

Sl. No.

/ICB

TENDER NOTICE

No.C-47011/01- 12 /2011-12/ICB/Mat.

Dt.03.06.2011

**CENTRAL POLLUTION CONTROL BOARD
'PARIVESH BHAWAN'
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGAR
DELHI - 110 032.**

Website:www.cpcb.nic.in

e-mail:cpcb@alpha.nic.in

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CENTRAL POLLUTION CONTROL BOARD
(MINISTRY OF ENVIRONMENT AND FORESTS)
'PARIVESH BAHWAN'
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGARR, DELHI-32.

TENDER NOTICE NO.C-47011/01-12/2011-12/ICB/MATERIALS
DATED.03.06.2011

TENDER DOCUMENT FOR THE SUPPLY OF
LABORATORY INSTRUMENT/EQUIPMENTS.

Price of Tender Document

- i) By Hand : Rs. 800.00 or US \$ 20.
ii) By Post : Rs. 1000.00 or US \$ 25.
- Date of Sale of Tenders : 03.06.2011 to 27.06.2011 on all working days
between 11.00 AM to 5.00 P.M.
- Last date & time for
submission of Tenders : Up to 5.00 P.M. on 28.06.2011
- Opening of Tenders : 29.06.2011 at 11.00 A.M.

DELHI
03.06.2011
DELHI -110 032

(M. Varghese)
Administrative Officer (M)

TELEPHONE : 22308202, 43102030 Extn.243
FAX : 011-22308202, 22307078,
e. mail : cpcb@alpha.nic.in
Website : www.cpcb.nic.in

(i)

CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment and Forests)
"Parivesh Bhavan" East Arjun Nagar,
Delhi – 110 032, INDIA

TENDER NOTICE

NO.C-47011/ 01- 12 /2011-12/ICB/MATERIALS:

Dated: 03.06.2011

Sealed Tenders are invited on behalf of the Member Secretary, Central Pollution Control Board from Manufacturer/Suppliers in India and abroad for the supply of various Laboratory Instrument / equipments as listed below:

AOX Analyzer, Fermenter Systems , High Speed Refrigerated Centrifuge (Large and Small) , High speed Refrigerated Centrifuge (Bench/Table Top), Incubator shaker (Large), Incubator Shaker (Small), Lyophilizer with Stoperring Tray dryer, Lyophilizer 1000 kg. Cap., Microwave Digester, Multibioreactor System (Fermenter Miniature model), Permeation Tubes, Water Purification System (Ultrapure).

02. The Tender Documents along with detailed specifications of the instruments can be obtained from the office of Administrative Officer (Material), Central Pollution Control Board.

03. The request for tender documents sent by post will be accepted up to 15.6.2011.

- Sale of tender document** - **From 03.06.2011 to 27.06.2011 on**
all **working days between 11.00 am to**
5.00 pm
- Cost of tender document** - **By hand ₹-800.00 or US Dollar 20. By post -**
Rs. 1000.00 or US Dollar 25 through Demand
draft only.
- Earnest Money** - **As indicated in the Tender Document**
- Last date & time for submission** - **Up to 5.00 PM on 28.06.2011**
Date of opening of tender - **At 11.00 A.M. on 29.06.2011**

06. Bidders using downloaded tender forms must submit separate tender fee by Demand Draft along with technical bid drawn in favour of Central Pollution Control Board, Delhi
Details of tender document, terms & conditions and Technical Specification may kindly be seen at our website www.cpcb.nic.in

(MEMBER SECRETARY)

(ii)

**CENTRAL POLLUTION CONTROL BOARD
(Ministry of Environment and Forests)
"Parivesh Bhavan" East Arjun Nagar,
Delhi – 110 032, INDIA**

TENDER NOTICE

NO.C-47011/ 01- 12 /2011-12/ICB/MATERIALS:

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Sealed Tenders are invited on behalf of the Member Secretary, Central Pollution Control Board from Manufacturer/Suppliers in India and abroad for the supply of various Laboratory Instrument / equipments as listed below:

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02. The Tender Documents along with detailed specifications of the instruments can be obtained in person on Production of authority letter of the Firm or by post from the office of the Administrative Officer (Material), Central Pollution Control Board or by the authorized representative with prescribed tender fee in the form of DD/Payorder drawn in favour of Central Pollution Control Board, Delhi

03. The Bid must be submitted in English, by the principal / their authorized suppliers.

04. The Earnest Money as indicated in Bid document must be submitted by the Bidder along with the Tender in the form of Demand Draft only drawn in favour of "CENTRAL POLLUTION CONTROL BOARD" payable at Delhi (India). It should be either in Indian Rupees or in bid currency (equivalent amount as per the exchange rate prevailing). The Indian agent/ representative should furnish an authorization letter from their foreign Principal supplier authorizing to deposit the EMD on their behalf.

05. The request for Competitive Bidding Documents sent by post will be accepted strictly Up to 15.06.2011. CPCB will not be responsible for any delay in receipt of tender document sent by post. Request received by post after above mentioned date will not be entertained at any cost. Other details are as follows:

Sale of tender document - From 03.06.2011 to 27.06.2011 on all working days between 11.00 am to 5.00 pm.

Cost of tender document - By hand ₹-800.00 or US Dollar 20. By post - Rs. 1000.00 or US Dollar 25

Earnest Money along with Tenders - As indicated in the Tender Document

Last date & time for submission - Up to 5.00 PM on 28.06.2011

Date of opening of tender - At 11.00 A.M. on 29.06.2011

06. Bidders using downloaded tender forms must submit separate tender fee by Demand Draft along with technical bid drawn in favour of Central Pollution Control Board, Delhi

Details of tender document, terms & conditions and Technical Specification may kindly be seen at our website www.cpcb.nic.in

(MEMBER SECRETARY)

1.0 GENERAL TERMS AND CONDITIONS

- 1.1 This document contains the following:
- i) Copy of the Competitive Bidding Notice
 - ii) General Terms and Conditions of Bid
 - iii) Terms and Conditions for Submission of Bid
 - iv) Payment Terms
 - v) Settlement of Dispute
 - vi) Application Form
 - vii) Undertaking
 - viii) Bid Form
 - ix) Schedule of Earnest Money to be deposited alongwith Tender
 - x) Quantity of Instruments and Locations of delivery and installation.
 - xi) Detailed specification of the instruments.
 - xii) Check List.
- 1.2 The Tender Document is not transferable by the purchaser. The bid form in the tender Document at Annexure-II may be used for bidding. Documents /forms downloaded from the net can also be used. Bids made on photocopy etc. will not be considered. However, the additional sheets containing the same proforma may be used for each item. Each sheet including that provided by the Board with this document must be signed by the bidder. The price bid must be in the form provided herewith at Annexure-II.
- 1.3 The tender will not be accepted from the firm to whom the document is not issued by the Board and the bid downloaded from net without tender fee will not be accepted.
- 1.4 The Board takes no responsibility for delay or non receipt of Tender Document sent by post either way and also reserves the right to accept; or reject any or all the tenders in part or full without assigning any reason thereof.
- 1.5 No bid document will be sold after the last date of sale of Tender Document or between the extended period of opening date, if any.
- 1.6 The bidder is expected to examine all instructions, forms, terms and conditions and specifications mentioned in the bid document. Failure to furnish all information required by the bid documents or submission of a bid not substantially irresponsive to the bid document in every respect will be at the bidder's risk and may result in the rejection of it's bid.
- 1.7 This call of tenders does not bind the Central Board to place order. The Tenders submitted in response to this invitation be rejected without assigning any reason.
- The bidder should be a manufacturer or their authorized Indian supplier. This tender notice, Tender forms, Schedule of requirement's , Specification etc are also available on CPCB's website WWW.cpcb.nic.in bidders using down loaded tender forms must submit a Separate tender fee by Demand Draft alongwith the technical part of the bid. The tender without requisite tender fee will be rejected.
- 1.8 The Board at its discretion may extend the last date of submission of tender and opening of tenders. The final authority for acceptance of a Tender will rest with the Chairman, Central Pollution Control Board who does not bind himself to accept the lowest tender and is vested with the authority to reject any or all of the tenders received without assigning any reason.

