 2 mega-pixel, plug and play, adjustable, with privacy shutter and LED indicator Vertical tilt angle adjustable: 50° Field of view (FOV): 70.2° Self-view (local video preview) |
| 16.3 | Display and Indicator |
| | <ul style="list-style-type: none"> LCD screen: 7" 1024 x 600 capacitive adjustable touch screen - Vertical tilt angle adjustable: 48° 5 points multi-touch surface Screensaver and Wallpaper LED for call and message waiting indication Intuitive user interface with icons and soft keys Multilingual user interface Caller ID with name, number and photo Android bundled Applications FileManager/Email/Calendar/Gallery/Recorder/Calculator/Browser/Message Third party Android application support |

| | |
|-------------|---|
| 16.4 | Phone Features |
| | <ul style="list-style-type: none"> 16 VoIP accounts Call hold, call forward, Call waiting, call transfer, One-touch speed dial, hotline Mute, DND, Redial, call return, auto answer, Direct IP call without SIP proxy Ring tone select/import/delete, Set date time manually or automatically, Dial plan, action URL/URI RTCP-XR (RFC3611), VQ-RTCPXR (RFC6035), Three-party audio conferencing, Five-party audio/video mixed conferencing Data import/export via Bluetooth, email, Group listening, emergency call |
| 16.5 | Directory |
| | <ul style="list-style-type: none"> Local phonebook up to 1000 entries, Black list, XML/LDAP remote phonebook, Smart dialing, Phonebook search/import/export, Call history: dialed/received/missed/forwarded |
| 16.6 | Feature Keys |
| | <ul style="list-style-type: none"> 27 one-touch DSS keys, 8 feature keys: hold, transfer, message, headset, mute, redial, speakerphone, volume, Illuminated mute/headset/hands-free speakerphone key |
| 16.7 | Interface |
| | <ul style="list-style-type: none"> Dual-port Gigabit Ethernet, Built-in Wi-Fi (2.4GHz, 802.11b/g/n) Built-in Bluetooth 4.0+ EDR for Bluetooth headsets, Pairing mobile devices 1 x USB 2.0 port (on the top of the phone) for: camera 1 x USB 2.0 port (on the rear of the phone) for: USB flash drive, Wired/wireless USB headset 1 x Security lock port, 1 x RJ9 (4P4C) handset port, 1 x RJ9 headset port |
| 16.8 | Management |
| | <ul style="list-style-type: none"> § Auto-provision, TR-069 § Phone lock for personal privacy protection, Reset to factory, reboot § Package tracing export, system log, Only the administrator can install/uninstall apps via auto-provisioning, Setup Assistant wizard § Configuration: browser/phone/auto provision, Auto provision via FTP/TFTP/HTTP/HTTPS for mass deployment |
| 16.9 | Network and Security |
| | <ul style="list-style-type: none"> IPv4/IPv6, SIP v1 (RFC2543), v2 (RFC3261) Call server redundancy supported, NAT traversal: STUN mode Proxy mode and peer-to-peer SIP link mode IP assignment: static/DHCP/PPPoE, HTTP/HTTPS web server Time and date synchronization using SNTP UDP/TCP/DNS-SRV (RFC 3263) QoS: 802.1p/Q tagging (VLAN), Layer 3 ToS DSCP, SRTP, Transport Layer Security (TLS) |

| | |
|--------------|---|
| | <ul style="list-style-type: none"> • HTTPS certificate manager, AES encryption for configuration file • Digest authentication using MD5/MD5-sess, OpenVPN, IEEE802.1X |
| 16.1 | Other Physical Features |
| | <ul style="list-style-type: none"> • Wall mountable (optional), External AC adapter (optional): AC 100~240V input and DC 5V/2A output • Power consumption : max 15 W |
| 16.11 | Compliance: WEEE Compliant, ROHS Compliant, Hearing Aid Compatible |
| 17 | <u>Computer for maintenance console :</u> |
| | Processor Type – core I3 or higher |
| | Motherboard- Intel or reputed make |
| | OS support – windows 7 Professional or higher |
| | RAM –4 GB |
| | Cache - 8 MB cache or higher |
| | Hard disk drive (HDD) size - 500 GB |
| | Interfaces – USB 1 nos , RJ 45 – 1nos |
| | USB keyboard -1 nos |
| | Optical Scroll Mouse – 1nos |
| | 21" color -1920* 1080 pixel resolution |
| | Gigabit Interface |
| 18 | <u>Specification of Analog CLI phone:</u> |
| | <ul style="list-style-type: none"> • Tone / Pulse Switchable • Visual Indication for ring • With Mute, Pause, Flash Redial Button • Desktop / Wall Mountable • Ring Volume Control |

All materials used shall be approved by the Client prior to the procurement by the contractor.

