

TENDER NOTICE
NO. MPPCB/PURCHASE/01/2016-17

TENDER DOCUMENT

FOR

(Part-A) Supply of Laboratory Instruments
(Part-B) Rate Contract for Chemicals, Glassware etc.
(Part-C) CAMC for Computers & Peripherals etc.
(Part-D) Supply of Office Stationery



Year: 2016 - 17

M. P. Pollution Control Board
E-5 Sector, Paryawaran Parisar,
Arera Colony, Bhopal – 462016

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M. P. POLLUTION CONTROL BOARD

PARYAWARAN PARISAR, E-5, ARERA COLONY, BHOPAL – 16

Phone: [0755] 2466191/2464428 Fax: [0755] 2463742 E-mail: it_mppcb@rediffmail.com

TENDER NOTICE NO. MPPCB/PURCHASE/01/2016-17

Sealed tenders in phase wise manner are invited from the reputed manufacturers [approved by BIS/ISO for quality & precision] and / or their authorized dealer / agent /representatives, specially authorized for this tender, for the supply of laboratory instruments & Filter Papers (Part-A), Rate contract offers are invited only from reputed manufacturers [approved by BIS/ISO for quality and precision] for entering into Rate Contract for supply of indigenous & imported chemicals, glassware, plastic ware and gas cylinder refilling (Part-B), Comprehensive Annual Maintenance Contract (CAMC) proposals for Computer, Printers, Photocopier, Laptops and Scanners (Part –C) and supply of office stationery (Part-D) on annual rate contract basis from reputed Bhopal based firms / agencies, as per following details:

PART –A

Sl. No.	Particulars of Items	Qty. of Phase-I	Qty. of Phase-II	Total Qty.	Earnest Money (Rs.)
(1)	(2)	(3)	(4)	(5)	(6)
1.	Atomic Absorption Spectrophotometer [GTA /FLAME / VGA]	01	02	03	240000.00
2.	Aerosol Particle Monitor	01	--	01	10000.00
3.	Automatic COD Digester	01	--	01	1000.00
4.	B.O.D. Incubator	02	--	02	4000.00
5.	Bacteriological Incubator	02	--	02	2000.00
6.	Biometric Attendance Machine	01	--	01	1000.00
7.	Carbon Monoxide (CO) Analyzer	06	06	12	120000.00
8.	Conductivity Meter	01	--	01	500.00
9.	Fire Alarm System	01	--	01	3000.00
10.	Filtration Assembly [Vacuum]	02	--	02	6000.00
11.	Flue Gas Analyzer	03	05	08	160000.00
12.	Filter Papers for Air & Water Analysis	l/s	--	l/s	60000.00
13.	Gas Detection Pump & Tubes	05	--	05	15000.00
14.	Hot Air Oven	03	--	03	3000.00
15.	Ion Analyzer	01	--	01	3000.00
16.	Inductively Couple Plasma with Mass Spectrophotometer (ICP-MS)	--	01	01	200000.00

17.	Micro Analytical Balance	01	--	01	4000.00
18.	pH Meter	02	--	02	1000.00
19.	Surveillance Equipments	01 set	--	01 set	4000.00
20.	Turbidity Meter	01	--	01	1000.00
21.	VOC Analyzer	01	--	01	10000.00
22.	Water Analysis Kit	01	--	01	2000.00

PART-B

23.	Rate Contract proposal for Laboratory Chemicals, Reagents [of brands E. Merck, Rankem, Qualigens/Fisher scientific, SD fine chem., CDH, Thomas Baker, Sigma, HiMedia- for bacteriological tests only], Certified Reference Materials [of brands Merck, Sigma, Kinesis, Accu Standard, Thomas Baker, Glassware [of brands Borosil, Rievera, ASGI, SD Fine, Merck, JSGW, Sigma] and Plastic Ware [of brands like HiMedia, Tarson, Merck, RFCL] and Laboratory Grade Gas Cylinder Refilling for various sophisticate equipments.	As required	--	--	Not required
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PART -C

24.	Comprehensive Annual Maintenance Contract (CAMC) for Computers, Printers, Photocopier, Scanners etc.	As mentioned	--	--	10000.00
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PART -D

25.	Annual Rate Contract for purchase of Office Stationery items	As mentioned	--	--	10000.00
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The laboratory instruments/equipments for which funds are available as shown above in column (3) will be procured in first phase. The instruments shown in column (4) shall be procured only after receipt of budget from Madhya Pradesh Government. The tender document including technical specifications of equipment shall be issued up to 3.00 PM on dated 25.06.2016 on payment of Rs. 1500.00 [Rupees One Thousand Five Hundred only] by cash or demand draft [Rs. 50.00 extra for supply of documents by post] in favor of Member Secretary, M. P. Pollution Control Board, Bhopal. The

application for sending tender document by post shall not be accepted after 20.06.2016. The earnest money of requisite amount shall be submitted in a separate sealed envelope mentioning the details thereof. No tender shall be considered without requisite earnest money. The last date for submission of tender is 27.06.2016 by 1.00 PM and the same shall be opened on the same day at 2.30 PM in the presence of bidders, who wish to participate. The detailed terms & conditions are available in tender document. This Tender Notification may also be downloaded from Board's Web site www.mppcb.nic.in and www.govtenders.nic.in and the cost of tender document should be submitted in the form of demand draft along with Earnest Money in Envelop "A".