- 1.9 Documents, literature, diagrams/leaflets, samples etc., enclosed in the Tender shall become the property of the Central Board without any payment.
- 1.10 The warranty period for item Sl. No. **1, 2, 3, 4, 5, 7, 8, 9, 10, 11 & 12** will be for thirty six months starting from the date of successful commissioning of the instrument and for the rest of the item warranty will be for a period of twelve months. Under this warranty upon the receipt of such notice supplier/agent shall within the period specified, repair/replaced the defective instrument or spare parts thereof at the ultimate destination. The supplier/agent shall take over the replaced parts/goods, in the event of any correction of defects or replacement of defective material. In such cases, the warranty for the corrected/replaced materials shall be extended till the left over period of warranty.
- 1.11 The Tender would be regarded as turned down, if no award of contract has been obtained till the expiry of the Tender validity. No separate communication will be made in this regard.
- 1.12 The items have to be supplied in standard packing.
- 1.13 If the last date for sale, submission and opening of Tenders falls on any Government declared holidays, the next working day at the same time will be considered last dates of the same.
- 1.14 The bid shall contain no interlineations, erasures or overwriting words except as necessary to correct errors made by the bidder, in such case, correction shall be initialed by the person or persons signing the bid.
- 1.15 Late and delayed tenders will not be considered and shall be returned unopened to the Bidder.
- 1.16 It is advised that the outside suppliers should send the Tender through Registered Post. However, the local supplier may drop their Tenders in Tender Box kept in Central Board for the purpose. In no case, Tender should be handed over to any employee of the Board.
- 1.17 Canvassing in any form will disqualify the Bid.
- 1.18 Request for the Tender Document for bidding through Telex, Telegram, Telephone, Money Order and Tele-fax shall not be entertained.
- 1.19 The Tender Notice No.C-47011/01-12/2011-12/ICB/Materials dated. 03.06.2011. alongwith the item code number. (The item code number is given in the specification sheet against each items) must invariably be quoted in the bid and for further correspondence in this regard.
- 1.20 All the Tenders should be addressed to:
The Administrative Officer (M)
CENTRAL POLLUTION CONTROL BOARD
'PARIVESH BHAWAN'
EAST ARJUN NAGAR, DELHI - 110032, INDIA

2.0 SUBMISSION OF BID

- 2.1 The bid prepared by the bidder and all correspondence and documents relating to the bid exchanged by the bidder and the purchaser, shall be written in English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by English translation of its pertinent passages in such case, for the purpose of interpretation of the bid, English translation shall govern.
- 2.2 The bid must accompany Annexure-I with Techno Commercial part of Bid, tender fee incase of down loaded Document and Annexure-II & III along with 'Price' part of the Bid duly filled in and signed by the Bidder along with the seal of the Firm.
- 2.3 The Bidders are requested to quote the rates item-wise on FOB basis including total price of each instrument separately indicating the Govt. levies, and other expenditure item-wise. The freight charges and insurance will be borne by the buyer in the case of foreign supplies.

For the authorized Indian suppliers, supplying foreign origin / manufactured items, they are allowed to quote in Indian Rupees on FOR destination basis. The Board will not enter into any Trade Agreement such as high See Sale Deed etc. The concessional custom duty and excise duty exemption certificate will be supplied. In that case, the normal custom duty applicable should borne by the supplier. The entire responsibility / charges upto destination should be borne by the supplier. Therefore excise duty and custom duty excluded price should be quoted. Taxes, other levies, insurance, freight etc if any should be indicated separately. No C/D form will be issued against VAT/CST.

Bidder is expected to examine the bidding Documents carefully and are deemed to have received and read all documents. It shall be the responsibility of the bidder to request copies of any missing documents. Failure to do so will be at bidders risk.

- 2.4 It may be noted that mere quoting lowest rates will not entitle any firm to get the order. The quality of the item being offered, the past performance supply etc will also be taken in to consideration. Prior to award of purchase order the buyer can call any details, explanation, regarding technical & financial aspect.
- 2.5 **IMPORTANT: -** BIDDER CAN QUOTE THE RATES FOR ALL THE INSTRUMENTS OR SOME OF THE INSTRUMENTS AGAINST ONE TENDER DOCUMENT. HOWEVER, SEPARATE PRICE BID AND TECHNICAL BID SHOULD BE SUBMITTED FOR EACH ITEM CLEARLY MENTIONING THE ITEM CODE NUMBER, ITEM NAME ON THE TOP OF THE ENVELOPES WITH SENDERS NAME AND ADDRESS. THE CENTRAL POLLUTION CONTROL BOARD RESERVES THE RIGHT TO ACCEPT THE TENDER IN FULL OR IN PART. THE BID FOR EACH ITEM SHOULD BE IN SEPARATE SHEETS/PAGES AND FOR THE SAKE OF IDENTITY, COMPILATION, INSTRUMENT/ITEM CODE NUMBER AND DESCRIPTION OF ITEM SHOULD BE WRITTEN ON THE TOP OF EACH BID. EMD SHOULD SUBMIT SEPARATELY AGAINST EACH ITEM. ITEMS-WISE TECHNICAL SPECIFICATION AND PRICE SHOULD BE IN SEPARATE SHEETS i.e. THERE SHOULD BE SEPARATE ENVELOPE FOR EACH ITEMS CONTAINING TECHNCIAL, PRICE BID & ITEMS WISE EMD, INCASE, BIDDERS DESIRES TO QUOTE MORE THAN ONE ITEM.

- 2.6 The Tender is to be submitted "single stage-3 envelope system" i.e. the first sealed envelope will contain the earnest money, second sealed envelope will contain full information required to judge pre-qualification, complete details and specification of the instruments offered including the leaflets and catalogues, list of credentials with documentary evidence i.e., purchase/work order etc., Income Tax Clearance Certificate, PAN Number, VAT/Sales Tax Registration No., Affidavit for not being black listed, Commercial Terms & Conditions etc. It shall be marked "Pre-qualifications, technical and commercial Bid No.C-47011/01-12/ICB/2011-12 dated 03.06.2011 due on 29.06.2011 for Instrument/Equipments. The third envelope will contain only price quoted by the bidder in the form given at Annexure -II of this document and shall be clearly marked "Price Bid No.C-47011/01-12/2011-12/ICB/Materials dated.03.06.2011 for Instrument/Equipments. All the above envelopes must be separately sealed and shall be kept in one envelope bearing the address of Central Pollution Control Board and super scribed with bold letter "TENDER FOR Instrument/Equipments - NOT TO OPEN BEFORE 29.06.2011 AT 11.00 A.M. The senders address should be mentioned in all envelopes. Item Code Number(s) should be mentioned invariably on all envelopes. Separate bids for separate item should be submitted. The combined bids will not be considered.
- 2.7 Technical & Commercial part of the tender will be opened on due date i.e. at 11.00 A.M. on 29-06-2011 in the office of the Central Board, in presence of the representative of the Tenderers who would like to present. Sealed Price part of technically and commercially acceptable tenders will be opened on a later day which will be communicated by the Board on the same day or on a later date.
- 2.8 The bidder shall furnish, as part of its bid, bid security for each instrument/equipment separately for the amount mentioned in schedule IV of this tender. Execution of Bid Security by the bidder's Bank on the basis of prevailing exchange rate shall be used for arriving at the amount of bid security in the Bid Currency.
- a) The bid security shall be in the form of Demand Draft only in favour of "CENTRAL POLLUTION CONTROL BOARD" payable at DELHI. No Earnest Money shall be accepted in any form. It should be either in Indian Rupees or in bid currency. The Indian agent/representative should furnish an authorization letter from their foreign Principal suppliers to deposit the EMD on their behalf. The Earnest Money shall be forfeited if a bidder withdraws or amends the tender in any respect within the period of validity of his tender or fails to supply the instruments within the specified period in the tender document. Tender shall not entertained where a Tenderer has not furnished adequate earnest money in the prescribed and acceptable Form. In case, the instrument supplied is found defective and not attended by the supplier / authorized agent, the Earnest Money deposited by the supplier /their authorized Indian agent will also be forfeited.
- 2.9 The Firm who seek exemption from depositing earnest money being small scale industry, being registered with NSIC, DGS&D and other Government agencies which entitles them for exemption must submit the valid Registration Certificate - cover the instrument offered by them along with the permissible value. The copy of Government Notification granting exemption from deposit of EMD must be submitted along with the Techno-commercial part of tender alongwith the bid. (EMD Exemption will be granted only to those items specified in the certificate of Registration).

- 2.10 Unsuccessful bidders bid security will be discharged/ returned without any interest in the same form after the concerned purchase is finalized or within four months whichever is earlier and that of successful bidders will be discharged without interest within one month of the successful installation and commissioning of the instrument and on furnishing the Performance Bank Guarantee.
- 2.11 The validity of Tender would be for a minimum period of 180 days from the date of opening of Tenders. A Bid valid for a shorter period may be rejected by the Board as non responsive. In case the validity is to be extended; the Board may solicit the Bidder's consent to an extension on the period of validity and the bid shall remain valid for the extended period mutually agreed for.
- 2.12 The rates should be quoted both in words and figures.
- 2.13 Arithmetical error will be rectified on the following basis:- If there is discrepancy between the unit price and total price that is obtained by the multiplying the Unit Price and quantity, the unit price shall prevail and the total price shall be corrected. If there is discrepancy between words and figures, the amount in words will prevail.
- 2.14 Tenders not in proper sealed cover or received through tele-graphically or E-mail fax/telex will not be entertained.
- 2.15 Conditional Tenders will be rejected without assigning any reason.
- 2.16 The Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person duly authorized to the Contract. The letter of authorization should bear the signatures of only the authorized person of the firm. All pages of the Bid, except for un-amended printed literature shall be initialed by the person or persons signing the bid.
- 2.17 To assist in the examination, evaluation and comparison of bids the buyer may, at its discretion, ask the Bidder for a clarification of its bid. However, no change in the price or substance of the bid shall be sought, offered, re-permitted.
- 2.18 Eventual suggestions for modification or subsidiary Tenders are principally not admissible.
- 2.19 The specifications are clearly mentioned in the document and the Bidder is requested to submit Bid only if their offer strictly comply to these specifications. Please note that no deviation in the required specification will be permitted. The bidding for the instruments having different specification will be on Bidder's risk as the Board will not entertain such Bids. BIDS CARRYING THE STATEMENT LIKE "SPECIFICATION AS PER TENDER DOCUMENT" SHALL NOT BE ENTERTAINED. THE PRODUCT SPECIFICATIONS SUPPORTED BY TECHNICAL LITERATURE AND LIST OF USERS, MUST BE ENCLOSED.
- 2.20 The placement of work order/purchase order will be according to technical evaluation of the Tender and after consideration of its price worthiness.
- 2.21 The price to be given in the Tender are fixed prices, irrespective of rise in Materials prices and increase in taxes etc., till the delivery of the overall consignment. No request in regard to increase in the price of instruments or in taxes etc., will be entertained after the submission of the tender.

