

TENDER DOCUMENT

Name of work: Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.

CLIENT: DIRECTOR,
NIPGR NEW DELHI

COST OF TENDER DOCUMENT:- ₹ 500/-



TENDER DOCUMENT

Name of work: **Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi**

Owner : **Director, NIPGR, New Delhi**

Tender Issued to :

Place for submission/

Place opening of tender document:

**NIPGR Campus,
Aruna Asaf Ali Marg,
New Delhi-110067**

**Consultant Engineer
NIPGR**

Last date & time for sale of tender documents: 14.01.2019 before 1500 hrs.

Date & time of submission of tender documents: 15.01.2019 up to 1500 hrs.

Date & Time of Opening of Tenders: 16.01.2019 at 1500 hrs.

**Consultant Engineer
NIPGR**

TENDER FORM

To

**The Director
NIPGR Campus,
New Delhi.**

Dear Sir,

I/We have read and examined the following Tender Documents relating to - **Name of work: Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.**

- Tender Notice
- General Conditions
- Instructions to Bidders
- General Information
- Memorandum
- Schedule of Quantities
- General Conditions of Contract Agreement
- Special terms & conditions of contract.
- Instructions for On-line Bid Submission
- Terms & Conditions
- Technical Specifications of Equipment
- Drawing
- Annexure-I, II & III

I/We hereby offer to execute the work complete in all respects specified in the under written Memorandum within the time specified therein or during the allowed extended time at the rates specified in the bill of Quantities and in accordance, with the specifications, designs, drawings and instructions in writing referred to in the conditions of tender.

(Seal & Signature of Contractor)

NATIONAL INSTITUTE OF PLANT GENOME RESEARCH
(Department of Biotechnology, Ministry of Science and Technology, Govt. of India)
Aruna Asaf Ali Marg, New Delhi-110067
Phone: 011-26735161,26735138 Fax: 011-26741658

TENDER NOTICE

File No.: NIPGR/Engg./5/8/2018-19

Dated: 27.12.2018

Online tenders (in two bid system) are invited on behalf of the Director, NIPGR, New Delhi from approved and eligible Contractors of CPWD/Central Govt/State Govt./ Govt. Autonomous Bodies, or professional agency for the following work:

Name of work: Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi

Sl. No.	Estimated Cost (In ₹)	EMD (In ₹)	Time for Completion	Last date & time for sale of tender documents	Date & Time of submission of tender documents	Date & Time of Opening of Tenders
1.	2.	3.	4.	5.		6.
1.	₹ 24,60,000.00	₹ 49,200.00	45 days	14.01.2019 1500 Hrs.	15.01.2019 1500 hrs.	16.01.2019 1500 Hrs.

Tender document can be obtained up to 1500 Hrs. on all working days from NIPGR office on payment of ₹ 500.00 (₹ Five hundred only) in cash (Non-refundable) towards the cost of tender from 27.12.2018 to 15.01.2019 up to 1500 hrs. **Tender documents can also be downloaded on line free of cost from our website www.nipgr.ac.in and Govt. CPP Portal <https://eprocure.gov.in/cppp/>**

The earnest money shall be in the form of Demand Draft of a Scheduled Bank issued in favour of the **Director, NIPGR, New Delhi** so as to reach the undersigned latest by 15.01.2019 at 1500 hrs.

Tenderers registered with M.S.M.E. & N.S.I.C. in the above-mentioned service / activity are exempted from submission of E.M.D.

The bids will be accepted in respect of those contractors having successfully completed at least three similar works of each value not less than ₹ 9.84 Lacs OR two similar works of each value not less than ₹ 12.30 Lacs OR one similar work of value not less than ₹ 19.68 Lacs during the last three years ending 31st Oct. 2018 and having Financial Turnover for ₹ 24.00 during the last three years ending March 2018. Similar works means "working experience of S.I.T.C. of High Precision A.C. or similar nature works" in Government organizations, Govt. Autonomous organizations, OR other reputed organizations.

Bidders are required to submit a copy of authorization dealership certificate issued by the Principals / OEM.

Intending tenderers must enclose self-attested copies of Completion Certificates and work orders of having completed the work satisfactorily issued by an appropriate competent authority.

The Director, NIPGR reserves the right to accept or reject all or any of the tender without assigning any reasons thereof.

Consultant Engineer
NIPGR

GENERAL CONDITIONS

1. Online tenders are hereby invited from qualified contractors for the work of: **Name of Work: Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.**
2. The tender document consists of Tender form, Notice inviting tender, Instructions to bidders, General Information, General Conditions of contract Agreement, technical specification and Schedule /Bill of quantities etc. which can be had at a cost of ₹ 500.00 (₹ Five hundred only) in cash from 27.12.2018 to 15.01.2019 from the NIPGR office, Aruna Asaf Ali Marg, New Delhi. **Tender documents can also be downloaded from our website www.nipgr.ac.in free of cost.** The tender document is obligatory on the part of the tenderers & bid in no other form will be accepted.
3. The time allowed for the completion of work is **45 Days** to be reckoned from the 10th day after the date of written order to commence the work.
4. Every tender shall be accompanied by earnest money for ₹. 49,200.00 (₹. Forty nine thousand two hundred only) in the form of demand draft drawn in favour of the Director, NIPGR ,payable at New Delhi. Any tender not accompanied by such earnest money will be rejected straight away.
5. The contractor will submit his tender after examining the tender documents, scope of work, specifications, clauses, additional terms of contract agreement, special terms & conditions, bill/Schedule of quantities, instructions to bidders, general information, and instruction for on-line bid, etc.
6. The tender rates shall remain valid for 90 days from the date of opening of Tender. The value of tender can be increased or decreased and any item can be added, deleted, withdrawn or substituted without any notice as per the requirements of without assigning any reason.
7. If a tenderer whose tender is accepted fails to undertake the work as per terms of the contract within 10 days to be reckoned from the date of issue of work order, the earnest Money deposited will be forfeited.
8. NIPGR does not bind itself to accept the lowest or any tender and reserves the right to reject any or all tenders without assigning any reason as well as for the transportation of samples.
9. NIPGR will not pay any expense, whatsoever incurred by tenderer for the preparation and submission of tenders as well as for the transportation of samples.
10. This notice inviting tender, will form part of the contract agreement to be executed by the successful tenderer.
11. The successful tenderer shall have to sign the contract agreement within 15 days of the allotment of work.
12. All the correspondence on the tender shall be addressed to the Director, NIPGR.
13. The uploaded documents / certificates shall be verified with originals after opening of Technical Bid.
14. The rates shall be valid for 90 days after award of work, which can be extended up to 180 days with mutual consent.

Consultant Engineer
NIPGR

Seal & Signature of Contractor

INSTRUCTIONS TO BIDDERS

1. GENERAL INSTRUCTIONS:

The works referred here-in shall cover the entire scope of the proposal which includes supplying and installation of material including the successful completion and the tests which the desires to get carried out. The "Owner" where appearing in these documents shall mean Director, NIPGR.

2. TENDERERS TO STUDY ENTIRE TENDER DOCUMENT CAREFULLY:

Submission of a tender by a tenderer implies that he has read all the stipulations contained in this tender document and has acquainted himself of the nature, scope and specifications of the works to be followed.

3. TENDERER TO SUBMIT THE ENTIRE TENDER DOCUMENT ON-LINE.

The tenderer shall submit all documents issued to him for the purpose of this tender after duly filling the same in all respects. Tenders which are found to be vague or incomplete shall be rejected summarily.

4. INSTRUCTION FOR FILLING THE TENDER.

Tenders shall be submitted ON-LINE, it shall be signed by one who has been authorized by the Board of Directors through a resolution. Copy of resolution and the authority letter in favour of the person signing must accompany the tender.

5. TENDERERS TO QUOTE FOR ALL ITEMS AND IN FIGURES:

The tenderer shall quote his rates in figures with reference to each item and must enter for all the items shown in the attached Bill of quantities. Incomplete offer shall be liable for rejection. The total amount shall be written both in figures and in words.

6. VALIDITY PERIOD OF OFFERS:

The rates quoted in the tender shall hold good for 90 days from the date of opening of the tender. The validity period can be extended with the mutual consent of both the parties. No tenderer can withdraw/or modify his tender or revoke the same within the said period of 90 days. If a tenderer on his own withdraws or revokes the tender or revises or alters or modifies the tender for any item or condition within a period of aforesaid 90 days his earnest money deposit shall stand forfeited.

7. TENDERER TO SIGN ALL PAGES:

The tenderer shall stamp and sign at the bottom right hand corner of every page of the tender documents in token of acceptance of tender conditions and for the purpose of identification.