[Dr. Reeta Kori]
Chief Scientific Officer



M. P. POLLUTION CONTROL BOARD

PARYAWARAN PARISAR, E-5, ARERA COLONY, BHOPAL – 16

Phone: [0755] 2466191/2464428 Fax: [0755] 2463742 E-mail: it_mppcb@rediffmail.com,
pur_mppcb15@rediffmail.com

To,

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Sub.: Sealed tenders for purchase of Laboratory Equipments, Filter Papers , Rate Contract offers for Lab. Chemicals/ CRMs/ Glassware/ Plastic ware, Comprehensive Annual Maintenance Contract for Computers, Printers and supply of office stationery on annual basis .

Dear Sir,

M. P. Pollution Control Board desires to procure laboratory equipments, Filter Papers (Part-A) and other articles such as Laboratory Chemicals, Certified Reference Materials [CRMs] & Glassware/ Plastic ware and gas cylinder refilling (Part-B) on annual rate contract basis for its laboratories spread over whole of the state, Comprehensive Annual Maintenance Contract (CAMC) for computers, printers, Laptops, Scanners & photocopiers (Part –C) and supply of Office stationery on annual basis (Part-D). The laboratory instruments/equipments shown in Phase-1 will be procured in first phase. The instruments shown in Phase -2 shall be procured after receipt of budget from Madhya Pradesh Government.

Sealed tenders are invited from the reputed manufacturers [approved by BIS/ISO] or their authorized representatives, specially authorized for this tender, who are capable of supplying laboratory equipment, filter papers & Rate Contract for Lab. Chemicals/CRMs/Glassware/Plastic ware from Reputed Manufacturer only, Comprehensive Annual Maintenance Contract for Computers, Printers and supply of office stationery on annual basis which are shown on Part “A”, Part “B”, Part-“C” and Part “D” of the tender notice. The terms and conditions may be referred in part wise manner as follows:

PART-A

LABORATORY EQUIPMENTS & FILTER PAPERS:

[A] SPECIAL CONDITIONS:

1. All prices quoted should be CIF/CIP New Delhi for imported equipment. Other charges like transportation, insurance, F.O.R. destination and installation charges should be quoted separately. For indigenous equipment prices should be F.O.R. destination.
2. Prices should be quoted for complete set of equipment including the cost of installation, minor civil works, electrical fittings and cabling etc.
3. Accessories required [if any] for maintenance for a period of three years should be given separately.
4. Annual Maintenance charges for three years should be quoted separately in Annexure – 2.
5. The technical specifications of the offered equipment should be furnished in annexure –1. Schedule of requirement is annexed as annexure-6(i) and 6(ii). The check list is shown as annexure -7(i) & (ii).
5. The equipment offered shall necessarily contain a guarantee for its trouble free performance for a period of three year from the date of installation.
6. The offer should clearly mention make, name of the manufacturer, detailed specifications, detailed literature about the equipment/circuit diagram/drawing of the mechanism and any other information relevant to the equipment. For any printing error/mistake in final bid will be the responsibility of the bidder and no correspondence will be entertained by the Board in future.
7. The bidder should furnish details of supplies made by him to important institutions, along with performance certificate, during last one year [Users' list]. In case of filter papers, the bidder must submit Client list along with the previous purchase order copies of similar item [s] supplied to any Central /State Pollution Control Boards / any CSIR Laboratory.
8. The firm / manufacturer submitting the offer shall only quote for one most suitable model of the offered equipment whose specification matches the Board's specifications. No alternate offers shall be considered and, if submitted, the offer shall be rejected.

9. Earnest money be furnished by a demand draft in favor of Member Secretary, M. P. Pollution Control Board, Bhopal in envelop "A". Offers without earnest money shall not be considered and the relevant envelops [B & C] will not be opened and their offer shall be treated as rejected.
10. Bidders using downloaded tender forms must submit tender fee by demand draft along with Earnest Money in Envelop "A" drawn of Member Secretary, M. P. Pollution Control Board, Bhopal. 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.
11. The bidder shall have to submit the copy of sales tax registration and Income Tax registration [PAN] along with envelop "B" otherwise the offer shall be liable for rejection.
12. An undertaking shall be submitted by the tenderer that they are not black listed in any Govt. organization / institutions along with envelop "B".
13. The bidder shall provide exclusive company profile including necessary certificates / license for manufacture the product from DGTD / SSI/SIA etc. The bidder shall also provide Bank Name, Account Name, Account Number, Account Type, branch IFSC Code for safer & easier payment transaction through RTGS/NEFT.
14. The specifications are clearly mentioned in the document and the Bidder is requested to submit Bid only if their offer strictly comply with 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.
15. **PROCEDURE FOR SUBMISSION OF TENDERS :**

Each bidder shall submit his offer in three sealed envelopes A, B and C. Envelop "A" shall contain earnest money and tender cost, if the tender document is downloaded from the web site. The Envelop "B" should contain technical specification, terms & conditions, company profile, copy of sales tax registration number, bank details, PAN number and authorization certificate from manufacturer for submission of offer for this tender, if offer is submitted by authorized representative. In case the manufacturer of any equipment authorizes more than one firm for submitting offer, then such offers shall be treated as rejected. Envelop "C" shall contain financial offer.