2.22 The Supplier should attach a copy of financial bid/Proforma Invoice of the Instrument quoted (without cost/price figures) alongwith the technical bid to assess the item/components quoted in the bid.

In the case of proprietary item, the proprietary certificate issued by the principal/manufacturer should be attach along with the technical bid. In that case, the bid of the manufacturer /their sole distributor will only be considered. A copy of the latest supply order (showing details of price) executed to any Ministries Departments under Govt of India should be attached along with the price bid.

2.23 The nomenclature of the instruments and spares will be invariably same in Proforma Invoice, Invoice, Packing list and all other relevant papers incase the Bidder is awarded with the purchase order for supply against its offer.

2.24 With the submission of his Tender the Bidder accepts the conditions of the Tender.

2.25 If the instrument supplied is not in conformity with the specification other than asked for, it will have to be replaced at the risk and cost of the supplier. No Freight and other charges for export and re-shipment will be paid by the Board.

2.26 The authorized Indian agent/Representative/ Indian supplier should have minimum two years continuous agency /partnership/joint venture/participation or collaboration with their principal foreign supplier. The documentary proof of such agency ship /authorization/MOU should submit alongwith the technical part. The bid of the firm does not contain the proof of such nomination/authorization as Indian agent will be rejected.

2.27 The installation of the instruments is the entire responsibility of the supplier. It must be done either by the principal/supplier or their authorized agents within one month of the receipt of the instruments by the Board. The supplier or their authorized Agent should be in touch with the Material Section of the Board to know the exact day of receipt of stores supplied/dispatched by them.

2.28 The list of instruments/equipment, their approximate quantity and point of delivery is given at Annexure -V and the detailed specification of the instrument are given in the tender document (pages 01-43). The quantity mentioned in the tender document may be increased or decreased at the discretion of the Competent Authority in the Central Board without assigning any reason.

2.29 Each and every folio of the Tender must be signed by the Bidder.

2.30 Bidder can quote the rates for all the instruments or some of the instruments. The Bid shall be considered only for those instruments for which the rates have been specifically quoted. The Board further reserves the right to accept the Tender for all the instruments or some of the instruments for which the Tenderer has quoted the Bid. The bidder should attach a separate list for the consumable/spares required for smooth operation of the instrument at least for three years (as optional items)and two copies of trouble shooting manuals, electric circuits etc. alongwith the bid. Combined EMD and consolidated bids will be rejected. (EMD, technical bid and commercial bid against each item quoted should be on separate sheets).

2.31. The bidder should provide a complete list of spares and consumables required for operation and maintenance of the instruments separately alongwith the price list.

2.32 Annual maintenance contract: The bidder should quote the charges for annual maintenance contract for five years after the warranty period for the instrument listed in annexure -IV of this tender document at item Sl. No. 1,2,3,4,5,6,7,8,9,10,11 & 12

- 2.33 The instrument for which Tenders are invited will have to be supplied within 90 days from the date of L.C. opening in the case of foreign suppliers. A period of 30 days will be allowed from the date of purchase order in the case of Indian manufacturers/suppliers.
- 2.34 The after sales service is most important to be considered for comparison of the bids. Bid of those firms who do not have Indian Agents or sufficient infrastructure facilities to provide after sales service during warranty period will not be considered.
- 2.35 The bidder can quote either in Foreign suppliers, the price quoted should be on FOB basis. The agency attendance charges will be paid in Indian Rupees. The charges on account of agency attendance charges should be mentioned clearly. Indian suppliers, the price should be quoted in Indian Rupees. However, the authorized agency Indian supplier should have minimum two years of continues partnership/joint venture /participation or collaboration with their principal foreign supplier.
- 2.36 The foreign bidders must indicate the following information in their Performa invoice along with the Price Bid separately for each instrument/equipment.
- a) Country of Origin.
 - b) Port of Shipment.
 - c) Name & Address of beneficiaries Bank, Branch name with Account No. & SWIFT No.
 - d) Minimum delivery period.
 - e) Whether transshipment/partner shipment is required or not.
 - f) Agency attendance charges, if any payable to the Indian Agent, their Complete address, telephone & fax number.
- 2.37 The items have to be supplied in standard packing. The foreign supplier should use the minimum possible packets and should reduce the size of the packing in volume to avoid extra demurrage in the bonded warehouse in India, if any.

Important - Bank charges: Three months time for shipment and further 21 days for negotiation will be given. All Bank charges inside the country (in India) will be buyers account and all Bank charges outside the country should be borne by the supplier / beneficiary. The bidders may note this and quote the price of the instrument/ equipment accordingly. In the case of Foreign Suppliers, they will have to ensure shipment of the consignment as per the validity of the letter of credit established in this regard. In case of extension of supply date is sought, the bank charges towards the amendment of L.C. should be borne by the Beneficiary/Supplier.

- 2.38 Foreign Principals/their authorized Indian Agent shall intimate the buyer regarding the date of shipment well in advance. A copy of the invoice documents, air way bill, packing list, certificate of country of origin may be forwarded to the purchaser by fax immediately after shipment of the consignment to clear from custom authorities so as to avoid demurrage charges.

- 2.39 At any time prior to the deadline for submission of bids the buyer may for any reason whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the bidding documents by an amendment.
- 2.40 The Amendment if any, will be brought to the notice in writing or by fax to all concerned Bidders who have purchased the bidding documents and will be binding on them.
- 2.41 In order to afford prospective Bidder reasonable time in which to take the Amendment into account in preparing their bids, the purchaser may at its discretion, extend the deadline for the submission of bids.
- 2.42 The prices must be quoted item wise i.e. basic price, taxes, packing forwarding, handling installation and training charges etc. The charges must be quoted clearly and not in vague terms like "As Actual" "Approx" etc.
- 2.43 If according to the Bidder, the Tender Documents contain unclear points which could influence price calculations, the bidder has to inform the authority who is issuing the call of Tenders before submission of its Tender, either in writing or by fax, even if he has pointed out this earlier in any other form/reference.
- 2.44 The Packing, Forwarding, charges must be quoted according to the place of delivery as mentioned in the schedule at Annexure-V. The supplier shall be liable for any damage, theft or loss during transit. In the case of Indian suppliers, the instruments are to be dispatched to the respective places directly and to be installed there, by the supplier under intimation to, CPCB Office at Parivesh Bhawan, Delhi-32.
- 2.45 The delivery of stores in case of foreign suppliers shall be taken at New Delhi or other locations mentioned in "annexure-V" of this tender documents, subject to facilities of Air port and customs clearance in the designated locations (will be mentioned in the purchase order). The price indicated should be on FOB basis. Please note that Proforma Invoice must be separate for each instrument/item.
- 2.46 **MOST IMPORTANT: "Lyophilization Technology for skin/hide preservation" is a Patented Technology and due permission should be taken by the bidder who is applying for the tender.**
- 2.47 PLEASE NOTE THAT ANNEXURE-I OF THIS DOCUMENT MUST BE ENCLOSED WITH THE FIRST PART OF BID i.e. "TECHNICAL AND COMMERCIAL BID" AND ANNEXURE-II AND III WILL BE KEPT IN THE SECOND PART OF BID i.e. PRICE BID.
- 2.48. PLEASE NOTE THAT THERE IS NO NEED TO ENCLOSE THE ENTIRE TENDER DOCUMENT (SUPPLIED BY THE BOARD) WITH YOUR BID. ONLY ANNEXURE-I, II AND III NEED TO BE ENCLOSED AS PER INSTRUCTION STIPULATED IN PARA 2.6 AND OTHER RELEVANT PARAGRAPHS OF THIS BID.
- 2.49 Prior to placing purchase order, incase the buyer desires to inspect the stores/instrument-equipment including demonstration, the same should be arranged by the supplier or their authorized Indian agent in the premises of the Central Pollution Control Board on free of charges.

3.0 PAYMENT CONDITIONS

For Foreign Bidders:- The foreign bidders should quote the price in foreign currency. Incase, they have components and services of Indian origin/agent, the same may be quoted in Indian Rupees.

100% payment will be released through irrevocable Letter of Credit in the name of foreign bidders for stores of foreign origin.

80% payment will be made on shipment of the instrument/Equipments and on furnishing Performance Bank Guarantee for 10% of the purchase order, valid till warranty period. 20% will be released on satisfactory installation of Instrument/Equipment.

For Indian bidders 100% payment will be released on satisfactory supply, installation / commissioning of the instrument and on furnishing performance security/Bank Guarantee for 10% of the purchase order value valid till warranty period.