8. ERASURES AND ALTERATIONS:

Tenders containing erasures and alterations of the tender documents are liable to be rejected unless these are authenticated by the person signing the Tender Documents.

9. TENDERER TO SATISFY HIMSELF OF SITE CONDITIONS:

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tender regarding nature of the site conditions, the means of access of the site, the accommodation they may require and in general obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender in any manner. A tenderer shall be deemed to have full knowledge of the site, whether he inspects it or not and no compensation or otherwise of any charges incurred or to be incurred consequent on any misunderstanding or otherwise shall be admissible. The tenderer must sign & submit the certificate for site inspection Annexure-II.

10. SAMPLES

After award of work of the tender contractor shall arrange relevant samples at his own cost and deposit with Institute. These samples will be sealed by the NIPGR in the presence of the contractor, if he so desires and shall remain in the custody of the NIPGR for reference and comparison till the completion of work.

11. EARNEST MONEY:

The tenderer must deposit the earnest money ₹. 49,200.00 (₹. Forty nine thousand two hundred only) in the form of Demand Draft only drawn in favour of the **Director, NIPGR, payable at New Delhi**. Earnest money of the unsuccessful bidder(s) shall be refunded after expiry of the validity period of the tenders/allotment of works whichever is earlier. In case of successful tenderer the earnest money shall be adjusted against performance security.

12. TENDER LIABLE TO REJECTION:

Tenders which do not fulfill all or any of the conditions laid down in this notice, or contain conditions not covered and / or not contemplated by the Conditions of contract and/or expressly prohibited therein or stipulate additional/alternative conditions shall be liable to be rejected and his earnest money will be forfeited.

Tenders shall also be liable for rejection on any of the following grounds :-

- i) Tenders submitted late
- ii) Tenders containing remarks uncalled for.
- iii) Conditional tenders
- iv) Tenders not submitted on-line on prescribed Performa.
- v) Telegraphic tenders.
- vi) Tender submitted without E.M.D.
- vii) Not submitted required documents as per tender.
- viii) Tenders with NIL consideration.

13. CORRESPONDENCE:

Tenderers must mention their postal address and telephone number(s) of the Chief Executive/authorized agent or attorney in the tender. The tender submitted by the tenderer will be rejected if he or his agent cannot be contacted on the last known address or on the intimated telephone number(s) after reasonable search in which event earnest money may be forfeited by the NIPGR.

14. NOT TO ASSIGN ANY REASON FOR REJECTION OF TENDER:

NIPGR hold absolute discretion to accept or reject the lowest or any other tender without assigning any reason. No claim on this account shall be entertained.

15. AMENDMENT IN TENDER DOCUMENTS:

NIPGR reserves the right to revise or amend the Bid Documents up to the date prior to the date notified for opening of the tenders and also the right to postpone the date of submission and opening of tenders without assigning any reason, whatsoever.

16. REFERENCE IN TENDER DOCUMENTS:

Director, NIPGR New Delhi shall be referred as "Owner" in all the documents of Tender documents/contract agreement.

Consultant Engineer
NIPGR

Seal & Signature of Contractor

GENERAL INFORMATION

- | | | |
|----|---|--|
| 1 | Accepting Authority | Director,
NIPGR, New Delhi. |
| 2 | Reference Book | As per specifications |
| 3 | Earnest money | ₹. 49,200.00 (₹. Forty nine thousand two hundred only) to be furnished with the tender in the form of the demand draft (No interest is payable on Earnest Money and security deposit) |
| 4 | Security deposit | The security deposit will be collected by deductions from the running bills of the contractors at the rate mentioned below and the earnest money, if deposited at the time of tender, will be treated as part of security deposit. Performance security may be accepted as Bank Guarantee/DD of Scheduled Banks and State Bank of India. A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money, will reach to the extent of 5% of the tendered value of the work as security deposit. In addition, the contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as Performance Security within the period prescribed for commencement of work in the letter of award issued to him. |
| 6 | Authority competent to grant extension of time | Director NIPGR or authorized person by Director, NIPGR |
| 7 | Tools & plants | To be arranged by contractor |
| 8 | Schedule of Minimum wages | As per notification issued by Govt. of NCT. |
| 9 | Authority competent to reduce the compensation amount | Director, NIPGR |
| 10 | Defect Liability Period | Twelve months from the date of acceptance of completion by the NIPGR. |
| 11 | Release of Security Deposit | The performance security shall be refunded to the contractor on completion of the work and recording of completion certificate by Institute and the balance amount be released after defect liability period. |
| 12 | Authority Competent to Appoint Arbitrator | Director, NIPGR. |

Consultant Engineer

Seal & Signature of Contractor

MEMORANDUM

- a) Name of work **Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.**
- b) Estimated cost **₹ 24,60,000.00 (Approx.)**
- c) Earnest money **₹. 49,200.00 (₹. Forty nine thousand two hundred only) in the form of Demand Draft in favour of "Director, NIPGR payable at New Delhi. (No interest is payable on earnest money).**
- d) Time allowed for the completion of work (to be reckoned from 10TH day after the date of issue of written order to commence work) **45 Days**

**Place
Date:**

(Seal & Signature of Contractor)

SCHEDULE OF QUANTITIES

ITEM NO.	DESCRIPTION OF ITEM	QTY.	UNIT	RATE	AMOUNT
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Attached at pages _____ to _____

Should this tender be accepted, in whole or in part I/We hereby agree to abide by and fulfill all the terms & provisions of the conditions of tender as applicable or in default there of a sum of for ₹. 49,200.00 (₹. Forty nine thousand two hundred only) deposited by me/us as earnest money in favour of Director, NIPGR, New Delhi., shall stand absolutely forfeited to NIPGR.

I/We agree:

- (i) that should I/We fail to commence the work specified in the above mentioned Memorandum the NIPGR without prejudice to any other right or remedy shall be at liberty to forfeit the earnest money. Otherwise the said earnest money shall be retained and adjusted towards security deposit mentioned in the above Memorandum
- (ii) to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

The names and postal addresses and contract phone nos. of our representative(s) authorized to deal with this tender are:

1)

2)

3)

Dated the _____ day of _____ 2018

Signature of Tenderer

GENERAL CONDITIONS OF CONTRACT AGREEMENT

1. SECURITY DEPOSIT

The person/persons whose tender may be accepted (herein after called the contractor) shall permit Consultant Engineer at the time of making any payment to him for works done under the contract to deduct such sum as will amount to 10 % of all moneys so payable to be held by the Institute, by way of security deposit. Earnest money shall also be adjustable towards this security deposit. All compensation or other sums of money payable by the contractor to Consultant Engineer under terms of this contract may be deducted from his security deposit or from any account what so ever, and in the event of his security deposit being reduced by reason of any such deduction, the contractor shall within 10 days thereafter make good in cash any sum or sums which may have been deducted from his security deposit or any part thereof.

2. COMPENSATION CLAUSE

2.1 The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor, and shall be reckoned from the 10th day of the date on which the order to commence the work is given to the contractor, and within ten days of award of work the contractor shall prepare and submit a schedule for work execution in the form of a bar chart/CPM network and submit the same for approval of the Consultant Engineer, NIPGR. The work on the contract shall be executed according to the approved schedule as aforesaid and shall throughout the stipulated period of the contract be proceeded with all due diligence (time being deemed to be the essence of the contract on the part of the contractor) and the contractor shall pay as compensation an amount equal to one percent or such smaller amount as, NIPGR may decide on the value of work as per contract, . Provided always that the entire amount of compensation to be paid under the provisions of this clause shall not exceed ten percent of the awarded cost of work as shown in the tender. The Director, NIPGR, or a representation from the Contractor, is however; empowered to reduce the amount of compensation and his decision in writing shall be final.

2.2 In any case under which any clause or clause of this contract the contractor shall have rendered himself liable to pay compensation Consultant Engineer, NIPGR on behalf of the NIPGR, shall have power to adopt any of the following courses as he may deem best suited in the interest of the NIPGR.

- a) To rescind the contract (of which rescission notice in writing to the contractor under the hand of Consultant Engineer, NIPGR shall be conclusive evidence), and in which case the security deposit of the contractor shall stand forfeited, and be absolutely at the disposal of NIPGR.
- b) To measure up the work of the contractor, and to take such part thereof as shall be unexecuted out of his hands and to give to a other contractor to complete, in which case any expenses which may incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him(of the amount of which excess the certificate in writing of Consultant Engineer, NIPGR shall be final and conclusive)shall be borne and paid by the original contractor and may be deducted from any money due to him by the Consultant Engineer, under this contract or otherwise from his security deposit or sale proceeds of the materials and tools and plants of the contractor lying at site.