[a] Envelop – "A" : Envelop "A" should contain demand draft for the requisite amount of earnest money in favor of Member Secretary, M. P. Pollution Control Board, Bhopal. If the tender document is downloaded from web site, then separate demand draft for tender cost shall be submitted with envelop "A". The name of

instrument and the amount of the demand draft should be inscribed on the top of envelop. Envelop “A” shall be opened on 27.06.2016 at 2.30 pm in the presence of the bidders or their authorized representatives. Insufficient amount furnished as earnest money and tender cost shall make the offer liable for rejection.

[b] Envelop – “B”: Bidders, who have furnished the desired amount of earnest money and tender cost shall be liable for opening of the Envelop “B” of their offer. The Envelop “B” should contain detailed technical specifications in annexure –1, make & model of the equipment, functioning procedure of the equipment and other literature relevant to the equipment and company profile. If the offer is submitted by authorized representative, he should submit authorization letter in envelop “B” from the manufacturer for submitting offer for this tender, otherwise tender offer of the firm shall not be considered and liable for rejection. The tenderer should furnish users’ list and details of supplies made by him to important institutions along with performance certificate. The bidder shall have to submit the copy of sales tax registration and income tax no. [PAN] along with the envelop “B”, otherwise the offer shall be liable for rejection. An undertaking shall be submitted by the tenderer, regarding whether they are not black listed in any Govt. organization / institutions, along with envelop “B”. The details of service station in Madhya Pradesh and India should be furnished with other details.

1. **[c] Envelop – “C” :** The envelop “C” shall contain financial offer in annexure 3 or 4 [whichever is applicable] of the tender document. Offers received in due time shall be evaluated technically by a committee constituted by the Competent Authority, M. P. Pollution Control Board and as per the recommendation of committee , depending upon the suitability of equipment with respect to application, performance, after sale service and service centers in Madhya Pradesh or in India etc., the financial offer shall be opened. Notwithstanding anything stated above the competent authority of the Board reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the Board.

[B] OTHER CONDITIONS:

1. The Board reserves its rights to reject any or all the tenders without assigning any reason there for.
2. Tender found incomplete shall be rejected forthwith.
3. The indigenous equipment, for which an order has been placed, after acceptance of the tender, shall have to be delivered, installed & demonstrated to the consignee mentioned in the supply order within 60 days from the date of issue of supply order. In case of late supply of the material, 2% per month penalty shall be charged up to one month, there after supply order shall be treated as cancelled and earnest money shall be forfeited and the supply order shall be issued to the second lowest firm. The maximum penalty for late supply shall not exceed 10% of the

- total ordered value. In case of unavoidable delay in supply a prior permission shall be obtained for extension in delivery period.
4. The time limit for the supply of imported equipment shall be 90 days, which can be relaxed for additional 30 days by the Member Secretary. After scheduled time limit, 2% per month penalty or maximum penalty up to 10% of the total ordered value should be levied.
 5. If the bidder is not a manufacturer himself, should have a facility for repairing and maintenance of the instrument. The details of service centers in Madhya Pradesh and India should be furnished along with other details.
 6. It shall be the responsibility of the bidder to deliver the material to the consignee in sound condition without any damage. Any damage or loss during transit shall be on the account of the bidder.
 7. The tenders shall be valid for a period of 360 days from the date of opening of envelop "A".
 8. The prices should include all taxes like sales tax, excise tax or any other tax.
 9. The approved firm / manufacturer shall have to submit 5% security deposit of the ordered value in the form of Bank Guarantee for a period of 12 months, other wise 5% amount shall be deducted from the bill.
 10. In case the approved bidder fails to effect supply, within the specified period as per supply order, the earnest money is liable to be forfeited.
 11. The consignee or any other officer authorized by the Board shall have the right to reject any or all the items of the supply, if they do not confirm to specifications mentioned in the supply order. The rejected items shall be lifted by the bidders at their own cost. The consignee will not be responsible for the custody and safety of such items.
 12. The Board reserves its rights to affect any reasonable increase or decrease in the quantity or number of items at the time of issue of supply order in the interest of the Board.
 13. All the clearance including the obtaining NMI [Not manufactured in India] certificate, custom clearance and custom duty will be the responsibility of the tenderer. This office will open the letter of credit [L/C] as may be required and will only sign the documents wherever required.
 14. In case, if any supplier quote their rates in Indian Rupees for imported equipment and do not require custom duty exemption certificate from the Board, then the