The Performance Security / Bank Guarantee be furnished either by the principal supplier or their authorized Indian agent from any Nationalized Bank. No Proposal for advance payment will allowed in any case. In the case of Indian suppliers advance payment, document and payment through bank will considered.

The defective, substandard and contrary to the specification of instruments supplied have to be replaced by the supplier at their cost and responsibility. Incase of indigenous instrument/ equipment quoted by Indian firms/ representatives/ Indian agents of foreign supplier / manufacturers in Rupee terms, the payment will be made in Indian rupees directly after supply and satisfactory installation

- 3.2 Single bill against one order as per supply order mentioning item code and other details will be accepted.

4.0 SETTLEMENT OF DISPUTE, ARBITRATION

- 4.1 All disputes or difference arising out of or in connection with the contract and supply of any item/equipment assigned under the same (whether during the progress of the works or after their completion, determination, abandonment or breach of the contract) shall be Settled in accordance with the arbitration and conciliation Act, 1996. the Arbitral Tribunal shall consists of three (3) arbitrators appointed by the Chairman, Central Pollution Control Board. The decision of the arbitrators shall be final. It will not be an objection to any such appointment that the arbitrators are the Government servants and had any interest in the Board or the contract entered into directly or indirectly. In all cases, the arbitrator shall state reasons in their decision in writing, if the amount of claim in dispute is Rupees one Lakh and above, subject as aforesaid the provision of the Arbitration and Conciliation 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 proceedings under this clause. Arbitration proceedings shall be held at Delhi/New Delhi, India and the language of arbitration proceedings and that all documents and communication's between the parties shall be in English. The party invoking Arbitration clause shall bear the cost of arbitrator mutually agreed upon.
- 4.2 It is a term of the contract that the party invoking the arbitration shall specify the dispute or disputes to be referred to the arbitration under this clause together with the amount or amount claimed in respect of each such dispute.
- 4.3 It is also a term of the contract that if the supplier (s) do not make any demand for arbitration in respect of any claim (s) or dispute in writing within 90 days of submission of the final bill for payment, the claim of the supplier will be deemed to have been waived and absolutely barred and the Board will be discharged and released of all liabilities under the contract in respect of these claims.

4.4 LAWS AND REGULATIONS

The formation, validity and performance of this Contract shall be governed as to all matters by and under the laws and regulations of India and courts of Delhi shall have exclusive jurisdiction in all matters arising under this Contract.

The Supplier shall respect and abide by all laws and regulations of India and shall make its best effort to ensure that the personnel of the Supplier and their dependents, while staying in India, shall respect and abide by all laws and regulation of India.

The Supplier shall protect, absolve and indemnify the Board, and their representatives from any claim, loss or damage arising from any non compliance alleged or proved, without claiming them for payment.

4.5 FORCE MAJEURE

Vendor shall not be considered in default if delay in delivery occurs due to causes beyond his control such as acts of God, natural calamities, civil, wars, strikes, fire frost, floods, riots and acts of usurped power. Only those causes which have a duration of more than 7 calendar days shall be considered cause of force majeure. A notification to this effect duly certified by the Local Chamber of Commerce/Statutory Authorities shall be given by the Vendor to the buyer by registered letter. In the event of delay due to such cases a length of time equal to the period of force majeure or at the option of the buyer, the order may be cancelled. Such cancellation would be without any liability whatsoever on the part of buyer. In the event of such cancellation the vendor shall refund any amount advanced by the Purchaser and deliver back any material issued to him by the Purchaser and release facilities, if any, provided by the Purchaser.

5.0 INJURY AND DAMAGE

5.1 Injury or Death of Persons

The Supplier shall be liable for and shall indemnify the Board against any liability, loss claim or proceedings whatsoever arising under any statute or law in respect of personal injury death or any disability caused by the carrying out the Works unless due to any act or neglect of the Board, or of any person for whom the Board is responsible.

5.2 Damage to Property

The Supplier shall be liable for and indemnify the Board against and insure and cause any Manufacturers and subcontractors to insure against any expense, liability, loss claim or proceedings in respect of any damage whatsoever to any real or personal property for any one occurrence in so far as such damage arises out of or in the course of or by reason of he carrying out of the Works and is due to any negligence, omission or default of the Supplier or any person for whom the supplier is responsible or any Manufacturers and subcontractors or person whom the Manufacturers and subcontractors are responsible.

6.0 ROYALTY AND PATENTS

6.1 The Supplier shall pay all royalties and licenses fees for the use of any patented item, whether it may be an invention, method, arrangement, article, process or appliance used in connection with the performance of the Contract. The supplier

shall indemnify and save harmless the Board against any and all costs, damages and expenses of any nature or kind whatsoever which may arise out of or result from a claim by any person, firm or corporation that the manufacture, purchase, use of sale of any of the inventions, methods, arrangements, articles processes or appliances used in connection with the performance of this Contract infringes any patent of such other rights. The Supplier shall, at the request of the Board, defend the Board against any suit brought to enforce any such claim at the Suppliers expense.

- 6.2 In case any such patented item used on or in conjunction with the Works is in suit held to constitute and infringement of its use enjoined, the supplier shall either secure for the Board the right to continue using the said item by suspension of the injunction, by procuring for the Board a license or otherwise, or will replace such items with a non-infringing item or modify it so that it becomes non-infringing or with the Board's approval remove the said enjoined item and refund to the Board the sums paid thereof.

7.0 EFFECTIVENESS

This Contract shall come into force and effect on the date of the Letter of Award and shall be in force until the Works have been completed and all the payments have been made to the Supplier, except the obligation of the warranty period by the Supplier.

Annexure - I

S. No. /ICB
APPLICATION FORM

(To be filled by the bidder)

- 1) Name and full address of the Bidder including Telegraphic Address/Telex No. and Fax No. :
- 2) Name and Designation of the Head of the Firm/supplier and his Telephone No. :
- 3) i) In case the supplier is located out of Delhi; specify the Address/ Authorized Distributor's or Agent's Address in Delhi, if any. :
ii) Name, Designation, Address Telephone & Fax Numbers of the Authorized Person who may be contacted during the process of the purchase concerned under this document (Applicable for all the suppliers) :
- 4) Item Code Number(s) quoted for :
- 5) Whether Earnest Money Deposited :
(Amount: Rs./US Dollar/ - bid currency)
- 6) If yes, Demand Draft No, Date and Name of issuing Bank. :
- 7) Validity of Tender :
- 8) If the tender documents are accepted in full (Yes or No) :
- 9) Income Tax Clearance Certificate attached (Latest) (Yes or No) with PAN Number. :

Place:
Date :

Legally Binding Signature with stamp

BID FORM

ANNEXURE - II

No. /ICB

Details showing quantity, specification and other details of the instruments offered (to be filled by the bidder and must be kept in "Price Bid" part of the Tender)

Sl.No and Item code Number of instruments as per our tender Document	Name of Instrument	The Specification offered by the Bidder	Difference in Specifications of tender document and that of Bid, if any	Quantity	Unit Price (in Rupees excluding rates at col. no. 7)	Taxes and other expenditures (Sales Tax/VAT, C.S.T, freight, cost of installation & training (in case of indigenous items)etc.	Total Amount (FOB Value in case of imported and FOR CPCB for indigenous in Rupees)
1	2	3	4	5	6	7	8

NOTE:- If this sheet is not sufficient to accommodate the bid the additional sheets containing the same proforma but all such sheets including this one must be signed by the Bidder along with the seal. This Annexure must enclose in the Proforma Invoice price bid for item wise. Separate Bid form should be attached against each item, quoted for. Administrative Officer (Material) Signature with date & stamp of the bidder

UNDERTAKING

DATE _____
TENDER NOTICE NO _____

TO

THE CHAIRMAN
CENTRAL POLLUTION CONTROL BOARD
(MINISTRY OF ENVIRONMENT & FORESTS GOVERNMENT OF INDIA)
C.B.D. CUM OFFICE COMPLEX
EAST ARJUN NAGAR DELHI - 110 032.

Sir,

Having examined the conditions of Tender Document and specifications of the instruments, the receipt of which is hereby acknowledged. We, the undersigned, offer to supply, delivery and install the following:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 8.
- 9.
- 10.
- 11.
- 12.

(Please add additional pages, if required). The above supply, installation shall be in conformity with the specifications and conditions of supply.

We undertake if our bid is accepted to deliver the instruments quoted by us, we shall deliver and install within the period indicated by us in our offer.

We agree to abide by this bid for a period of 180 days from the date fixed for Bid opening and it shall remain binding upon us and may be accepted at any time before expiration of that period.

We are submitting a Demand Draft for Rs...../in bid Currency in favour of "Central Pollution Control Board", Delhi towards the Earnest Money.

This Bid, together with your written acceptance thereof in your notification of award shall constitute a bidding contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this.....day of.....2011

Signature of authorized Person, Name with Stamp & full Address.