For the EPABX system for the building, the latest and most recent model of the manufacturer only to be quoted by the contractor. In this regard, Certificate from manufacturer (certifying the most recent /latest model) to be submitted along with the Model number.

Testing of equipment:



The EPABX system shall be subjected to the tests as per NABL/BS/ IS/CE requirements at the factory before dispatching the same (Routine tests). These tests shall be witnessed by representative of the client and consultant. The book let published by NABL/BS/ IS (as the case may be) on these tests shall be made available in advance before the tests are carried out to the owner and consultant. The contractor shall produce Type Tests reports on the type tests conducted by equipment vendors on similar equipments for our verification and approval.

All equipment before installing at the site shall be tested and all such results produced to the employer). Nothing shall absolve the contractor from re-performing any tests that contractor may be called upon specifically by consultant/ employer/supply company or Electrical inspector. All equipments shall be tested jointly with the consultants/ employer as required by various sections of specifications and test data shall be furnished as required.

The travel expenses, Boarding and lodging expenses for the client's representatives and consultant has to be borne by the contractor only.

P. S: It will be Contractors responsibility to provide Test Certificates from each manufacturer, specifying clearly Batch No, date of Manufacturing etc. Manufacturer Authorization Format (MAF), which is mandatory in case of Authorized dealer(s), is attached at **Annexure – I**. However if any doubt arises about the quality of a particular material brought to site, Bank may directly take the samples and get them tested in any laboratory and the cost towards testing to be borne by the Contractor. If material found to be of inferior / substandard quality, Contractor at his own cost shall remove such material from the site and procure new material as required.

CCTV:

| CCTV | IP Camera | |
|------|------------------|--------------------------|
| | Image Sensor | 2MP PS CMOS Image Sensor |
| | Effective Pixels | 1920(H) x 1080(V) |



| | |
|---|---|
| Resolution | 1080P / 1.3MP / 720P / D1 / VGA |
| Video Compression | H.265+ / H.265 dual-stream encoding |
| Lens | 2.88mm fixed lens |
| IR | IR Range of Min 20 Mtrs and above |
| Weatherproof Standard | IP67 rating |
| Power Source | PoE (802.3af), DC12V |
| Network Video Recorder | |
| Processor | Quad-Core Embedded Processor |
| IP Camera Input | 16 Channel |
| Video Output | 1 HDMI, 1 VGA |
| Compression | Smart H.265+/H.265/Smart H.264+/H.264 |
| Video Resolution | HDMI: 3840X2140, 1920X1080, 1280X1024, 1280X720, VGA: 1920X1080, 1280X1024 |
| Video Recording | Max 200 mbps |
| Hard Disk | 4 SATA Ports, upto 24TB |
| Interface Ports | 1HDMI, 1VGA, 2USB, 1RS-485, 1 RS232 |
| Ethernet | 2 RJ-45 Ports |
| Protocols | HTTP, HTTPS, TCP/IP, IPv4, IPv6, UPnp, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, IP Search, ONVIF 2.4, SDK, CGI |
| Power Supply | AC 100-240V, 50/60 Hz |
| 24-Port smart Managed POE Gigabit Switch | |
| 10/100/1000 Ports | 24 |
| COMBO Ports (10/100/1000 or 100/1000 SFP) | 4 |