In the event of any of the above courses being adopted by the Consultant Engineer, NIPGR, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any material entered in to any agreement or made any advance on account thereof or with a view to the execution of the work of the performance of the contract. and incase the contract is rescinded under the aforesaid provisions, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until Consultant Engineer, NIPGR has certified in writing the performance of such work and the value payable in respect thereof, and the contractor shall only be entitled to be paid for the value so certified.

2.3 In any case in which any of the powers conferred upon the Consultant Engineer, NIPGR by clause 3 thereof shall have become exercisable and the same shall not be exercised, the non-exercise

thereof shall not constitute a waiver of any of the conditions thereof and such powers shall not withstanding be exercisable in the event of any future case of default by the contractor for which by any clause or clauses thereof he is declared liable to pay compensation amounting to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected.

In the event of Consultant Engineer, NIPGR putting force either of the powers (a) or (c) vested to him under the preceding clause he may, if he so desire, take possession of all or any tools, plants, materials and stores in or upon the works, or the site thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work any part thereof, paying or allowing for the same in account at the contract rates, or in case of these not being applicable at current market rates to be certified by the Consultant Engineer, NIPGR whose certificate hereof shall be final, otherwise Consultant Engineer, NIPGR by notice in writing to the contractor or his authorized agent require him to remove such tools, plants, materials or stores from the premises within a time to be specified in such notice: and in the event of the contractor failing to comply with any such requisition, the Consultant Engineer, NIPGR or his authorized representative may remove them at the contractor's expenses to sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of Consultant Engineer, NIPGR as to the expense or any such removal and the amount of the proceeds and expense of any such sale shall be final and conclusive against the contractor.

2.4 All sums payable by way of the compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Consultant Engineer, NIPGR without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

3. TIME EXTENSION

3.1 If the contractor shall desire an extension of the time limit for completion of the work on the grounds of his having been unavoidably hindered in its execution or on any other ground he shall apply in writing to the Consultant Engineer, NIPGR within 15 days of the date of the hindrance on account of which he desires such extensions as aforesaid but before the expiry of time limit and the Consultant Engineer, if in his opinion (which shall be final) reasonable grounds as shown thereof, authorized such extension of time if any, as may, in his opinion be necessary or proper.

4. COMPLETION OF WORK

4.1 Without prejudice to the rights of Consultant Engineer under any clause hereinafter contained on completion of the work, the contractor shall be furnished with a certificate by the Consultant Engineer or his representative of such completion, but no such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work has been executed, all scaffolding, surplus materials and rubbish, and cleaning off the dirt from all doors, walls, floors, or any other parts of buildings said to have been completed, and the measurements in the said certificate shall be binding and conclusive against the contractor, if the contractor shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus materials, and rubbish and cleaning off dirt on or before the date fixed for the completion of the work, Consultant Engineer, NIPGR may at the expense of the contractor have removed such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forth with pay the amount of all expenses so incurred, and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any such sale proceeds actually realized by the sale thereof.

5. ADDITIONS/ALTERATIONS/ DEVIATIONS

5.1 The Consultant Engineer, NIPGR shall have power to make any alterations or omissions or additions or substitutions in the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing signed by the Consultant Engineer and such alterations, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to carry out in the manner above specified as part of the work shall be carried out by the contractor on same conditions in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered additional or substituted

work has to the main work at the sole discretion of the Consultant Engineer, NIPGR and his decision in this regard shall be final and binding on the contractor.

All tenderers are required to quote as per specifications stipulated hereunder. Rates for all items shall be quoted as specified hereunder. After the award of the contract, the work shall be carried out as per approved samples / drawings. For dimensional changes + - 3 inches, should they occur during approval stage, there shall not be any rate difference. If the dimensional changes are more than the above limit, modified rates shall be worked out derived from the quoted contract rates.

Rates for extra/substituted items, should they become necessary during the execution of the work shall be settled on analysis of rate to be submitted by the contractor for such items.

Quantities in the B.O.Q. or estimated quantities which can vary up to $\pm 50\%$ during the execution of the work. Payment shall be made as per actual quantum executed without any change in the contracted rate due to variation in quantity, if any.

6. ARBITRATION

6A.1 Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever, in any arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the person selected from out of a panel of names to be supplied upon a request in writing by party invoking the arbitration by the Director, NIPGR, at the time of the dispute. It will be no objection to any such appointment that the arbitrator so appointed was associated with the work and that he had to deal with the matters to which the contract relates and that in the course of his duties in association with the Consultant Engineer, NIPGR, he had expressed views on all or any of the matters in dispute or difference. The arbitrator to whom the matter is originally referred being unable to act for any reason, the Director shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by the Director as aforesaid shall act as arbitrator. In all cases where the amount of the claim in dispute is ₹ 50000/- (₹ Fifty thousand only) or above, the arbitrator shall give reasons for the award.

Subject as aforesaid the provisions of Arbitration and Cancellation Act 1996 or any statutory modifications or reenactment thereof and the rules framed there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of the contract that while invoking arbitration the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.

It is also a term of the contract that if a party does not make any demand for arbitration in respect of any claim(s) in writing within 90 days of receiving the intimation from the Consultant Engineer that the bill is ready for payment, the claim if any, shall be deemed to have been waived and absolutely barred and the owner shall be discharged and released of all liabilities under the contract in respect of these claims.

The Arbitrator should be of the rank of retired / working Chief Engineer (CPWD) or (B & R) Delhi or equivalent post. The contractor will be entitled to file only those claims for arbitration which had already been raised before the Engineer and rejected by him time to time during the execution of work.

6A. CARRYING OUT OF WORK

All the work shall be carried out in accordance strictly as per the specifications given in the tender to the total satisfaction of the NIPGR. In the case of an item for which specification are not available in the said specifications relevant BIS specifications applicable as on the date of tenders shall be followed.

7. QUALITY CONTROL OF MATERIAL

7.1 If it shall appear to the Engineer or the Director, NIPGR that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials or articles provided by him for the execution of the work are unsound, or of a quality inferior to that contracted for or otherwise not

in accordance with contract, the contractor shall on demand in writing from the Engineer specifying the work materials or articles complained of not with standing that the same may have been inadvertently passed, certified and paid for forthwith rectify, or remove & reconstruct the work so specified in whole or in part, as the case may require, or as the case may remove the materials or articles so specified and provide other proper and suitable material or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by Engineer, NIPGR in his demand as aforesaid then the contractor shall be liable to pay compensation at the rate of 1% on the contract agreement of work for everyday till rectify or remove, and re-execute the work or replace with other, materials or articles complained of as the case may be at the risk and expense in all respects of the contractor.

8. INSPECTION OF WORK

8.1 All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of Engineer, NIPGR or his subordinate in-charge of the work and the contractor shall at all times, during the usual working hours and at all other times at which reasonable notice of the intention of the Engineer to visit the works shall have been given to the contractor, either himself be present to receive order and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

8.2 The contractor shall give not less than 5 days notice in writing to Engineer, NIPGR of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions there of be taken before the same is so covered up or placed beyond the reach of measurement and any work without the consent in writing of Engineer, NIPGR or placed beyond the reach of measurement without such notice having been given to or consent obtained, the same shall be uncovered at the contractor's expense or in default thereof, no payment or allowance shall be made for such work of the materials with which the same was executed.

8.3 The work during its progress shall be inspected by the consultants Engineer or Engineer-in-charge on behalf of NIPGR and the contractor shall extend all co-operation to the engineers inspecting the work.

9. CONTRACTOR'S RISKS

All risks of loss of a or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the contract other than the excepted risks are the responsibility of the contractor.

10. CONTRACTOR TO BE LIABLE FOR ALL TAXES ETC.

The rates specified in the tender shall be inclusive of all taxes or any taxes, toll customs, fees, octroi, royalty, etc. except service tax (as the Institute is exempted from service tax being educational institute) in respect of the contract and the rates shall be firm irrespective of any variation in the prevailing rates of taxes, levies, octroi, etc. and any fresh imposition of any of these by State/Central/Statuary bodies. The contractor shall indemnify the Director against levy of any taxes etc., in regard to this contract and in the even of the Director being assessed for any of the said imports, Director shall have the right to recover the total amount so assessed from the contractor's dues and the contractor shall also be responsible for all costs or expenses that may be incurred by Director in connection with any proceedings or limitation in respect of the same.

**Consultant Engineer
NIPGR**

Seal & Signature of Contractor

SPECIAL TERMS AND CONDITIONS OF CONTRACT

1. SPECIFICATIONS:

If specifications for an item of work are not covered as per approved Specifications of tender, the same shall be decided by the NIPGR and shall be binding on the contractor.