- supplier has to submit import document like bill of entry, custom duty paid and NMI [Not manufactured in India] certificate from the manufacturer.
15. The bidder shall submit copies of at least two recent supply orders with the same specifications indicating detailed price schedule along with the price bid, in order to examine reasonability of the quoted rates in the present bid. Failing to which the bid shall be liable for rejection.
 16. 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 of 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 its bid.
 17. The terms of payment shall be as under:
 - [A] **Indigenous Items:** 75% of the cost of material would be paid after receipt of the material by consignee and balance 25% payment shall be released only after satisfactory installation and demonstration of the equipments / material at site.
 - [B] **Imported equipments:** The letter of credit will be opened for total ordered value, but 75% of the cost will be released on shipment of the material and balance 25% payment shall be released only after satisfactory installation & demonstration of the equipments / receipt of material at site.
 18. The bidder shall submit necessary information such as Bank Name, Account Name, Account Number, Account Type, Branch IFSC Code for the safer & easier payment transaction through RTGS /NEFT.
 19. Conditional offers will not be accepted and liable for rejection.
 20. In case of human error regarding labeling of envelop, the committee constituted for the opening of envelop shall take appropriate decision.
 21. In case of any dispute the decision of Chairman, M. P. Pollution Control Board shall be final & binding.
 22. In order to comply the instructions of Department of Commerce & Industries, Govt. of M.P., minimum 30% of the quantity of the items shall be reserved for the manufacturers / entrepreneurs from Scheduled castes/ scheduled tribes based at Madhya Pradesh.

PART-B

LABORATORY CHEMICALS, GLASSWARE ETC. & REFILLING OF LABORATORY GRADE GAS CYLINDER REFILLING ON RATE CONTRACT BASIS

Sealed tenders are invited from reputed manufacturers only [approved by BIS/ISO for quality and precision] for entering into Rate Contract for supply of indigenous & imported chemicals [of brands E. merck, Rankem, Qualigens/Fisher Scientific, SD fine chem., CDH, Thomas Baker, Sigma, HiMedia- for culture media only], Certified Reference Materials [CRMs] [of brands, Merck, Sigma, Accu Standard, Thomas Baker and Glassware [of brands Borosil, Rievera, ASGI, SD Fine, Merck, JSGW, Sigma] and Plastic ware [of brands like HiMedia, Tarson, Merck, RFCL]. The instructions are as follows:

1. Preparation of Bids:

- [a] Tenders must be sealed and super scribed with “ Rate Contract for Chemicals & Glassware”.
- [b] Tenders must be addressed to Member Secretary, M. P. Pollution Control Board, E-5, Arera Colony, Paryawaran Parisar, Bhopal – 462016. The last date for submission of tender is 27.06.2016 by 1.00 PM and the same shall be opened on the same day at 2.30 PM in the presence of bidders, who wish to participate.
- [c] Opened / Unsealed Tenders in any form shall not be accepted.
- [d] Tenders / quotations must be sent in advance, so that it reaches the destination on or before the due date and time. Quotations received after the due date and time shall not be considered at all. The Board shall not be held responsible for any postal delay, if any.
- [e] Conditional and ambiguous and late / delayed tenders shall be rejected summarily.
- [f] Incomplete tenders in any form shall be treated as non- responsive and non acceptable.

2. Scope of Contract:

- [a] The supplier will have to maintain sufficient stock of the standard quality of all items to avoid inconvenience to the Board.
- [b] In case of failure or refusal to supply, the contract is liable to be cancelled at the risk and cost of supplier. Any extra cost involved in arranging supply from alternative source will be recovered from rate contract holder.
- [c] All chemicals should be of Analytical Reagent grade (AR Grade) or above and Glassware should be of Borosilicate Glass - Class "A" with certificate. The stores so supplied will have to be of high quality and grade and in the

event of substandard / inferior quality; the supplier is liable to be blacklisted.

- [d] All the bids will be opened as per the date and time specified in the tender document. If desire, bidder's representative may attend the same.

[3] Period of Contract:

The Rate Contract [RC] shall be for a minimum period of one year from the date of award of contract unless cancelled by the Board before the expiry of the period at its discretion. However, the contract may be extended beyond one year, if so agreed to, by both the parties. The rates shall remain valid for a period of minimum one year and there will be no change in price structure during the currency of the contract except, if the statutory levies are otherwise made applicable by the Govt. through notification / regulations. Enlistment can be cancelled at any time if the firm found as a habitual defaulter or supplying sub-standard material or for any reason or non – compliance of the terms and condition of the RC. It may be noted that price / rate should not be higher than the market price at the point of time of supply and if such documentary evidence /s would be made available, only market price would be payable to the supplier. The Board has the option to renegotiate the price with the supplier / rate contract holder at any time within the period of contract & if there is strong reasons & necessary, negotiation may be possible before entering in to contract.

[4] Board's Obligations:

- **Opening of tenders:** The tenders will be opened by the committee of Board. Bidder / their representative may attend bid opening as per the mentioned / intimated schedule.
- Our Board is not entitled to issue either form "C" or "D" to avail concessional Sales Tax. Hence, the exact percentage of total sales tax / VAT is to be mentioned by the bidder.

[5] Liabilities of the Bidders:

- [i] Material should be door delivered at various laboratories located in Madhya Pradesh.
- [ii] Delivery must be made immediately preferably within 2-3 week after placement of order either directly or through their dealer network unless otherwise specified.
- [iii] If the supplier fails to deliver the stores within the allotted delivery period as specified above, the purchaser may procure goods or service similar to those un-delivered upon such terms and in such manner as it deems

appropriate from any other firm / alternative source and the supplier will be liable to the purchaser for any excess cost.