| | |
|----------------------------|--|
| Port Standards & Functions | IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-FX 100 Mbps over fiber optic IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) IEEE 802.3z 1000BASE-X 1 Gbps over fiber optic IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3x Flow Control IEEE 802.3af/at compliance (for PoE ports) |
| Network Cables | UTP Cat. 5, Cat. 5e (100 m max.) |
| Duplex Mode | Full/half-duplex for 10/100 Mbps Full-duplex for 1000 Mbps |
| Media Interface Exchange | Auto MDI/MDIX adjustment for all twisted-pair ports |
| Switching Capacity | 56 Gbps |
| PoE Standards | 802.3af (PoE) and 802.3at (PoE+) |
| PoE Capable Ports | Ports 1 – 4 (PoE+) |
| PoE Power Budget | 193 W |
| Port Mirroring | Yes |
| VLAN Groups | Yes |
| IP Interface | Yes |
| Web-based GUI | Yes |
| 55 inch Commercial Display | |
| Diagonal Size | 55 inches |
| Resolution | 1920*1080 (Full HD) |
| Operation Hour | 16 hours 7 days a week |
| Sound Speaker Type | Built in Speaker(10W + 10W) |
| Inputs | DVI-D, HDMI1, HDMI2, Component(CVBS Common), HDCP 1.4, Stereo Mini Jack |



| | | |
|------------------|---|--|
| | Outputs | Stereo mini Jack |
| | External Control | RS232C(in/out) thru stereo jack, RJ45 |
| Networking | 24-Port smart Managed Gigabit Switch | |
| | 10/100/1000 Ports | 24 |
| | COMBO Ports (10/100/1000 or 100/1000 SFP) | 4 |
| | Port Standards & Functions | IEEE 802.3 10BASE-T Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-TX Fast Ethernet (twisted-pair copper) IEEE 802.3u 100BASE-FX 100 Mbps over fiber optic IEEE 802.3ab 1000BASE-T Gigabit Ethernet (twisted-pair copper) IEEE 802.3z 1000BASE-X 1 Gbps over fiber optic IEEE 802.3az Energy Efficient Ethernet (EEE) IEEE 802.3x Flow Control |
| | Network Cables | UTP Cat. 5, Cat. 5e (100 m max.) |
| | Duplex Mode | Full/half-duplex for 10/100 Mbps Full-duplex for 1000 Mbps |
| | Media Interface Exchange | Auto MDI/MDIX adjustment for all twisted-pair ports |
| | Switching Capacity | 56 Gbps |
| | | |
| PA System | Power Amplifier | |
| | Mounting | Rack Mount - –U |
| | Rated Power Output | 500W |
| | Speaker Outputs | 70V, 100V & 4~16Ω |
| | Frequency Response | 50Hz~16KHz(+1dB, -3dB) |
| | Cooling | Fan automatically start up when temp reaches 55°C |
| | Protection | Over heat, over load, clip & short circuit |



| | | |
|-------------------------|---|--|
| Ceiling Speaker | | |
| Power Handling Capacity | 6W | |
| Sound Pressure Level | 96dB | |
| Speaker Type | 6" ceiling type | |
| Rated Input Voltage | 70V / 100V | |
| Power Tapping | Available | |
| Color | White | |
| Paging Controller | | |
| No. of Zones | Minimum 8 Zones | |
| Input | MIC1,2:600Ω ,5mV, unbalanced Line1,2:10KΩ ,775mV, unbalanced | |
| Output | 80dB | |
| Controls | MIC1, 2 VOL controls, channel selectors, chime button, power switch | |
| Paging Call Station | | |
| No. of Zones | Minimum 8 Zones | |
| Input | MIC1,2:600Ω ,5mV, unbalanced Line1,2:10KΩ ,775mV, unbalanced | |
| Frequency Response | MIC: 100Hz~15KHz; Line: 30Hz~18KHz | |
| Controls | Chime MIC VOL controls, 300 channel selectors, chime button, power switch | |



ANNEXURE 'I'

MANUFACTURER'S AUTHORIZATION FORM (MAF)

(ON MANUFACTURER LETTER HEAD ONLY)

Date:

To:

M/s Indian Bank,
Corporate Office
Chennai

WHEREAS

We,who are official manufacturers of
..... having factory at....., do hereby
authorize to submit a Bid in relation to
the Invitation for Bids indicated above, the purpose of which is to provide the following
Goods, manufactured by us and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the General Conditions
of Contract, with respect to the Goods offered by the above firm in reply to this Invitation for
Bids.