The Director shall have the power to insist upon the contractor to purchase and use such materials of approved make which may in his opinion be necessary for proper and reasonable compliance with the specifications and execution of work.

In the event of any variation/discrepancy in the drawings, specification and tender documents the decision of the NIPGR shall be final binding and conclusive on the contractor.

a) As required by NIPGR, or his representative the contractor shall provide all facilities at site or at manufacturer's works or an approved laboratory for testing of materials and/or workmanship. All the expenditure in respect of this shall be borne by the contractor wherever applicable. The contractor shall, when required to do so by Consultant Engineer, NIPGR submit manufacturer's certificate that the materials have been tested in accordance with requirements of the specifications.

b) Neither the omission by Consultant Engineer, NIPGR to test neither the materials nor the production of manufacturer's certificate etc., as aforesaid shall affect the right of the Consultant Engineer to reject after delivery the materials found not in accordance with the specifications.

2. CONTRACTOR TO BE LIABLE FOR ALL TAXES ETC. - The rates specified in the tender shall be inclusive of GST, toll, Customs fees, octroi, royalty etc. or any other taxes exclusive of service tax. However if any fresh taxes are imposed by State/Central/Statuary bodies during the currency of contract, the same shall be borne by NIPGR.

3. FORCE MAJEURE:

The right of the contractor to proceed with the work shall not be terminated because of any delay in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the contractor, including not limited to acts of God, or of the public enemy, restraints of a sovereign state, firms, floods, unusually severe weather.

4. JURISDICTION:

Not with standing any other courts having jurisdiction to decide the questions forming subject matter of a suit any and all actions and proceedings arising out of or relative to this contract (including any arbitration in terms thereof) shall lie only in the court of competent Civil jurisdiction in this behalf at New Delhi, where this contract is to be signed on behalf of NIPGR and only the said court shall have jurisdiction to try any such actions and/or proceedings to the exclusion of all other courts.

5. SITE WORKING RULES AND REGULATIONS:

a) The contractor shall furnish Consultant Engineer, NIPGR the Power of Attorney name and signature of his authorized representative who will be in-charge of the execution of the works at site. The contractor shall also furnish the list of technically qualified persons employed by him for execution of the works. Daily reports of number of men employed by crafts and weekly reports of progress achieved, expected date of completion of the works and any actual or potential delays stating the reasons thereof shall be furnished by the contractor.

b) Save as otherwise specifically provided in this Agreement the rates and prices herein, unless otherwise stipulated elsewhere in this Agreement, include all the costs, expenses and outlays of the contractor for executing the works and fulfilling all the obligations of the Contractor under this agreement.

6. Scope of work

The scope of work is as per schedule of Bill/quantity. All aspects of design, manufacture, supply, Installation & Commissioning including site alignment required for carrying out A.C. works, etc., all complete.

Electric supply and water, if any, required for installation and testing of the A.C. works shall be provided by the Institute from one point.

7. CONTRACTOR'S RESPONSIBILITY FOR THE MANNER OF EXECUTION OF WORKS

The contractor shall be solely responsible for the manner and the method of executing the work. The work shall be subject to the approval of Consultant Engineer from time to time for purposes of determination of the question whether the work is executed by the contractor in accordance with the contract.

8. NO WORK SHALL BE UNDERTAKEN WITHOUT APPROVED WORKING DRAWINGS:

No work shall be undertaken at site by the contractor until detailed approved working drawings marked "Good" for execution/construction is issued by the Consultant Engineer in writing. Any work done without the aforesaid working drawing shall be at the contractor's own risk and costs.

9. TIME LIMIT :The entire work is required to be completed within 45 days after the date of award of contract.

10. SUBMISSION OF BILLS:

Contractor is to submit the bills and record of measurements in triplicate on approved Performa of the Consultant Engineer or his representative for works executed by him. The Bill shall be submitted once in a month. Payment may be released on prorated basis of work done to Contractor.

11. TERMS OF PAYMENT

The entire A.Cs. supplied under this contract shall be guaranteed by the contractor to give Zero defect and trouble free usage for minimum one year after the date of completion of this contract, during this period, any defect in any component of the job deemed by NIPGR to be on account of bad workmanship or use of sub-standard materials shall be replaced/rectified to the entire satisfaction of NIPGR by the contractor at his cost. 5% of the contract value shall be retained by NIPGR during the guarantee period as security deposit for this purpose. The security can be in the form of deduction from the payment due to the contractor during performance guarantee period i.e. one year after the date of completion if no defect as above are noticed during the period or if noticed they are attended to satisfactorily by the contractor.

12. ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK:

If it shall appear to Consultant Engineer, NIPGR or our representatives, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to the contracted for, or otherwise not in accordance with the contract and provide other and suitable materials or articles so specified at his own cost and in the event of his failing to do so within a period to be specified by the Consultant Engineer in his demand aforesaid, **then the contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding ten days while his failure to do so that continue and in the case of any such failure Consultant Engineer, NIPGR may rectify or remove, and re-execute the work or remove and replace with other materials or articles complained of, as the case may be at risk and expenses in all respects of the contractor.**

1. The works shall be inspected by our Consultant Engineers & Consultants. The contractor shall extend full co-operation and render all necessary facilities for inspection of the work to the inspecting authority without any additional cost to Consultant Engineer, NIPGR. It must be noted that any observations/ comments/ recommendations of the said Technical consultants shall be binding on the contractor.

2. It shall always prevail, unless otherwise specifically stated, that the entire provisions of Tender document been opened upon and accepted for compliance by the contractor without any reservation.

**Consultant Engineer
NIPGR**

Seal & Signature of Contractor

Instructions for Online Bid Submission

1. The tender documents are available on our website www.nipgr.ac.in & www.eprocure.gov.in and same can be downloaded.
2. Tender documents may be downloaded from ITPO's website www.nipgr.ac.in and CPPP site <https://eprocure.gov.in/eprocure/app> as per the schedule as given in the tender document.
3. Bids shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>. Tenderers/Contractors are advised to follow the instructions provided in the 'Instructions to the Contractors/Tenderer for the esubmission of the bids online through the Central Public Procurement Portal for eProcurement at <https://eprocure.gov.in/eprocure/app>'. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
4. Not more than one tender shall be submitted by one contractor or contractors having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.
5. The bidders are advised to visit CPPP website <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender for any corrigendum / addendum/ amendment.
6. Bids will be opened as per date/time as mentioned in the **Tender Document**. After online opening and evaluation of technical bids, the results of their qualification as well Price-Bid opening will be intimated.

Submission of Tender

The tender shall be submitted online in two parts, viz., Technical bid and Financial bid.

All the pages of bid being submitted must be sequentially numbered by the bidder irrespective of nature and content of the documents before uploading.

The offers submitted by hand/Post/Fax/email shall not be considered. No correspondence will be entertained in this matter.

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link "Online Bidder Enrolment" on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra/ Nic etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

Bidder should take into account any corrigendum published on the tender document before submitting their bids.

- 1) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 2) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 3) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, GST Certificate etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be

posted/couriered/given in person to the concerned official before bid opening date/time as mentioned in critical date sheet or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (i.e after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 3070 2232, 91-7878007972 and 91-7878007973.

TERMS & CONDITIONS

Name of work: **Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.**

1. The site of work is at NIPGR Campus, Aruna Asaf Ali Marg, New Delhi – 110067 and contractor must visit site before quoting the rates and also sign the site visit certificate enclosed as per Annexure-II.
2. The rates are inclusive of Transportation, loading, unloading & handling charges and nothing extra will be paid.
3. The rates are inclusive of GST, other taxes, octroi, etc., and nothing extra will be paid.
4. The contractor shall make his own arrangement for the security of material at site.
5. The contractor shall arrange all T&P and nothing extra will be paid.
6. The EMD of un-successful bidders shall be returned after issue of work order to successful bidder.
7. In case agency fails to comply with terms & conditions the EMD of the agency shall be forfeited.
8. The security deposit @ 10% shall be deducted from the bill and shall be refunded after completion of defect liability period.
9. No advance payment will be made.
10. Any damage to any existing installations during the execution of work shall be the responsibility of the contractor and will be made good to the satisfaction of the engineer-in-Charge and nothing extra shall be paid.
11. Any kind of accident / electrocution caused due to negligence or during the course of normal work etc., shall be responsibility of the contractor. The contractor shall be responsible for all the compensation to the staff engaged by him.
12. All safety precautions shall be taken so as to avoid any accident or inconvenience to the members of the staff.
13. All equipments shall be guaranteed for 12 months or for the period of standard guarantee / warranty offered by the manufacturer (whichever is later) from the date of completion & handover to the department. Against unsatisfactory performance and/or breakdown the equipment or component or any other part of the installation so found defective in guarantee period shall be replaced/repared by the contractor free of cost to the satisfaction of Engineer-in-Charge. Manufacturer's warranty shall also be submitted in original.
14. Any alteration / modification / Civil works shall be done free of cost by the contractor eg. Cutting & refixing of glass, breaking & repairing of wall in good manner etc.
15. The single phase / 3 phase electrical power shall be provided at nearest available D.B.. The agency shall create the power supply for machine.
16. Breaking of walls during the execution of work shall be made good as existing and nothing extra shall be paid.
17. In case the site clearance and damages are not attended, a recovery as per actual cost shall be made.