SCHEDULE OF EARNEST MONEY

SI No.	Item Code No.	Instrument / Equipment Name	QTY	EMD
1.	1.	ADSORBABLE ORGANIC HALOGEN (AOX) TOTAL ORGANIC HALOGEN (TOX) ANALYZER	02	2,00,000=00
2.	2.	Fermenter Systems (Scale up model)	05	22,50,000=00
3.	3.	High Speed Refrigerated Centrifuge (Large Volume)	05	5,00,000=00
4.	4.	High Speed Refrigerated Centrifuge (HSRC) (Bench/Table Top)	01	25,000=00
5.	5.	Incubator Shaker, Large	05	5,00,000=00
6.	6.	Incubator Shaker, Small	01	50,000=00
7.	7.	Lyophilizer with Stoperring Tray dryer	05	12,50,000=00
8.	8.	Lyophilizer 1000 Kg. Cap.	02	12,50,000=00
9.	9.	Microwave digester	02	80,000=00
10.	10.	Multibioreactor System-Fermenter (Miniature Model)	01	7,50,000=00
11.	11.	Permeation Tubes	--	75,000=00
12.	12.	Water Purification System (Ultrapure)	02	1,00,000=00

ANNEXURE –V

LOCATION OF DELIVERY AND INSTALLATION OF INSTRUMENTS/ EQUIPMENT

Sr.No.	Item Code No.	Instrument / Equipment Name	QTY	Location
1.	1.	ADSORBABLE ORGANIC HALOGEN (AOX) TOTAL ORGANIC HALOGEN (TOX) ANALYZE	02	Delhi/Lucknow/ Kanpur/ Dehradun/ Allahabad/ Varanasi/ Patna / Kolkata
2.	2.	Fermenter Systems (Scale up model)	05	Delhi/Lucknow/ Dehradun/ Patna/Kolkata
3.	3.	High Speed Refrigerated Centrifuge (Large Volume)	05	Delhi/Lucknow/ Kanpur/ Dehradun/ Allahabad/ Varanasi/ Patna / Kolkata (any 05 places)
4.	4.	High Speed Refrigerated Centrifuge (HSRC) (Bench/Table Top)	01	Delhi/Lucknow/Kanpur / Dehradun/Allahabad/ Varanasi/ Patna / Kolkata (any one place)
5.	5.	Incubator Shaker, Large	05	Delhi/Lucknow/ Dehradun/ Patna / Kolkata (any 05 places)
6.	6.	Incubator Shaker, Small	01	Delhi/Lucknow/ / Dehradun/ Patna / Kolkata (any one place)
7.	7.	Lyophilizer with Stoperring Try dryer	05	Delhi/Lucknow/ / Dehradun/ Patna / Kolkata (any one place)
8.	8.	Lyophilizer 1000 Kg. Cap.	02	Unnao/Kolkata
9.	9.	Microwave digester	02	Delhi/Lucknow/ Dehradun/ Patna/Kolkata (any two places)
10.	10.	Multibioreactor System-Fermenter (Miniature Model)	01	Delhi/Lucknow/ Dehradun/ Patna/Kolkata (any one place)
11.	11.	Permeation Tubes	--	Delhi
12.	12.	Water Purification System (Ultrapure)	02	Delhi/Lucknow/Kanpur / Dehradun/Allahabad/ Varanasi/ Patna / Kolkata (any 02 places)

AOx Analyzer with Auto-Titration Unit

S. No.	Specification	Requirement
1.0	INSTRUMENT COMPOSITION	
	Main AOX Module	
	EOX Module	
	POX Module	
	Furnace	
	Scrubber	
	Titration Cell	
	Data Work Station	
2.0	TECHNICAL SPECIFICATION	
2.1	System Application	The system should be capable for measurement of AOX, POX, EOX, TX in solid, liquid or gaseous samples.
2.2	System operation	The windows based software should offer easy to use menu control for all vital parts and complete the functions of analyzer i.e. movement of quartz boat, stirrer speed, temperature control etc.
2.3	Operating Gases	Oxygen: 99.996%
		Argon: 99.996%
2.4	Furnace	Tubular Furnace with Heater Capacity of 600-900 watt heating temperature range ambient to 1000 °C
		Optimum temperature should reach in less than 45 minutes.
		Furnace cooling by continuous fan assisted.
		It should work in controllable temperature range with ± 5 °C / set temperature.
2.5	Gas Flow Control Meter	System should be equipped with gas flow control meter capable for controlling maximum flow rate 500 ml/min.
2.6	Power Requirement	The complete unit should operate on electric power of 230 ± 10 V AC, 50 Hz.
2.7	Scrubber	Scrubber should be capable of cleaning and drying the gaseous steam coming from the combustion tube to the titration cell.

2.8	Titration Cell	Titration cell should comprise of generator electrode and measuring electrodes.
		The cell should reach full stability within 30 minutes.
		Titration cell capacity not less than 20 ml.
3.0	DATA WORK STATION	
3.1	Application Software (Features)	Capacity of regulating / control of all AOX analysis methods (Column or batch method) EOX & POX determinations through computer.
		Software should monitor all system parameters and acquires measurement data and titration curve, allow data and results to be assessed with precision and accuracy.
		Capable of evaluating results concentrations in ppm and ppb or less (ppt).
		Storage of complete analysis data for future reference.
4.0	COMPUTER SYSTEM	
	Make	Reputed brand such as HP/Compaq/IBM/Dell
	Processor	Intel Core 2 Duo processor 3.0 GHz or above
	RAM	4 GB (upgradeable to 8 GB)
	HDD	500 GB ultra DMA or higher HDD (7200 RMP),
	Monitor	21" TFT-LCD Flat Colour (Digital)
	CD ROM	52x CD-ROM
	DVD-CDRW	DVD-ROM and CDRW-Combo Drive Max speed 48x24x48
	Ports	2 Serial, 1 parallel and 2 USB front 6 Rear USB2 PS/2 Port, 1VGA integrated Port1line in/out port,
	Key board	104 Key IBM Compatible
	Mouse	Optical mouse with pad

	Ethernet	32 bit auto selectable 10/100 MBPS
	Graphics	Internet ready with integrated Graphics
	Sound	Integrated sound card and inbuilt stereo speakers
	Printer	HP LaserJet Printer 1200 x 1200 dpi 12 PPM black
5.0	Softwares	Pre-loaded Windows 7.0 Professional operating system with Licensed CD
		MS Office 2010 Standard with media, manual and Licensed CD
		Preloaded Antivirus with latest version along with Licensed CD
6.0	ANALYTICAL SPECIFICATIONS	
	Measuring Principle	Combustion and colorimetric titration.
	Parameters	AOX, EOX, POX, TX
	Measuring Range	0.1 to 50 µg Chlorine absolute
	Confirmation of legislation / Protocols	DIN, ISO, EPA, ASTM, CEN, SCAN, NEN, APHA
	Methodology Package	Comprehensive DIN, EPA, SCAN, ISO, ASTM methodology package (CD-ROM) for AOX, EOX, TX in liquid, solid, soil & sludge and other environmental analysis.
	Inaccuracy	Less than 5%
	Average analysis time	5-10 minutes
	Sample Matrix	Liquids, Particulated Samples, Semi Solids and Solid samples.
	Electrolyte	75% HAC.
7.0	ADDITIONAL ITEMS	
	Bench Top Shaker	Shaker with Shake table of 18+x 12+to permit agitation of 9-12 flask (250 ml capacity) and load capacity up to 15 kg. Simultaneously giving their contents a circular motion.
		RPM should be between 0 to 300 with digital display and controlled by a knob.
		Attached with a timer can be set 5 minutes interval up to 1 hour or infinite.
	Filtration Assembly	Consisting of complete glass of components like holder funnel, 25 mm base with 25 mm sintered disc, spring clamp, 1 L vacuum flask.
Consisting of complete glass of components like holder funnel, 47 mm base with 47 mm sintered disc, spring		

		clamp (Steel), 2 Ltr vacuum flask.
Vacuum / Pressure Pump for Filtration assembly		One Vacuum / pressure pump, material of construction pump head and housing made of cast aluminium, chemically resistant head and diaphragm, oil free, moulded PTFE diaphragm, PTFE/Ryton head, with vacuum / pressure gauge, separate regulators for vacuum and pressure and simple switching, vacuum capacity 24+ Hg (610 mm), 30 l/min trace air displacement and pressure capacity 35 psig, free air capacity 0.5 cfm, 230 Volts / 50 Hz AC operated.
Oxygen & Argon Gases Cylinders		High pressure seamless steel cylinder filled with High purity 99.999% Argon gas, and another oxygen gas with having gas capacity 7m ³ water capacity 47 liters, cylinders should be ISI marked, conforming to IS:7285. Specification, flat bottom fitted with valve as per IS:3224, complete with neck ring and cap, painted as specified under Gas Cylinders Rules, 1981 along with Hydraulic test certificate, ISI Inspection / Test certificate, Explosive certificate from Chief Controller of Explosives, Nagpur India as per BIS Standard with 47 liter cylinder: Oxygen . One cylinder filled Argon . One cylinder filled.
Gas regulator for Oxygen & Argon		Oxygen and Argon gas regulators: Best quality double stage, Static pressure regulators fitted with two pressure gauges, having inlet range 0-280 kg/cm ² , Outlet range 0-16 kg/cm ² , made of stainless steel Oxygen . One Argon . One.
Polycarbonate Membrane Filters for AOX		10 Packets of polycarbonate membrane filters (100 membrane in each packet) with 0.4 µm pore size) for 25 mm with no or least chloride content.
		10 Packets of polycarbonate membrane filters (100 membrane in each packet) with 0.4 µm pore size) for 47 mm with no or least chloride content.
Quartz frits of various diameter for filtration		Optional
Activated Carbon GR Grade		Suitable for batch method with 100-200 mesh size, having no or very low apparent halide background (6 x 10 gm).
p-chlorophenol Standard Solution		200 ppm
Potassium Chloride		200 ppm
Manual		Operation and Maintenance Manual for each unit.