Name In the capacity of:

Signed

Duly authorized to sign the Authorization for and on behalf of

Tel:

Fax:

E-mail:

Date:



| LIST OF APPROVED MAKES | | |
|------------------------|--|-------------------------------------|
| S.NO | ITEM | RECOMMENDED MAKES |
| I | CCTV | |
| 1 | Camera | Hikvision / Honeywell/Samsung |
| 2 | Hard Disk | Western Digital/Seagate |
| 3 | 24 Port Smart Managed POE Gigabit switch | HP / Cisco/Net Gear/DLink. |
| 4 | 24 Port CAT6 Fully Loaded Patch Panel | D-Link / R&M/AMP |
| 5 | CAT 6 Patch Cable (1 Mtr / 2 Mtr) | Amp/DLink/R&M |
| 6 | 6U/12U/19U/42U Rack | DLink/Netrack/Hardy |
| 7 | OFC Armoured Cable/LIU/Patch Cables | Polycab / Finolex / Amp/DLink. |
| 8 | SFP Module | D-Link/Cisco/HP |
| 9 | CAT6 Cable | D-Link / Comscope/AMP/R&M |
| 10 | PVC conduit | AVON PLAST, AEROPLAST, ANCHOR |
| 11 | All in one PC | Dell/HP/Lenova |
| 12 | HDMI cable | NT/Logic/Kramer |
| 13 | 55inch Commercial Display | Samsung/LG/Panasonic |
| II | NET WORKING | |
| 1 | 24 Port Smart Managed POE Gigabit switch | HP / Cisco/NetGear/DLink |
| 2 | 6U/12U/19U/42U Rack | D-Link / Nettrack/Hardy |
| 3 | 24 Port CAT6 Fully Loaded Patch Panel | D-Link / R&M / Netfox/Amp |
| 4 | CAT 6 Patch Cable (1 Mtr / 2 Mtr) | D-Link / R&M / Netfox/Amp |
| 5 | CAT6 I/O | D-Link / R&M / Netfox/Amp |
| 6 | CATE 6 Face Plate (Single /Dual) | D-Link / R&M / Netfox/Amp |
| 7 | CAT6 Cable | D-Link / Comscope/AMP. |
| III | EPABX | |
| 1 | EPABX Chasis / Cards | Matrix / Panasonic / Coral/Siemens. |
| 2 | 20 Pair Armoured Cable | Polycab / Finolex/Havells. |
| 3 | CAT6 I/O | D-Link / R&M / Netfox/Amp |
| 4 | CATE 6 Face Plate (Single /Dual) | D-Link / R&M / Netfox/Amp |
| 5 | CAT6 Cable | D D-Link / Comscope/AMP/R&M |



| | | |
|-----------|---|---------------------------------|
| 6 | Krone Box | Any Branded make |
| 7 | Analog Telephone with Speaker | Panasonic // Siemens/Matrix |
| 8 | IP Phone (Compatible with EPABX System) | Panasonic / / Siemens/Matrix |
| IV | PUBLIC ADDRESS SYSTEM | |
| 1 | Ceiling Speakers | Bosch / Honeywell / Audiotrak . |
| 2 | Amplifier | Bosch / Honeywell / Audiotrak. |
| 3 | Paging System with Paging Microphone | Bosch / Honeywell / Audiotrak. |

[A] CHECK LIST: Details of Enclosures.

| Sl.No | Description of item | <u>Enclosed</u> <u>Page. no</u> |
|-------|--|------------------------------------|
| 1. | Tender Document including Letter of Proforma A | |
| 2. | Audited Balance Sheet and Profit & Loss statement for the past three financial years duly certified by a Chartered Accountant. | |
| 3. | Solvency certificate by a Scheduled Bank | |
| 4. | Certificates / Reports for: a) Firm / Company registration b) Completion certificates c) Performance Reports d) Solvency Certificate | |
| 5. | Details of key technical and administrative personnel employed by the firm/ company. | |
| 6. | Any other important information. | |
| 7. | Have you enclosed the entire drawings placed in the website | |
| 8. | Manufacturers Authorization letter | |

Date and Place:

SIGNATURE OF APPLICANT(S)



Note: Exceptions of the above, if any, shall be clearly mentioned with details by the tenderer for evaluation/consideration if any.

Even though an applicant may satisfy the above requirements, he would be liable to disqualification if he has:

- (a) Made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the tender document.
- (b) Record of poor performance such as, abandoning work, not properly completing the contract, or financial failures / weaknesses etc.

**ASSISTANT GENERAL MANAGER (P&E)
INDIAN BANK
CORPORATE OFFICE,
CHENNAI**