- [iv] Part supply is normally not acceptable. But may be allowed on genuine cases, on written request only and permission of user.
- [v] Manufacturer's Price List / catalogue / Brochure / pamphlet etc must be sent along with the offer, failing which, the offer will not be considered. If your firm is selected for entering rate contract, copies of same price list are to be sent one each to our Central laboratory, Bhopal and other Regional Laboratories situated at Indore, Ujjain, Gwalior, Rewa, Jabalpur, Satna, Katni, Sagar, Vijaypur [Guna], Shahdol, Chhindwara and Singrauli.
- [vi] Soft copies of price of the products can also be submitted in the form of CDs / any non- volatile portable form.
- [vii] Offered basic price must not be higher than price displayed by manufacturer on their website / price list / MRP on cover / genuine & authentic documentary evidence. Price list must be stamped and signed with date by the bidders.
- [viii] Discount: Please quote maximum discount on your price list as applicable to Government Research institutes. Discount must be indicated in words as well as in figures.
- [ix] For any rate contract items / Quantities / frequencies demand etc., if manufacturer has any discount offer / free gift scheme, the same shall have to be passed on to Board, without any additional cost.
- [x] Mere submission of application / proposal does not imply acceptance of the same at this end and the firms will be enlisted only after meeting the laid down qualifying parameters for which our decision will be final.
- [xi] Client list along with the previous purchase order copies of similar item [s] supplied to any Central /State Pollution Control Boards / any Govt. organization including details of price & all charges must be attached.
- [xii] Mode of Dispatch: Delivery must be up to FOR destination at their own risk / cost i.e free delivery at our laboratories located in Madhya Pradesh.
- [xiii] Delivery period: Delivery must be made immediately i.e two –three weeks after placement of order either directly or through their dealer network unless otherwise specified. In case of Ex-stock, the rates of transport, F&F, Insurance etc. must be included in your price.

- [xiv] Insurance: In the case of FOR destination, insurance should also be covered by supplier. The goods should be insured against all risks from ware house to ware house basis. The insurance charges, if any, must be included in your price.
- [xv] Packing & Forwarding: Rate must include packing & forwarding charges.
- [xvi] Printed terms and conditions of the bidder on their offer / literature/letter etc. will not be bidding on us.

[6] Authorized Local Dealer / Stockiest:

The manufacturers / firms /principals shall furnish the name and address of their local Stockiest / Dealer so that the copies of orders can be endorsed to them for expeditious supply. In such cases where local dealer / stockiest has been nominated by the principal, the bills raised by them against our purchase will be accepted. Any addition or deletion of dealership / distributorship shall be intimated to the undersigned immediately on authorization of a new party.

- [7] **Estimated Sale:** The target of sale may vary depending upon the requirement. The Rate Contract agreement with this Board does not ensure business of any quantum, whatsoever.
- [8] **Warranty:** One year standard warranty [wherever applicable] / life of the item (s) must be indicated with name and address of the manufacturer / service provider should invariably be given.
- [9] **Eligibility Criteria for the Bidders:** The bidders have to produce following documents while submitting the tender. Non – production of any of the following documents may lead to rejection of the Bid / offers.
 - i) Copy of Firms VAT / TIN No. [Registration Certificate]
 - ii) Copy of PAN Card
 - iii) Name, addresses and other contact details of Dealers / stockiest / distributors in annexure-5.
 - iv) Current Price list of the manufacturer
 - v) Offer maximum discount percentage, which will be one of the most important criteria for selection of firm to enter into rate contract. If one manufacturer will authorize more than one firm for supply, the offer with the highest discount will be preferred.
 - vi) Experience with good track record and satisfactory service / reputation of vendors like CPCB / any SPCBs / any Govt. organization /PSU will be preferred in the same order.
 - vii) Any deviation from the tender & conditions mentioned above will imply disqualification for the firm.

- [10] **Liquidated Damage /Penalty Clause:** A liquidated damage charges of minimum 2% of the ordered value per month for consumable maximum up to 5% of the total ordered value will be recovered from the vendor for non – compliance of the RC terms.
- [11] **Loss, Damage & Shortage:** MPPCB shall not be responsible for any loss, damages and shortage during transit / transportation. Payment shall be made for materials received in good condition only.
- [12] **Payment Terms:** The supplier shall present their triplicate copies of computer generated bills for each order / supply. All payment shall be made on bill basis on receipt of the material in full and all requisite documents as per terms & conditions of RC and order normally within 30 to 60 days from the date of delivery or otherwise specified in purchase order. Advance payment will not be made in any circumstances.
- [13] **Discretion:** The Competent Authority, M. P. Pollution Control Board reserves the right to accept or reject any or all the tenders without assigning any reason what so ever. The Rate Contract can be terminated at any time without any prior notice. The contract may be extended or curtailed at any point of time at the discretion of the competent authority, MPPCB.
- [14] **Disputes & its Jurisdiction:** The contract between the supplier and the buyer shall be governed by the Laws of India and under this contract shall be taken by the parties only in Bhopal to competent jurisdiction.
- [15] **Arbitration:** Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, instructions and terms & Conditions herein before mentioned and so as to the quality of the materials, as to any question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the contract. Specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution of the same whether arising during the process of work or after the completion or abandonment thereof shall be referred to the sole arbitration of a person nominated by the Member Secretary, MPPCB, and if he is unable to act to the sole arbitration, some other person appointed by him willing to act as such arbitrator. The submission shall be deemed to be submission to arbitration under the meaning of the India arbitration & Conciliation, 1996 or any satisfactory modification or reenactment thereof for the time being in force conclusive and binding on all parties of the Contract. The venue of the arbitration will be Bhopal only.
- [16] **Right of Acceptance:** The competent authority reserves the right to accept the lowest or any other tender and reserves to himself the right of accepting the whole or any part of the tender without assigning any reason what so ever.