	Electrodes	Two sets of generating electrode and two sets of measuring electrodes with necessary wire and connectors.
	Septa Kit	One set
	Tool Kit	One set
	Gas Purifier	High capacity carrier gas purifier for Oxygen and Argon
	Temperature Sensor Probe	4 Nos. With each furnace
	Micro Pipette	50 µl fixed volume - two
		100 µl fixed volume . two
		1000 µl fixed volume - two
	Syringe	1 to 5 µl . 5 numbers
		1 to 10 µl . 5 numbers
		1 to 25 µl . 5 numbers
	Quartz Boat and Combustion tube	Two quartz boat and two combustion tube (one each for AOX & EOX) in addition of one each to be provided with the system.
	Scrubber	One additional set.
8.0	WARRANTY	The supplier or the Indian representative should give performance warranty for three years from the date of the completion of the satisfactory installation of the instrument. AMC amount for next two years also to be quoted after warranty.
9.0	OPERATION AND MAINTENANCE TRAINING	One week of informal on-site training on the use and operation of instrument completion of installation followed by compulsory one week training to two scientists on software training operation maintenance and trouble shooting aspects of the instrument at its application laboratory in India. The supplier has to impart on-site operation training at the time of installation followed by Complimentary (all expenditure inclusive) one week training to two scientists on application, Routine maintenance and software training at their application laboratory in India.

10.0	GENERAL CONDITIONS OF SUPPLY	<ol style="list-style-type: none"> 1. 1.The instrument and all its sub units should operate on 230 ± 10 volts 50 Hz power supply. 2. All the operation and maintenance manuals, circuit diagrams, application notes and application softwares to be supplied should be in English language. 3. The supplier / manufacturer should have Indian agent to provide after sales service. 4. The principal should provide a certificate that they will provide the spares in future for at least ten years. 5. The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. 6. The Bidder should be a manufacturer/authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment in the past five years similar to the type specified, which shall be in successful operation for atleast 2 years as on the date of bid opening. 7. The bidder should furnish the information on past supplies and their satisfactory performance.
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Multibioreactor System-Fermenter Systems (Scale up model)

Bioreactor having total capacity 10 litre (8 nos.) or 20 litre (4 nos.) all independent units meeting all the specifications as given in 1(a) of Sl. No. 10 (for true scale up), this Fermenter should have its own individual accessories including separate SCADA.

- The above systems should cover a standard warrantee of 1 year and extended warrantee for next two years must be quoted.
- Power requirement 220/240 Volts, 50Hz A.C., single phase.
- The offered system should be of international repute/ Brand.
- The specifications should be supported by original catalogue/brochure.
- FAT (Factory Acceptance Test) before shipment is must.

High Speed Refrigerated Centrifuge (Large Volume)

- To offer fixed angle rotors for speed ranging upto 22,000 rpm (18000-22000 rpm) with swinging bucket rotors with Maximum speed Force (RCF) 25000 g or more (Maximum rotor capacity 3 liters and 4 liters), with vertical rotor, Zonal rotor and continuous flow rate.
- Temp. Control Range + 2° to + 40° C
- Speed control resolution : 60 rpm
- Refrigeration: CFC/ HCFC free
- Run Time: 99 hr 59 min; Hold
- Temp. Control Accuracy : $\pm 2^{\circ}$ C of set temperature
- Ambient temp. range: 15 to 45° C
- Digital display of relevant parameters.
- Automatic functioning of speed and timing with alarm at completion.
- Moisture removal function
- Power requirement:- Single phase, 230 \pm 10 V, 50 Hz AC.
- Spares and consumables: All spares and consumables for two years operation should be provided.
- Warranty: Three years warranty of instrument after installation.
- Rates for Annual Maintenance Contract(AMC) after three year warranty period should be provided.

High Speed Refrigerated Centrifuge (HSRC) (Bench/Table Top)

- (High Speed Refrigerated Centrifuge)HRSC to operate with Microprocessor, Control system
Drive system (Direct, brushless induction low profile motor), Rotor locking system (Auto lock), Imbalance detection system, Programs 99 (with direct access key), Temperature Set Range (-10° C to + 40° C), per Cooling Function (with direct button)
- Swinging Bucket Rotors: Max Capacity 4 x 750 ml with Max Speed (rpm) 6000 or more Max RCF (x g) 7164
- Compatible with various fixed angle and swing out rotors, Fixed Angle Rotors: Max Capacity 24x2 ml, 12x15ml, 6x50 ml, 4x250 ml and 6x 250ml, Max speed (rpm 15,000 or more Max RCF 25314 X g
- CFC/HCFC free refrigeration system.
- Maximum speed range up to 18000 rpm or more.
- Speed control range/ resolution : 60 rpm
- Temperature control resolution : $\pm 1^{\circ}$ C
- Run time : continuous operation
- Buzzer at the end of operation, Auto-interlock, digital display speed / gravity, force, temp.
- Power requirement:- Single phase, 230 ± 10 V, 50 Hz AC.
- Spares and consumables: all spares and consumables for 2 years operation should be provided.
- Warranty: Three years warranty of instrument after installation.
- Rates for Annual Maintenance Contract(AMC) after three year warranty period should be provided.

Incubator Shaker (Large)

- Temperature Range: 15° C to 80° C
- Shaking variable Speed Range variable speed: 15-500 rpm
- Orbit Diameter: Close to 20 mm
- Units should be stackable, minimum two.
- System should have two adjustable-height shelves to provide added storage.
- System should have viewing window and internal light for better sample visibility.
- System should have individual displays for viewing temperature, speed and time simultaneously.
- Corrosion-resistant, stainless-steel chamber, should accommodate a variety of universal and dedicated platforms.
- System should have durable powder-coated, cold-rolled steel Exterior construction.
- There should be electrical outlet inside chamber to provide power for safe operation of shakers, stirrers or rotators.
- System should have eccentric drives to handle heavy loads, provide uniform agitation and continuous 24-hour operation, even at high speeds with digital display of RPM.
- System should have Continuous/timed operation from 0.1 hour to 999 hours or 0.1 minute to 999 minutes.
- There should be visual/audible alarms to alert if temperature deviates = 1⁰ C of set point.

- System should have start feature to eliminate sudden starts and stops, splashing of vessel contents or wetting of flask closure.
- There should be visual / audible alarm to alert if temperature deviation equals 1°C of set point.
- System parameters should be retained during power failure and should restart unit automatically after power is restored
- Temperature Accuracy $\pm 0.1^{\circ}\text{C}$ at 37°C with LED display.
- System should also have over-temperature safety feature with independent thermostat to provide additional backup by controlling heat if main temperature controllers fails.
- System should have Safety interlock to stop shaking motion when the door is open
- Capacity : four 250 ml, four 500 ml, four 1 L flasks, two 4 L flasks, and two 5 L flasks
- Electrical Requirements : 220 ± 10 Volts, 50 Hz AC
- Three-year warranty on parts, one year labour and lifetime on drive mechanism.

Incubator Shaker (Small)

- Temperature Range: 15° C to 80 ° C
- Shaking variable Speed Range variable speed: 15-500 rpm
- Orbit Diameter: Close to 20 mm
- Units should be stackable, minimum two.
- System should have two adjustable-height shelves to provide added storage.
- System should have viewing window and internal light for better sample visibility.
- System should have individual displays for viewing temperature, speed and time simultaneously.
- Corrosion-resistant, stainless-steel chamber, should accommodate a variety of universal and dedicated platforms.
- System should have durable powder-coated, cold-rolled steel Exterior construction.
- There should be electrical outlet inside chamber to provide power for safe operation of shakers, stirrers or rotators.
- System should have eccentric drives to handle heavy loads, provide uniform agitation and continuous 24-hour operation, even at high speeds with digital display of RPM.
- System should have Continuous/timed operation from 0.1 hour to 999 hours or 0.1 minute to 999 minutes.
- There should be visual/audible alarms to alert if temperature deviates = 1⁰ C of set point.

- System should have start feature to eliminate sudden starts and stops, splashing of vessel contents or wetting of flask closure.
- There should be visual / audible alarm to alert if temperature deviation equals 1°C of set point.
- System parameters should be retained during power failure and should restart unit automatically after power is restored
- Temperature Accuracy $\pm 0.1^{\circ}\text{C}$ at 37°C with LED display.
- System should also have over-temperature safety feature with independent thermostat to provide additional backup by controlling heat if main temperature controllers fails.
- System should have Safety interlock to stop shaking motion when the door is open
- Capacity : four 50 ml, four 500 ml,
- Electrical Requirements : 220 ± 10 Volts, 50 Hz AC
- Three-year warranty on parts, one year labour and lifetime on drive mechanism.