18. The work shall be completed within 45 days after the date of issue of work order, if not recovery @ 1% per day subject to maximum of 10% of quoted amount if the work is not completed with stipulated time of completion.
19. The quotation must be accompanied with E.M.D. amounting to ₹. 49,200.00 (₹. Forty nine thousand two hundred only) by way of Demand Draft drawn in favour of "DIRECTOR, NIPGR", New Delhi.
20. E.M.D. must be submitted in a separate envelope which will be opened first.
21. The material supplied shall be got approved by the Engineer-in-charge before installation and carrying out the work.
22. The water & electricity supply shall be given free of cost at one point.
23. Factory test reports of the machines shall be submitted before installation.
24. Warranty card issued by the manufacturer of machines installed will also be submitted with bill.
25. The tenderer must submit all the technical data, catalogue of equipments / material proposed by them with product code to install along with technical bid. If, the same is not submitted, their tender shall not be considered and the financial bid shall be opened only for those bidders whose catalogue / manuals are approved by the Institute.
26. The Institute also reserved the right to reduce / increase the scope of work.
27. Breaking of walls and damage to the painting during the execution of work shall be made good as existing & nothing extra shall be paid.
28. The agency shall provide cost of extended warranty (if available) separately in the Financial Bid so that, if required, Institute shall consider the same accordingly.
29. The electric supply shall be provided at single point to the nearest DB available in the room. Any electrical material such as electrical wire, MCB, MCCB, thimble, etc., not mentioned and required during execution may be taken into account in item 1 of low side and nothing extra shall be paid.
30. The layout of the lab is provided along with the tender. The agency has to submit HVAC layout drawings (Execution drawings) of carrying out the work and nothing extra shall be paid.

PAN: _____

GST No.: _____

Consultant Engineer
NIPGR

Seal & Signature of Contractor

SCHEDULE OF QUANTITY

Part A

Sub: SITC of High Precision airconditioning system in Lab 008 for Metabolism Facility at NIPGR Campus New Delhi

		Unit	Qty	Rate	GST %	Amount	Make
HIGH SIDE WORK							
1	Supply, installation, testing and commissioning of micro processor based Precision Air conditioning unit of 10 TR capacity with R407 refrigerant, with air flow 8500 CFM each comprising of outdoor and Top Discharge & front suction indoor unit. Outdoor condensing unit shall comprise air cooled condenser with fan. Outdoor unit shall be an over sized unit to account for high ambient of 45°C & indoor temp. of 21 +1°C, 50% RH. Indoor unit shall consist of filter section, Electrical Power switch board, multi-rows deep copper cooling coil with aluminium fins, Dehumidification cycle, modular panel cabinet construction, cabinet insulation, fan section with dynamically balanced centrifugal fans with a motor and drive, humidifier, Hightechnology scroll compressor, accessible refrigeration control & air discharge duct.						EMERSON/ STULZ/ DUNHUMBUSH
	1 Precision AC	No	1				
LOW SIDE WORK							
1	Installation, testing and commissioning of Ductable units air-conditioning system complete with indoor and outdoor units with individual controller for cooling type operations. The quoted price should include lifting, shifting, positioning at site of all the equipment fittings, remote controls, topping up of refrigerant R4 10A MS frame work for outdoor units installation, vibration isolators, weather proof electrical panel with cabling copper earthing, ancillary materials as specified and all such item required to fulfill the intent and purpose as laid down and drawings.	No	1				
2	Interconnecting 18 G Hard Copper refrigerant pipe work with (19mm/13mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with C channel.	No	15				mandev/ maxflow/ diamond
3	SITC of 32/25 mm UPVC pipe for drain & water connection with ball valve and fittings	Rmt	15				Prince/ Prakash/ Surya
4	SITC of MS stand along with civil foundation of appropriate size as per site requirement for proper levelling and balancing of the unit	No	1				
5 Ducting							
	Supply, fabrication, installation and testing of factory fabricated OVAL Dcuting with 9 mm nitrile rubber insulation from internal as per specification & approved drawing						Ductofab / Dustech/ GP Spira
i	22 G	Sq. Mt.	120				
ii	20 G	Sq. Mt.	10				
iii	Supply, installation Testing and commissioning of Hand made ducting made of GI Sheets of 20 G for making Plenum of the units including all accessories such as vanes etc compete.	Sq. Mt.	15				Jindal/ Loyd/ bhushan
6	Supply and installation of flexible canvas connections	No.	2				
7	Acoustic lining of duct with fiberglass board, tissue paper and finished with perforated aluminum sheet and nut bolts. 25mm thick	Sq. Mt.	25				UPTWIGA/ OWNES CORNING
8	Supply, installation and testing of Powder coated Aluminium extruded grill / diffusers as per specification & of following sizes:						

NOT TO QUOTE

a	Single louvered supply air Grill with damper	Sq. Mt.	2
b	Fresh air louver with Bird screen , Filter and damper (300 x 300)	No	2
9	SITC of 63 AMP weather proof Isolator for AC unit (industrial power outlet)	No	1
10	SITC of Copper Armoured Power cabling from panel to AC unit with earthing, Gland & Thimble - 4 C X 10 Sqmm	Rmt	90
11	SITC of controle cable from Indoor unit to outdoor unit	Rmt	40
12	In-Line Fans (Exhaust)		
	In-line type fans complete with motor, blades, fixing frame and louvers as per specifications and drawings		
	1000 CFM capacity	Nos.	5
13	Supply, Installation, Testing and commissioning of motorized combination fire and smoke damper (Spring return type) of atleast 90 minute fire rating.		
a	Bare Fire Dampers.	Sqm.	2
b	Control panel actuator, including spring return type actuator, with temperature sensor including cabling.	Nos.	2
		Grand Total	

NOT TO QUOTE

SUVIDHA/ DYNAMIC/ SERVEX
SUVIDHA/ DYNAMIC/ SERVEX
L &T/ ABB / Siemens / Legrand
Kalinga/ Polycab/ Havells/ Gloster
Kalinga/ Polycab/ Havells/ Gloster
Caryair/ Sphere/ Osterberg
SUVIDHA/ DYNAMIC/ SERVEX

SCHEDULE OF QUANTITY

Part B

Sub: SITC of High Precision airconditioning system in Lab 008 for Metabolism Facility at NIPGR Campus New Delhi

		Unit	Qty	Rate	GST %	Amount	Make
HIGH SIDE WORK							
1	Supply, installation, testing and commissioning of micro processor based Precision Air conditioning unit of 7.7 TR capacity with R407 refrigerant, with air flow 8500 CFM each comprising of outdoor and Top Discharge & front suction indoor unit. Outdoor condensing unit shall comprise air cooled condenser with fan. Outdoor unit shall be an over sized unit to account for high ambient of 45°C & indoor temp. of 21 ±1°C, 50% RH. Indoor unit shall consist of filter section, Electrical Power switch board, multi-rows deep copper cooling coil with aluminium fins, Dehumidification cycle, modular panel cabinet construction, cabinet insulation, fan section with dynamically balanced centrifugal fans with a motor and drive, humidifier, Hightechnology scroll compressor, accessible refrigeration control & air discharge duct.						EMERSON/ STULZ/ DUNHUMBUSH
	1 Precision AC	No	1				
LOW SIDE WORK							
1	Installation, testing and commissioning of Ductable units air-conditioning system complete with indoor and outdoor units with individual controller for cooling type operations. The quoted price should include lifting, shifting, positioning at site of all the equipment fittings, remote controls, topping up of refrigerant R4 10A MS frame work for outdoor units installation, vibration isolators, wheather proof electrical panel with cabling copper earthing, ancilliary materials as specified and all such item required to fulfill the intent and purpose as laid down and drawings.	No	1				
2	Interconnecting 18 G Hard Copper refrigerant pipe work with (19mm/13mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with C channel.	No	20				mandev/ maxflow/ diamond
3	SITC of 32/25 mm UPVC pipe for drain & water connection with ball valve and fittings	Rmt	10				Prince/ Prakash/ Surya
4	SITC of MS stand along with civil foundation of appropriate size as per site requirement for proper levelling and balancing of the unit	No	1				
5	Ducting Supply, fabrication, installation and testing of factory fabricated OVAL Dcuting with 9 mm nitrile rubber insulation from internal as per specification & approved drawing						Ductofab / Dustech/ GP Spira
i	22 G	Sq. Mt.	80				
ii	20 G	Sq. Mt.	10				
iii	Supply, installation Testing and comissioning of Hand made ducting made of GI Sheets of 20 G for making Plenum of the units including all accessories such as vanes etc compete.	Sq. Mt.	10				Jindal/ Loyd/ bhushan
6	Supply and installation of flexible canvas connections	No.	1				
7	Acoustic lining of duct with fiberglass board, tissue paper and finished with perforated aluminum sheet and nut bolts. 25mm thick	Sq. Mt.	10				UPTWIGA/ OWNES CORNING
8	Supply, installation and testing of Powder coated Aluminium extruded grill / diffusers as per specification & of following sizes:						