PART-C

Comprehensive Annual Maintenance Contract for Computers, Printers, Photocopier, Scanners

In pursuance of the objectives of the Board and to carry out the desired functions, it is essential that all the relevant gadgets / equipments remain in working condition. In order to its effective implementation, the competent authority of M. P. Pollution Control Board, Bhopal invites sealed tenders from reputed firms / agencies for Comprehensive Annual Maintenance Contract for Computers, Printers, Photocopier, Scanners etc. available at Head Office of M. P. Pollution Control Board, Bhopal to carry out the above said work. The objective of the project is to have a systematic Comprehensive Maintenance Contract at Head Quarter of the Board, so as to ensure minimum down time of system. The terms & Conditions shall be as follows:

- (1) The firm should have the requisite experience of doing similar kind of work i.e. AMC/CAMC of the similar make in reputed organizations and should furnish necessary documentary proof of executing the work satisfactorily.
- (2) The firm should have its office at Bhopal.
- (3) The firm should have Income Tax Registration Certificate, Service Tax Registration Certificate and Sales Tax registration certificate as well as clearance certificates.
- (4) Tenders must be sealed and super scribed with “Comprehensive Annual Maintenance Contract for Computers, Printers, Photocopier, Scanners.”
- (5) Tenders must be addressed to Chief Scientific Officer, M. P. Pollution Control Board, E-5, Arera Colony, Paryawaran Parisar, Bhopal – 462016. The last date for submission of tender is 27.06.2016 by 1.00 PM and the same shall be opened on the same day at 2.30 PM in the presence of bidders, who wish to participate.
- (6) Opened / Unsealed Tenders in any form shall not be accepted. Conditional and ambiguous and late / delayed tenders shall be rejected summarily. Incomplete tenders in any form shall be treated as non- responsive and non acceptable.
- (7) The tender is aimed at providing services to those machines which are not covered any warranty. The machines (Computers / Printer / Scanner/ Laptop/ Photocopier) which are intended to be covered under this tender are mentioned below:

Sl. No.	Description & Make	Model / Serial no.	Qty.
Computers			
1.	Make: DELL	• Dell X11-45371	01
		• Dell Optiplex 990, i-7 configuration	01
2.	Make: HCL	• HCL Infinity 1280 series	15
		• HCL Infinity true BL 1330 ES, Intel core 2 duo	19
		• HCL Infinity, Intel core i-7	06
		• HCL Intel Pentium D	01
3.	Make: HCL	• 23AA73	04

		<ul style="list-style-type: none"> E8503151 3053A1069125 	
4.	Make: Lenevo	<ul style="list-style-type: none"> Lenevo Think Centre, M-81, 5049BA7, SFF, i-5 configuration 	04
		<ul style="list-style-type: none"> Lenevo Think Centre, , 35981Q4, M-72e, i-5 configuration 	10
		<ul style="list-style-type: none"> Lenevo Think Centre, i-7 configuration 	03
		<ul style="list-style-type: none"> Lenevo think centre MT-M 8985-AD2 	01
		<ul style="list-style-type: none"> Lenevo Think Centre M82 	07
5.	Make: ACER	<ul style="list-style-type: none"> ACER Veriton Series, i-3 configuration 	12
		<ul style="list-style-type: none"> ACER Intel core 2 duo 	01
6.	Make: Wipro	<ul style="list-style-type: none"> Wipro 375 XX Series 	02
		<ul style="list-style-type: none"> Wipro WSG 30106 	03
7.	Make: HP	<ul style="list-style-type: none"> Intel Pentium HP Compaq P4 	03
All –in –one Computers:			
8.	Lenevo	Lenevo Think Centre M 93z, all in one, intel core i-5 configuration	08
		Lenevo Think Centre M 93z, all in one, Intel Core i-7 configuration	03
Laser Jet Printers:			
9.	HP Laser jet Printer	<ul style="list-style-type: none"> P1106 (02) 1200 (10 No.) 1020 (04) P1108 (01) 1022N (01) CP1025 Color (01) 	19
10.	Samsung	<ul style="list-style-type: none"> 4300 (08) ML 1640 (03) ML 1610 (06) ML 2851ND (02) 	19
11.	Canon	<ul style="list-style-type: none"> LBP5050N color (05) MF226dn (03) F166500 LBP7100CN 500 LBPV230DN (02) MF4750 (05) LBP310813 (03) MTGA120893 LBP6200D (02) 	24