Item code No. 07

Specification for Lyophilizer System with Stoppering Tray Dryer

- A Microprocessor controlled Lyophilizer with holding capacity 15-25 lits.
- The system should be equipped with Corrosion resistant Stainless Steel collector coil and powerful reliable compressor for fast cooling.
- Offered system must be a mobile system & in a cabinet Shape to accommodate a vacuum pump inside the cabinet.
- CFC/HCFC free refrigeration system to cool collector to -50°C or Better
- Hot gas defrosts of collector chamber.
- System should be have provision for data transfer from the Machine to PC
- System should be equipped with automatic Stoppering tray Dryer with minimum three processing refrigerated and heated shelves, each with minimum 190 -200 square inches of area & programmable controlled temperature (Temperature range -40°C to + 40°C OR Better)
- Pre-freezing on shelves itself up to - 40°C Or Better
- Each tray should be having probe for monitoring the temperature of sample/shelf.
- Capable of drying at least 125-150 bottles of 50 ml each /at least 500 -600 bottles of 10 ml each / at least 75-90 bottles of 100 ml each in one single batch.
- It should have additional moisture sensor.
- Vacuum control to maintain set point vacuum level and system should be containing vapor port between Product chamber and condenser.
- System should be having the facility of LCD Display/ screen for showing all parameter.

- System should be having inbuilt mechanism for indicating the right time for adding the sample.
- It should display total number of hours of refrigeration operation and since the Refrigeration was serviced and the total number of hours of vacuum pumps operation and since the vacuum pump was serviced.
- **Safety features** – System must be having inbuilt facility of Audio Visual alarm in case of Power cut, fluctuation in Voltage, Moisture detected in collector coil area
ISO and CE certification are also required.
- 4-6 Port tray dryer manifolds for connection of different sizes of flasks with adaptors.
- Rotary Vane Vacuum Pump with minimum displacement capacity of at least 150 or above L/min with ultimate vacuum of 0.002 mbr OR Better. Must be two stage, oil sealed. Pump must include vacuum oil (extra 5 liter), Exhaust filter, oil filter, odor filter and all necessary tubingø.
- **Other important accessories to be offered as optional :-**
 - Flasks of different capacities
 - Vilas / Serum bottles of different capacities
 - Trays for shelves
 - Seal crimper
 - Isolation valve
- The offered system should be of international repute/ Brand.
- The specifications should be supported by original catalogue/broacher.
- System should cover a standard warrantee of 3 years
- AMC cost for five years after warranty period may be mentioned.

Item Code No. 08

Specification for 1000 kg Lyophilizer for hide /skin preservation

(For freeze drying of animal hides/skins such as buffalo, sheep and goat)

1	Sizes of the hides	Size 1 (Buffalo/cow like) : 2.5m x 2.5 m weight - 30-40 kg Size 2 (Sheep like): 1.5m x 1.5 m weight - 2-2.5 kg Size 3 (Goat like) : 1.3m x 1.3 m weight - 1-1.5 kg
2	Capacity to be handled per batch	2.5m x 2.5m size- 50-60 hides OR 1.5 m x 1.5 m size- 800-1000 Skins OR 1.3m x 1.3 m size - 1500- 1800 Skins
3	Moisture quantity to be removed per batch	1000 kg
4	Batch Process	Loading/Freeze drying/Unloading/Defrosting operation to be completed in less than 10 Hours
5	Types of Loading	Suitable trolley for loading and unloading with hanging method , Skin not to be folded Each rod capable to hold 50 kg
6	Freeze Drying Chamber	Round chamber with SS304 Stainless Steel and mounted on a frame Full size door opening Drain Provision View Glass Manual Door locking system Suitable design for High Vacuum applicatio
7	Condenser System	Sufficient to provide suitable sublimation rate for 1000 Kg moisture condensation/ removal in less than 10 hours.
8	Refrigeration Systems	Sufficient to maintain -40 ⁰ C to . 70 ⁰ C temperature in condenser system and to provide sublimation condition in freeze drying chamber (Controllable).
9	Heating Systems	Heating provision capable to provide sufficient heat to meet latent heat of sublimation to accelerate the freeze drying process and Heating provision capable to provide sufficient heat to defrost the condensers rapidly on completion of batch operation.

10	Vacuum System	<p>Suitable size reputed brand Vacuum pumps are to be used.</p> <p>Vacuum of drying chamber should reach well below 0.02 mbar.</p> <p>The Vacuum system should be designed for two phase operation to make it energy efficient. The first phase for creating vacuum during start of operation and second phase for maintaining the vacuum.</p>
11	Control System	<p>Microprocessor or PLC based control system to control the freeze drying process in multiple steps.</p> <p>Digital indication or display should be available for vacuum / condenser / freeze dryer temperature / cooling water temperature and any other relevant parameters.</p> <p>Freeze-drying process must complete without operator interface.</p> <p>Time totalizer for running hours for batch and vacuum pumps</p> <p>Suitable capacity Energy meter to be installed.</p>
12	On line weight measurement system	<p>Load cells of capacity 4 tonne to be inbuilt within drying chamber for measuring the weight on line during the process.</p>
13	Accessories	<p>A) Generator Set Diesel Generator of appropriate capacity with acoustic enclosure and stack for emission.</p> <p>B) Rolling Machine Electrically operated silicon rubber rolling machine of 9 feet for squeezing animal skins/hides weighing 1.5 - 50 kg to remove free water without effecting grain structure of skin.</p> <p>The machine should consist of two rollers which can be adjusted to thickness of 0- 4 cm (adjustable). The skin/hides are required to be passed in between the rollers wherein the skin/hides move with the working rollers.</p> <p>Water/blood collection system should be provided to collect water removed by squeezing</p> <p>The rollers should be mounted on a stand with movable wheels.</p>

		<p>C) Fleshing Machine Electrically operated machine for de-fleshing of full size buffalo hide(raw) of 9 feet weighing 30-40 kg to remove attached flesh without damaging grain structure of hides.</p>
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Other Requirements

1	Installation and testing at site	The equipment to be shipped to site (as designated by CPCB and within India) and properly installed, commissioned tested and local operator to be trained
2	Testing and inspection	The vendor should show full load batch trial at the site and it should comply with all the above mentioned requirements
3	Other information	<p>The vendor must provide the running cost of the equipment along with maintenance cost until warranty/ guarantee period.</p> <p>Warranty period minimum 3 years.</p> <p>AMC cost for five year after warranty period may be mentioned.</p>

Item Code No. 09

Microwave Digester

A Microwave Digestion system, completely microprocessor controlled to use in laboratory for digestion, dissolution, extraction and drying of environmental samples. The system comprising of a microwave power system, microwave cavity with exhaust fan, built-in microprocessor and rotating turn table with fool proof safety system.

Microwave output power	1500 watt minimum Controllable in a microprocessor
Magnetron Frequency	2450 MHz. Protected by solid state Isolater for monitoring for Fail Safe. instrument shut down in case of failure/ malfunction
Cavity Material	Stainless steel, with multilayer fluoropolymer (PTFE) coating. Acid Resistance, Corrosion Resistance
Exhaust Unit capacity	190 m ³ /h max, adjustable
Rotor speed	Adjustable
System Control	Microprocessor, Library of tested methods (freely expandable), storage of last 10 hour of operation. The system should be provided with In board Pressure and Temp. Control system to monitor & control Equilibrium/reaction pressure and temperature inside the closed sample vessel.
Display	High Resolution, Illuminated LCD. Should have graphic capability to plot reaction condition in real time.
Input elements	Spill proof key panel, 8 keys (Start, Stop, Esc, 5 function keys) for entry of operating parameter and sample information.
External Keyboard	To be able to connect with external keyboard.
Serial Interface	RS 232C, Interface for attachment of computer & printer.
Noise Level	Less than 66 dBA, under optimal installation conditions
Power Supply	230 ± 10 V 50 Hz
Safety compliance	The system should be certified by necessary safety authority for safe operations. Three independent door safety arrangements should be available including interlock monitoring system plus independent thermal studies.

Rotor and No. of vessels	Atleast 12 or more High pressure vessels.
Vessel Design	Digestion vessel should be manually tight, translucent to light, should be of optimum size and have facility to release pressure to avoid explosion of vessel. Seal holder with safety disc and relief valve.
Volume	100 ML
Material of construction	Sample wetted parts . Teflon PFA; non wetted parts . Polyethenimide
Controlled operation pressure	60 BAR (870 psi)
Pressure max	Atleast 100 Bar
Temperature capacity max.	300 ° C
Reaction control	Simultaneous pressure sensor for all vessels
Optional Requirement (in addition to above)	Digestion vessel . 2 sets (min. 24 nos. vessel)
Rotor (Tum table)	Two Nos.
Consumables	To be supplied with consumables required for 2 years of operation
Accessories	Complete with 2 sets of operation and maintenance manual, power cord etc.

I. Multibioreactor System- Fermenter (Miniature Model 200 to 500ml)

Compact, space saving, state of the art, latest generation Multi bioreactor system with working volume ranging between 200 ml to 500 ml (8 Nos.), simultaneously running in parallel should be based on built in biological recipes of cultures for aerobic or anaerobic fermentation. The recipes should be capable of performing fully automated batch, fed-batch or chemostat processes with pre-defined standard culture recipes. The system should also have the ability to customize recipes.