NOT TO QUOTE

a	Single louvered supply air Grill with damper	Sq. Mt.	1	NOT TO QUOTE	SUVIDHA/ DYNAMIC/ SERVEX
b	Fresh air louver with Bird screen , Filter and damper (300 x 300)	No	1		SUVIDHA/ DYNAMIC/ SERVEX
9	SITC of 63 AMP weather proof Isolator for AC unit (industrial power outlet)	No	1		L &T/ ABB / Siemens / Legrand
10	SITC of Copper Armoured Power cabling from panel to AC unit with earthing, Gland & Thimble - 4 C X 10 Sqmm	Rmt	50		Kalinga/ Polycab/ Havells/ Gloster
11	SITC of controle cable from Indoor unit to outdoor unit	Rmt	30		Kalinga/ Polycab/ Havells/ Gloster
			GRAND TOTAL		

TECHNICAL SPECIFICATIONS

3.0 Duct work and Outlets

I. General

The work under this section warrants fabrication of ducting conforming to specified standards / codes. For this purpose it is contractors responsibility to arrange at site all necessary equipments like lock forming machine, drilling machine, welding machine etc and necessary work force. The duct rates mentioned in BOD are includes of nuts, bolts, sheets, supports, gasket etc. complete and duly installed..

II. Duct Materials

- a) The ducts shall be fabricated from galvanized steel sheets class VIII conforming to ISI: 277-1962 (revised) or aluminum sheets conforming to IS: 737-1955 (wherever aluminum ducts are specified).
- b) All duct fabrication unless otherwise directed, shall strictly conform to IS: 655-1963 with amendment-I (1971 edition)

The thickness of the sheet shall be as follows:

Longest side of duct	Minimum sheet thickness		Type of joints/ Flange	Bracing if any
	G.I.	Aluminum		
Upto 750mm	0.63 mm (24 g)	0.80mm	G.I Flange	
751 mm to 1500 mm	0.80 mm (22 g)	1.00 mm	40x40x3 mm angle iron frame with 6 mm dia Nuts & bolts	25x25x3 mm at a spacing not more than 1.2 meter
1501 mm to 2250 mm	1.00mm (20 g)	1.50 mm	50x50x5 mm angle iron to be cross – braced Diagonally with 6 mm Dia nuts & bolts at 125 MM pitch	40x40x3 mm at a spacing nut more than 1.2m
2251 mm and above and all plenums	1.25 mm (18 g)	1.80 mm	50x50x6 mm Angle iron frame with 10 mm nuts and bolts at 125 mm centre	Do

- a. The gauges, joints and bracings for sheet metal duct work shall further conform with the provisions as shown on the drawings.
- b. Ducts larger than 1000 mm shall be cross broken, duct sections upto 1200 mm length may be used with bracing angles omitted.
- c. Tapering angle should not be more than 30°.
- d. All ducts shall be supported from the ceiling / slab by means of G I Rods of 8 MM (3/8") DIA with M S Angle at the bottom. The rods shall be anchored to R C Slab using Anchor/dash fasteners. Double nuts will be provided under angle supports.

III. Installation:

- a. During the construction, the contractor shall temporarily close all duct openings with sheet metal covers/polyethylene sheets to prevent debris / dust entering ducts and maintain them clean.
- b. All ductwork shall be of high quality approved galvanized sheet steel. Galvanizing shall be guaranteed not to crack or peel off on bending or fabrication of ducts. All joints shall be airtight and shall be made in the direction of airflow.
- c. All air turns of 45 degrees or more shall include curved metal blades or guide vanes arranged so as to permit the air to make the abrupt turns without an appreciable turbulence. Guide vanes shall be securely fastened to ducts through rivets to prevent noise or vibration.
- d. Neoprene or approved equal gaskets of 5 MM thickness shall be installed between all duct joints, between all duct flanges as well as between all connections of sheet metal ducts to walls, floor, columns, heater casings and filter casings etc. The width of the gasket shall be same as that of mating surfaces.
- e. All flange bracings and supports shall be black, mild steel and shall be essentially given two coats of Black enamel paint over a coat of red oxide primer.
- f. Joints, seams, sleeves, splitters, branches, takeoffs and supports shall be as per duct details as specified/shown on drawings, or as decided by Engineer-In-Charge.
- g. Joints requiring bolting or riveting may be fixed by Hexagonal nuts and bolts, stove bolts or buck bolts, rivets or closed centre top rivets or spot welding. Self tapping screws are not allowed. All jointing materials must be galvanized.
- h. Fire retarding, fungal resistant & lint free flexible canvas connections shall be fitted to the suction and delivery of all fans. The material shall normally be double heavy canvass or as directed by Engineer-in-Charge. On all circular spigots the flexible materials shall be screwed or clipband with adjustable screws or toggle fitting.
- i. The flexible joints shall not be less than 100MM long and shall not be more than 200 mm long between faces. The flexible joints shall not be subjected to any sort of misalignment and/or tension.

- j. All joints shall be made air tight and all interior surfaces shall be smooth. If space is available, bends shall be made with radius not less than one half the width of the duct and with properly designed and spaced interior curved vanes.
- k. For supply and return air ducts connected with system having HEPA filters, food grade silicone sealant (approved by USFDA) must be applied on all duct joints including flanges to render the joints airtight.
- l. Wherever ducts pass through masonry walls (extreme care to be taken for exposed walls) an MS angle frame of ISA 50x50x6 should be riveted to the duct portion passing through wall. The gap between duct surface and MS frame should be thoroughly sealed with sealant. The corners of MS frame should be extended on both sides to serve as fasteners, which shall be grouted in the wall to prevent any leakage between rooms / infiltration of air.

4.0 AIR DISTRIBUTION SYSTEM:-

Supply & return air registers shall be of aluminium sections as specified in schedule of quantities. Extruded aluminium registers shall be either Anodised or Powder Coated as specified in Schedule of Quantities. Supply air registers shall be provided with key operated opposed blade extruded aluminium volume control damper anodised in matt black shade. All registers shall be selected in consultation with the Engineer In Charge. Different spaces shall require horizontal or vertical face bars, and different width of margin frames. These shall be procured only after obtaining written approval from Architect for each type of register. All registers shall have a soft continuous rubber/foam gasket between the periphery of the register and the surface on which it has to be mounted.

5.0 Standard Grilles

- a. The supply and return air grilles shall be fabricated from extruded aluminum sections. The supply air grilles shall have single / double louvers. The front horizontal louvers shall be of adjustable type. The rear vertical louvers shall be of aluminum extruded sections and adjustable type. The return air grille shall have single horizontal extruded section fixed louvers.
- b. The damper blades shall also be of extruded aluminum / GI (specific approval required for GI sections). The grill flange shall be fabricated out of aluminum extruded section. Grilles longer than 450 MM shall have intermediate supports for the horizontal louvers.

6.0 Diffusers / Slot Diffusers

- a. The ceiling type square diffusers shall be of aluminum extruded sections with flush or step down face, as specified with fixed pattern and neck.
- b. All supply diffusers shall be provided with extruded aluminum / GI specific approval required for GI dampers, with arrangement for adjustment from the bottom.
- c. The slot diffusers shall be of aluminum extruded sections with diffusion plate and sliding damper.

7.0 Exhaust Grilles

- a. The exhaust grilles shall be fabricated from Aluminum extruded sections.
- b. The exhaust grilles shall be horizontal fixed bar grilles with 15° blade inclination.