12.	EPSON	<ul style="list-style-type: none"> • M2310 (03) • M1400 (03) 	06
13.	Dot Matrix Printer Make: WEP	<ul style="list-style-type: none"> • EX330DX (02) • LQDSI5235 (02) 	04
14.	Ricoh	<ul style="list-style-type: none"> • SP1200SF 	02
15.	Laptops	<ul style="list-style-type: none"> • HCL Intel core i-5 (01) 	01
		<ul style="list-style-type: none"> • Lenevo, Model: Think Pad L 440, Intel core i-7 configuration (08) 	08
		<ul style="list-style-type: none"> • Dell, Model: Dell latitude E-6410, i-7 configuration, (15) 	16
16.	Document Scanners	<ul style="list-style-type: none"> • Kodak i-2440 	02
		<ul style="list-style-type: none"> • Canon DR 130L 	06
17.	Digital Photocopier cum Printer	<ul style="list-style-type: none"> • Make: Canon, Model: 2202N & 2002N 	09

(8) Maintenance services would cover the following:

- (i) Reloading of Operating System (OS) and software (like MS-Office & Antivirus etc) as and when required. The software shall be provided by the user.
- (ii) Installation of Drivers, as and when required for all machines.
- (iii) Preparation of preventive maintenance schedule and its implementation calls along with management of memory usage of computer.
- (iv) Preparation of status report of operational computers on half yearly basis indicating the hardware improvements required for the system are validity of various software installed with a view of preventive maintenance.
- (v) Assist in works being undertaken in the office like Wi-Fi networking, Server setup, implementing/modifying the existing LAN setup and networking troubleshooting.
- (vi) Replacement of parts, which shall become obsolete with a better alternative or higher version without additional cost with the permission of competent authority of the Board.
- (vii) The firm has to provide at least one (1) Resident Engineer having requisite qualification like Diploma in Computer Hardware & Networking and at least 3 years of experience in Computer hardware maintenance and networking.
- (viii) The firm has to provide the following items as backup in case of breakdown at Head Quarter of the Board, Bhopal so that the normal working at the office is not hampered. The firm has to sign an undertaking in this regard. The item wise list is mentioned below:

S. No.	Name of the Item	Quantity
1.	Computer CPU (Minimum P4, RAM 1 GB, HDD – 160 GB, N/B support ID & SATA HDD)	1 number (New)
2.	DVD Writer 52X Combo Drive	1 number (New)
3.	Keyboards 106 keys	1 number (New)
4.	Mouse Optical	1 number (New)

5.	Color Monitor 1024* 768 resolution	1 number (New)
6.	Ethernet Cards PCI	1 number (New)
7.	Pen Drive – 8GB	2 numbers
8.	Laser Jet Printer (HP 1100 of higher version)	1 number (New)

- (ix) **Call Record Maintenance:** The firm would maintain proper record of all calls attended in Head Quarter, Bhopal either in a form of a register or service report format and get the same counter signed from the User / Coordinator, IT Cell. The firm has to submit the same along with bills on quantity basis.
- (x) In case of Photocopier cum Printer, the bidder shall quote the rates on per copy basis inclusive of Toner, Drum and all necessary accessories (excluding papers & electricity). The quoted rate should include VAT, Service Tax & all other taxes as per Government Rules.

(9) Specific Conditions:

- (i) CAMC shall also cover damage due to following:
- (a) Rat Bytes
 - (b) Burn out of parts
- (ii) CAMC shall cover maintenance of Computers, Printers, Laptops & Scanners as a whole except Printer Ribbons, Printer Cartridges & Tonner for Laser jet, Desk jet.
- (iii) The CAMC cost is inclusive of cost of spare parts required for maintenance of all Computers, Printers and Scanners, as listed above. The spare parts should be of the same make, as far as possible. The spare parts should be original and genuine. The firm shall give certification in this regard.
- (iv) The firm should maintain the inventory of items compatible with machines installed in the office, so that work may get least hampered during breakdown.
- (v) CAMC cost is inclusive of Data Recovery from HDD in cases like Accidental format, Deleted files, FDISK, Virus Problem, Damaged Boot Sector, Missing FAT or partition cases.
- (vi) CAMC excludes data recovery from HDD in three special cases physical damage due to (1) Track Failure (ii) Head Crash and (iii) Fire damage only. These cases have to be brought to the notice of IT Cell.
- (vii) Obsolete parts to be replaced with parts available in the market of either same or higher specifications.

(10) General:

- (i) In case of dispute, the decision of Competent Authority shall be final and binding on both the parties.
- (ii) At any point of time contract may be terminated without assigning any reason thereof.
- (iii) The compliance to all the terms & conditions should be done.
- (iv) Deviation, if any, from terms & conditions will not be entertained.
- (v) The firm shall be responsible for any damage in servicing / overhauling of machines, if so the firm has to repair the machine at its own cost.