- The fermenter vessel along with various attachments should be of Borosilicate glass which is cleaned, autoclaved and maintained easily.
- The system should be built to run under OD control and recipe controlled conditions.
- The recipes should be easy to programme either via the scada s/w or through the controller to ease the system performance and assure the trouble free operation.
- Each of the fermenter vessels should be equipped with a top driven motor with direct drive having stirrer assembly and impellers for microbial/bacterial cultivation.
- Each bioreactor vessel must be equipped with an on line OD Sensing and Monitoring system for total biomass concentration ideally integrated with the controller and each of the vessels must also have on line viable biomass measurement system for the count of the viable cells.
- Each of these sensors should be interfaced with the controller for performing automated functions based on user defined recipes related to either the total biomass concentration, which is the output of the OD sensor or the viable cell mass count based on the other sensor (measuring only the viable/live cells).

- Each fermentation unit should incorporate one additional pump for automated inoculation/additions of bacteriophage based on the OD and viable cell mass parameter and a Foam sensor with pump.
- Each of the bioreactor should have its own integrated actuators for temp control i.e. heating /cooling(either through dedicated for each individual vessel by chillers cooling mechanism)
- Automatic aeration control with air and oxygen for aerobic cultivation and nitrogen for anaerobic bacteria.
- Integrated pH control with each bioreactor inclusive of pH sensor and two pumps assigned for acid and alkali individually and independently.
- All required controllers, actuators, sensors, tubings, and bottles etc. required for successful operation of the bacterial cultivation to achieve desired OD must be quoted.
- Spare parts package should include at least one extra set of sensors per bioreactor, one packet of 50 nos. Autoclavable filters, one set of o-rings per bioreactor and two spare glass vessels.

II. Fermentor – 1000 to 2000 ml

Addi tional requirement to be linked with item 11(Multibioreactor System-Fermenter (Miniature Model 200 to 500ml): Another multi bioreactor system comprising 8 vessels of approx (1000 ml to 2000 ml) with exactly similar capabilities and specifications as mentioned above must also be quoted.

- The controller/ software of the reactors should have facility to control multiple fermenters (minimum 16) simultaneously.
- Power requirement 230 ± 10 V 50 Hz AC., single phase.
- The above systems should cover a standard warrantee of 03 years.
- The offered system should be of international repute/ Brand.
- The specifications should be supported by original catalogue/brochure.
- FAT (Factory Acceptance Test) before shipment is must.

Item Code No. 11

Permeation Tubes

1)NO₂ Wafer Device	
Parameter	Nitrogen Dioxide, 553-50T3
P/N	147-553-0081-C40-S
Total Rate	625 ng/min±5% at 40°C
Accuracy	±5%
Total Length	4.6 cm
Diameter	1.6cm
Parameter	Nitrogen Dioxide, 653-50F3
P/N	147-653-0081-C50-S
Total Rate	625 ng/min±5% at 50°C
Accuracy	±5%
Total Length	4.6 cm
Diameter	1.6cm
2) SO₂ Wafer Device	
Parameter	Sulfur Dioxide, 543-40T3
P/N	147-543-0082-C40-S
Total Rate	425 ng/min±5% at 40°C
Accuracy	±5%
Total Length	4.6 cm
Diameter	1.6cm
Parameter	Sulfur Dioxide, 553-50T3
P/N	147-553-0082-C50-S
Total Rate	425 ng/min±5% at 50°C
Accuracy	±5%
Total Length	4.6 cm
Diameter	1.6cm
3)Benzene Wafer Device	
Parameter	Benzene,F33-Std EM
P/N	117-020-1400-F33-C40-S
Total Rate	22 ng/min±5% at 40°C
Accuracy	±5% or 2ng/min
Total Length	5.5 cm+10%
Diameter	0.64 cm

4) Toluene Wafer Device	
Parameter	Toluene, T53-HE
P/N	107-010-1401-T53-C40-S
Total Rate	72ng/min \pm 5% at 40°C
Accuracy	\pm 5% or 2ng/min
Total Length	4.5 cm \pm 10%
Diameter	0.98 cm
5) Ethyl-Benzene Wafer Device	
Parameter	Ethyl Benzene, T33-Std#19
P/N	177-005-1405-T33-C40-S
Total Rate	12 ng/min \pm 5% at 40°C
Accuracy	\pm 10%
Total Length	10 cm \pm 10%
Diameter	0.64 cm
6) Xylene – M&P Wafer Device	
Parameter	XYLENE-p T33-Std#19
P/N	117-005-1404-T33-C40-S
Total Rate	18 ng/min \pm 5% at 40°C
Accuracy	\pm 10%
Total Length	4 cm \pm 10%
Diameter	0.64 cm
7) Xylene o-Wafer Device	
Parameter	XYLENE-o T53-HE
P/N	107-012-1402-T53-C40-S
Total Rate	25 ng/min \pm 5% at 40°C
Accuracy	\pm 5% or 2ng/min
Total Length	4.7 cm \pm 10%
Diameter	0.98 cm

Item code No. 12

WATER PURIFICATION SYSTEM (ULTRAPURE)

S.No.	Particulars	Specifications
1.	General	Microprocessor controlled Water Purification System should comprise of primary continuous electro-de-ionization system attached to tank followed by secondary ultra pure polishing system with similar make. The material should not include any glass or fragile components. The system should be capable of preparing two grade water i.e. reagent grade and ultra pure water grade.
2.	Power Supply	The complete unit should work on (230 ± 10) volts, 50 Hz power supply.
3.	1 st Stage System	<p>(i) The system should operate on municipal water supply, which will be made available to the system from an overhead tank. It should be able to operate further inlet water quality of Total Dissolved Solids (TDS) upto 1000 ppm and free chlorine upto 0.5 ppm.</p> <p>(ii) Output water of 1st stage system should meet the requirement of:</p> <ul style="list-style-type: none">a) Resistivity : 10-15 meg Ohms cmb) TOC : < 30 ppbc) Flow rate : Atleast 10 litre / hrd) Silicate rejection : 99.9%e) Free chlorine : Nil <p>(iii) System must comprise of following:</p> <ul style="list-style-type: none">a) Activated carbon with anti-scaling compoundb) TFC Polyamide RO cartridge with >100 Dalton cut off having 95-99% of organic and inorganic rejectionc) EDI module having nuclear grade MB ion exchange resin where there is continuous regeneration of resin with simultaneous removal of the cation and anion giving product water in a single pass through the moduled) A 254 mm UV lamp for < 1 CFU / ml bacteria count.e) Automatic cut off when there is inadequate water in the feed water line and when the intermittent tank is full to the capacity.f) The water quality parameter for feed water & product water should display for conductivity, Resistivity, temperature etc.
4.	Intermittent tank	<p>(i) A cylindrical tank of HDPE material blow molded conical shaped bottom with storage capacity of 100 litres.</p> <p>(ii) Tank of same manufacturing make must be fitted with built in sensors for low/medium/high water level and vent filters having CO₂ and volatile organic adsorbent and membrane filter for particle / biological removal.</p>
5.	2 nd Stage System	<p>(i) Ultra Purification Water System should take feed water from stage 1 via intermittent tank and give the following quality of water as out put:</p> <ul style="list-style-type: none">a. Resistivity : 18.2 meg Ohms cmb. TOC : 1-5 ppb

S.No.	Particulars	Specifications
		<ul style="list-style-type: none"> c. Microorganism : < 1cfu / ml d. Flow rate : 1 litre / min e. Cell constant (Resistivity cell) : 0.01 cm⁻¹ <p>(ii) System must comprise of following:</p> <ul style="list-style-type: none"> a. Should have two separate polishing cartridge where initial one should be feed specific and secondary cartridge application specific capable of effectively removal volatile organic and inorganic to trace levels. b. On line TOC monitor capable of measuring 1-999 ppb c. A dual . wavelength UV lamp (185 nm and 254 nm) for low TOC d. Attached with volumetric dispensing e. Display panel to provide system performance and operating parameter including alarm signals to enable auto diagnostics.
6.	Additional item	<ul style="list-style-type: none"> (i) Operation and maintenance manual (ii) Two sets of each cartridges for both 1st & 2nd system with UV lamps (iii) One maintenance kit for each system
7.	Other requirement	<ul style="list-style-type: none"> (i) Company / authorized distributors must provide five satisfactory performance / installation certificate during last three years. (ii) Minimum three years warranty from the date of installation.

CHECK LIST FOR THE BIDDER

1. Bid on original Tender form only.
2. Separate EMD against each item.
3. Earnest money or necessary documentary proof for exemption of earnest money with the part 1 of the bid.
4. Price bid must be Part II of the bid in the form provided at Annexure II of the tender document.
5. The Basic Price, Taxes, Packing, Forwarding, Handling, Transportation Insurance, Installation charges etc. must be quoted clearly. Do not use vague terms like "As Actual, Approximately etc".
6. Do not use the terms As per Specification of Tender Documents' in respect of instruments. There should be proper write up of production quoted for supported with printed leaflets literature.
7. In case the bidders desirous to quote more than one item, separate envelope should be submitted (technical & price bid) for individual item superscribing item code number and name.
8. **With technical bid, the bidder should provide a copy of the price bid format (giving details of the items, accessories, spares etc.) without specifying the price other than one mentioned in annexure-II of this tender document.**