8.0 Linear Diffusers / Grilles

- a. The linear diffusers / grilles shall be fabricated from aluminum extruded sections.
- b. The diffusion blades shall be extruded, flush mounted type with single or double direction airflow.
- c. The frame shall be of aluminum-extruded section and shall hold the louvers tightly in fixed position.
- d. The dampers as described under grilles shall be provided wherever specified.

9.0 Painting

- a. All grilles, and diffusers shall be epoxy powder coated, before installation, in approved colour.

10.0 In Line fans

Inline fans shall be complete with centrifugal impeller, casing, belt driven motor, vibration isolators. Direction of discharge and rotation position shall be as per the job requirement and shall be marked on the fan assembly.

- a. **Housing** : Housing shall be constructed of hot rolled GSS sheet metal construction. Housing metal parts shall be either spot-welded or screwed or mounted together with rivets. Indication showing rotation arrow and make, model number and duty conditions of the fan shall be available on the housing.
- b. **Fan** : Fan wheel shall be forward / backward curved type. Fan wheel shall be statically and dynamically balanced.
- c. **Ball Bearings** : Ball bearings are completely maintenance free and can be used in any mounting position, at maximum indicated temperature. The bearing lubricant is suitable for a minimum ambient temperature of minus 15 (admissible for a short time without reaching dew point at -30°C). For application at maximum indicated ambient temperature life expectancy L 10 is 40,000 hours minimum.
- d. **Fan Motor** : Fans are supplied with built-in-thermal contact (TK). At the critical high temperature point ("B" = 130°C or "F" = 155°C) the thermal contact will open and break the power supply to the fan. Fan motor has insulation class "B" or "F" and protection class IP 44 or IP 54.
- e. Drive of fan shall be belt driven.

11.0 TESTING AND BALANCING:-

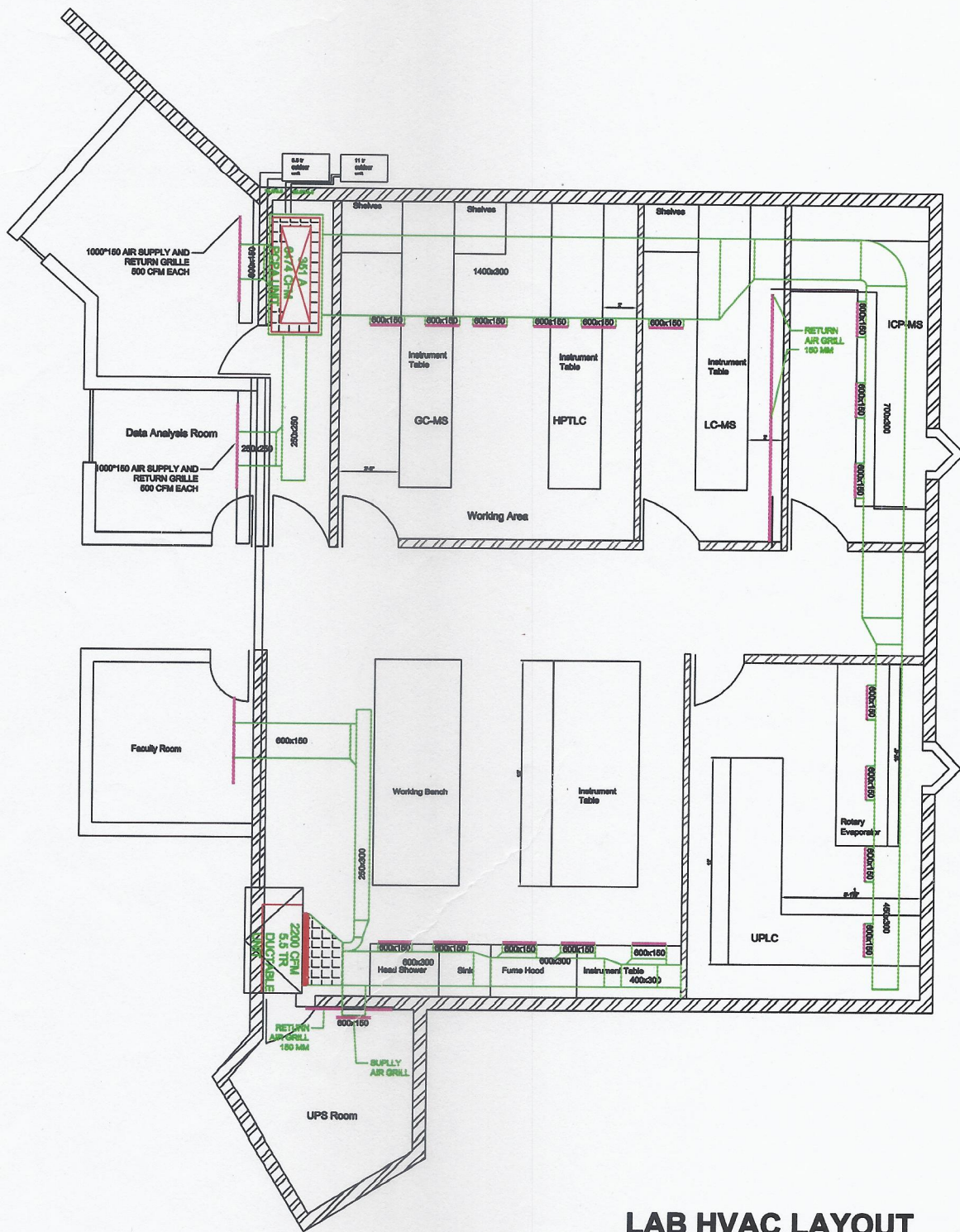
i. Testing

All fans shall be tested to establish the following ratings:

Air quantity	cubic meter/hr.
Static pressure	mm wg
Fan speed	rpm
Outlet velocity	(m/s)
Noise	(dbA)

Full load current (amps)

After the installation of the entire air distribution system is completed in all respects, zone wise. The entire air distribution system shall be balanced using an anemometer. Measured air quantities at fan discharge and at various outlets shall be identical to or less/excess than 5 percent in excess of those specified and quoted. Damper adjustments shall be permanently marked after air balancing is completed so that these can be restored to their correct position if disturbed at any time. Complete air balance report shall be submitted for scrutiny and approval, and four copies of the approved balance report shall be provided with completion documents.



LAB HVAC LAYOUT

(Undertaking on a Non-Judicial Stamp Paper worth Rs. 100/- duly notarized)

I / We (bidder) hereby give an undertaking that:

- a) I/We have not been blacklisted / debarred / on holiday list during last three years by any Govt. Department/Govt. Autonomous Body/Institution, etc.;
- b) I/We do not have any dispute with any of the Govt. Departments/Govt. Autonomous Bodies/Institutions, etc.;
- c) I/We have never been certified as 'Unsatisfactory Performer' for the said services provided to the Govt. Departments/Govt. Autonomous Bodies/Institutions;
- d) I/We have not submitted any fake/forged certificates/documents and later, if any such 'Certificates/Documents' found to be fake/forged or contains willful wrong/incorrect information, suitable legal action may be initiated against me/us/agency besides 'forfeiture of Earnest Money Deposit' and 'Blacklisting' etc.
- e) I/We shall not withdraw my/our bid after opening of Technical Bid and if done so, the NIPGR shall be authorized to forfeit the EMD submitted by me/us.

Seal and Signature of the Authorized
Person of the Agency

Name and designation of the
Authorized Person of the Agency

Place:

Date:

**'CERTIFICATE FOR SITE INSPECTION'
Pre-qualification criteria of NIT**

Certificate that we have visited the site on and assessed the nature and amount of work involved before submitting our offer. We will be able to complete the works within the stipulated time and also that we will be able to execute the work suit to the site conditions.

(Signature of Bidder with Seal)

Name:

Address:

Date:

Consultant Engineer

Annexure-III

CHECK-LIST FOR PRE-QUALIFICATION BID FOR: Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi

S l . N o .	Documents asked for	Page number at which document is placed
1	Earnest Money	
2	Name of authorized person of the firm/agency, designation, address and office telephone numbers. If the bidder is a partnership firm/private or limited company, name designation, address and office telephone numbers of partners/ Directors also.	
3	Undertaking on a Non-judicial Stamp Paper of ₹ 100/- (as per format prescribed in Annexure-I) with tender document in Envelope – I.	
4	Self-attested copy of the PAN & GSTIN card issued by the Income Tax Department.	
5	Proof of experiences of last three years ending 31 st Oct. 2018 as specified in the NIT along with satisfactory performance certificates from the concerned employers.	
6	Annual turnover of last three financial years ending March 31 st 2018 duly certified by the Statutory Auditors.	
7	Any other documents, if required.	
8	Authorized dealership certificate issued by the Principle / OEM.	

**Signature of the Bidder
(Name and Address of the Bidder)
Telephone No.**

FINANCIAL BID

SUB.:Supply, Installation, Testing & Commissioning of High Precision A.C. in Lab-008 for Metabolome Facility at NIPGR Campus New Delhi.

**CLIENT : DIRECTOR NIPGR
NEW DELHI**

SCHEDULE OF QUANTITY

Part A

Sub: SITC of High Precision airconditioning system in Lab 008 for Metabolism Facility at NIPGR Campus New Delhi

		Unit	Qty	Rate	GST %	Amount	Make
HIGH SIDE WORK							
1	Supply, installation, testing and commissioning of micro processor based Precision Air conditioning unit of 10 TR capacity with R407 refrigerant, with air flow 8500 CFM each comprising of outdoor and Top Discharge & front suction indoor unit. Outdoor condensing unit shall comprise air cooled condenser with fan. Outdoor unit shall be an over sized unit to account for high ambient of 45°C & indoor temp. of 21 ±1°C, 50% RH. Indoor unit shall consist of filter section, Electrical Power switch board, multi-rows deep copper cooling coil with aluminium fins, Dehumidification cycle, modular panel cabinet construction, cabinet insulation, fan section with dynamically balanced centrifugal fans with a motor and drive, humidifier, Hightechnology scroll compressor, accessible refrigeration control & air discharge duct.						EMERSON/ STULZ/ DUNHUMBUSH
	1 Precision AC	No	1				
LOW SIDE WORK							
1	Installation, testing and commissioning of Ductable units air-conditioning system complete with indoor and outdoor units with individual controller for cooling type operations. The quoted price should include lifting, shifting, positioning at site of all the equipment fittings, remote controls, topping up of refrigerant R4 10A MS frame work for outdoor units installation, vibration isolators, wheather proof electrical panel with cabling copper earthing, ancilliary materials as specified and all such item required to fullfill the intent and purpose as laid down and drawings.	No	1				
2	Interconnecting 18 G Hard Copper refrigerant pipe work with (19mm/13mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with C channel.	No	15				mandev/ maxflow/ diamond
3	SITC of 32/25 mm UPVC pipe for drain & water connection with ball valve and fittings	Rmt	15				Prince/ Prakash/ Surya
4	SITC of MS stand along with civil foundation of appropriate size as per site requirement for proper levelling and balancing of the unit	No	1				
5 Ducting							
	Supply, fabrication, installation and testing of factory fabricated OVAL Dcuting with 9 mm nitrile rubber insulation from internal as per specification & approved drawing						Ductofab / Dustech/ GP Spira
i	22 G	Sq. Mt.	120				
ii	20 G	Sq. Mt.	10				
iii	Supply, installation Testing and comissioning of Hand made ducting made of GI Sheets of 20 G for making Plenum of the units including all accessories such as vanes etc compete.	Sq. Mt.	15				Jindal/ Loyd/ bhushan
6	Supply and installation of flexible canvas connections	No.	2				
7	Acoustic lining of duct with fiberglass board, tissue paper and finished with perforated aluminum sheet and nut bolts. 25mm thick	Sq. Mt.	25				UPTWIGA/ OWNES CORNING
8	Supply, installation and testing of Powder coated Aluminium extruded grill / diffusers as per specification & of following sizes:						

a	Single louvered supply air Grill with damper	Sq. Mt.	2			SUVIDHA/ DYNAMIC/ SERVEX
b	Fresh air louver with Bird screen , Filter and damper (300 x 300)	No	2			SUVIDHA/ DYNAMIC/ SERVEX
9	SITC of 63 AMP weather proof Isolator for AC unit (industrial power outlet)	No	1			L &T/ ABB / Siemens / Legrand
10	SITC of Copper Armoured Power cabling from panel to AC unit with earthing, Gland & Thimble - 4 C X 10 Sqmm	Rmt	90			Kalinga/ Polycab/ Havells/ Gloster
11	SITC of controle cable from Indoor unit to outdoor unit	Rmt	40			Kalinga/ Polycab/ Havells/ Gloster
12 In-Line Fans (Exhaust)						
	In-line type fans complete with motor, blades, fixing frame and louvers as per specifications and drawings 1000 CFM capacity					Caryair/ Sphere/ Osterberg
13	Supply, Installation, Testing and commissioning of motorized combination fire and smoke damper (Spring return type) of atleast 90 minute fire rating.	Nos.	5			SUVIDHA/ DYNAMIC/ SERVEX
a	Bare Fire Dampers.	Sqm.	2			
b	Control panel actuator, including spring return type actuator, with temperature sensor including cabling.	Nos.	2			
			Grand Total			

SCHEDULE OF QUANTITY

Part B

Sub: SITC of High Precision airconditioning system in Lab 008 for Metabolism Facility at NIPGR Campus New Delhi

		Unit	Qty	Rate	GST %	Amount	Make
HIGH SIDE WORK							
1	Supply, installation, testing and commissioning of micro processor based Precision Air conditioning unit of 7.7 TR capacity with R407 refrigerant, with air flow 8500 CFM each comprising of outdoor and Top Discharge & front suction indoor unit. Outdoor condensing unit shall comprise air cooled condenser with fan. Outdoor unit shall be an over sized unit to account for high ambient of 45°C & indoor temp. of 21 +1°C, 50% RH. Indoor unit shall consist of filter section, Electrical Power switch board, multi-rows deep copper cooling coil with aluminium fins, Dehumidification cycle, modular panel cabinet construction, cabinet insulation, fan section with dynamically balanced centrifugal fans with a motor and drive, humidifier, Hightechnology scroll compressor, accessible refrigeration control & air discharge duct.						EMERSON/ STULZ/ DUNHUMBUSH
	1 Precision AC	No	1				
LOW SIDE WORK							
1	Installation, testing and commissioning of Ductable units air-conditioning system complete with indoor and outdoor units with individual controller for cooling type operations. The quoted price should include lifting, shifting, positioning at site of all the equipment fittings, remote controls, topping up of refrigerant R4 10A MS frame work for outdoor units installation, vibration isolators, weather proof electrical panel with cabling copper earthing, ancillary materials as specified and all such items required to fulfill the intent and purpose as laid down in drawings.	No	1				
2	Interconnecting 18 G Hard Copper refrigerant pipe work with (19mm/13mm thick) closed cell elastomeric nitrile rubber tubular insulation between each set of indoor & outdoor units as per specifications, all piping inside the room shall be properly supported with C channel.	No	20				mandev/ maxflow/ diamond
3	SITC of 32/25 mm UPVC pipe for drain & water connection with ball valve and fittings	Rmt	10				Prince/ Prakash/ Surya
4	SITC of MS stand along with civil foundation of appropriate size as per site requirement for proper levelling and balancing of the unit	No	1				
5	Ducting						
	Supply, fabrication, installation and testing of factory fabricated OVAL Dcuting with 9 mm nitrile rubber insulation from internal as per specification & approved drawing						Ductofab / Dustech/ GP Spira
i	22 G	Sq. Mt.	80				
ii	20 G	Sq. Mt.	10				
iii	Supply, installation Testing and commissioning of Hand made ducting made of GI Sheets of 20 G for making Plenum of the units including all accessories such as vanes etc complete.	Sq. Mt.	10				Jindal/ Loyd/ bhushan
6	Supply and installation of flexible canvas connections	No.	1				
7	Acoustic lining of duct with fiberglass board, tissue paper and finished with perforated aluminum sheet and nut bolts. 25mm thick	Sq. Mt.	10				UPTWIGA/ OWNES CORNING

8	Supply, installation and testing of Powder coated Aluminium extruded grill / diffusers as per specification & of following sizes:					
a	Single louvered supply air Grill with damper	Sq. Mt.	1			SUVIDHA/ DYNAMIC/ SERVEX
b	Fresh air louver with Bird screen , Filter and damper (300 x 300)	No	1			SUVIDHA/ DYNAMIC/ SERVEX
9	SITC of 63 AMP weather proof Isolator for AC unit (industrial power outlet)	No	1			L &T/ ABB / Siemens / Legrand
10	SITC of Copper Armoured Power cabling from panel to AC unit with earthing, Gland & Thimble - 4 C X 10 Sqmm	Rmt	50			Kalinga/ Polycab/ Havells/ Gloster
11	SITC of controle cable from Indoor unit to outdoor unit	Rmt	30			Kalinga/ Polycab/ Havells/ Gloster
		GRAND TOTAL				