- (vi) The supplier shall not assign or sublet any portion of the work except with written consent of the office, failing which MPPCB may terminate the contract, whereupon the performance guarantee / security deposit shall forfeited and at absolute disposal of MPPCB.
- (vii) All tools, accessories, hardware, terminal, connector, multi meter etc. desired for the testing and repairing at site have to be maintained by the firm on its own cost. The equipment shall be complete in all respects whether such details are mentioned or not.
- (viii) Any damage to the machines due to natural calamities such as earthquake, fire etc. may not covered under CAMC.
- (ix) If the information provided by the firm is found to be wrong at any point of time, MPPCB reserves right to reject such tender at any stage or to cancel the contract, if awarded, and forfeit the earnest money.
- (x) MPPCB reserves the right to up –grade any of its machines from any vendor. The payment of Comprehensive Maintenance Contract of the machine shall be as per specification of machines as specified above. If the specifications shift towards higher than payment for higher specification machine shall be paid (it should be informed in advance by the firm). Any other device within machine, if up –graded shall come under Comprehensive Maintenance Contract, as and when its warranty is over, in lieu of other device. For example If CD ROM is replaced with a new CD R/W then new CD R/W shall come under comprehensive maintenance contract as and when is warranty period is over in lieu of comprehensive maintenance contract of old CD ROM. If there is any specific device, which cannot be covered under normal replacement then, it should be informed in advance by the firm.
- (xi) MPPCB may increase or decrease the number of computers (having similar type of configuration) to be covered under AMC and necessary charges would be paid the service provider as per actual.
- (xii) After completion of CAMC period or after termination of contract, the firm (presently holding CAMC) is responsible to handover all the machines in working condition, which were under CMA with the firm, unless it was communicated / mutually agreed earlier. Otherwise MPPCCB reserves the right to get faulty machines replaced by any other firm at the cost of CAMC firm.
- (xiii) The payment shall have to be paid by the firm (holding CAMC before handover) for which MPPCB shall adjust from the Performance Guarantee and from the running bills of CAMC, and if the amount is insufficient then the firm (holding CAMC before handover) shall be liable to pay the due amount.

(11) Type of Contract: The work awarded by this specification shall be treated as an indivisible works contract.

(12) Mode of Submission of tender:

- (i) The tender shall be submitted in three separate sealed covers, duly completed in all respects viz. Envelope “A” for “earnest money & tender cost”, Envelope “B” for “technical bid” and Envelope “C” for Price bid. All the three envelopes along with the letter for submitting tender, shall be put in a separate sealed cover and the name of the work “Comprehensive Annual Maintenance Contract of Computers, Printers, Photocopiers, Scanners at M.P. Pollution Control Board, E-5, Paryawaran Parisar, Arera Colony, Bhopal” shall be clearly written on top of the sealed cover.
- (ii) The technical bid (Envelop B) shall comprise of following:
- a) Part-C of the tender document as collected from MPPCB or downloaded from MPPCB Website should be duly signed (each page) for acceptance of all terms & conditions.
 - b) Deviation, if any, from terms & conditions should be clearly mentioned.
 - c) Backup inventory of items may be clearly stated along with their make.
 - d) List of Engineers employed in company along with their CVs.
 - e) Preventive maintenance schedule may be enclosed.
 - f) The bidder shall also submit a list along with his tender, in respect of items mentioning names of manufacturers of items and their item wise cost as on date which he proposes to use in the work if his tender is accepted.
 - g) Technical proposal should include brief profile of the company, year of establishment, organizational structure, list of relevant works carried out in last three years along with names of clients, Description of methodology and work plan for performing the AMC/CAMC work.
 - h) The bidder should also quote data recovery cost separately from a crashed Hard Disc as and when situation arises.
 - i) Any other relevant information
 - j) The price bid sheet as detailed with breakup prices (including all duties/taxes etc.) shall be submitted in a separate sealed cover. The provided format should not be changed in any respect.
 - k) Sealed tenders should be addressed to Chief Scientific Officer, M. P. Pollution Control Board, M. P. Pollution Control Board, E-5, Paryawaran Parisar, Arera Colony, Bhopal – 16 (M.P.).
 - l) The tenders shall be submitted in sealed envelopes on or before 27.06.2016 at 1.00 pm at M.P. Pollution Control Board, Bhopal. The tenders would be opened on the same date at 2.30 pm.
 - m) Any tender, with any of the documents not signed will be rejected.
 - n) The tender submitted on behalf of a firm shall be signed by all the partners of the firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract otherwise the tender liable to be rejected.
 - o) The tender must be filled in English or Hindi and all the entries must be made by hand and written in ink or may be typed. If any of the documents is missing or unsigned, the tender will be considered invalid.
 - p) All erasures and alterations made while filling the tender must be attested by initials of the bidder. Overwriting of figures is not permitted, failure to comply with either of these conditions will render the tender void.

- q) No advice of any change in rate or conditions after opening of the tender will be entertained.
- r) Bidders suing downloaded tender forms must submit tender fee of Rupees 1500.00 (Rupees One Thousand Five Hundred only) by demand draft along with Earnest Money in Envelop "A" drawn of Member Secretary, M. P. Pollution Control Board, Bhopal. 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.
- s) The bidders shall pay as earnest money a sum of Rs. 10000.00 (Rupees Ten Thousand only) by bank draft of scheduled bank drawn in favor of Member Secretary, M. P. Pollution Control Board, Bhopal. Technical bids of only those contractors will be opened, who submit the earnest money in the prescribed manner. Any tender which is not accompanied by earnest money will not be considered. The earnest money of the unsuccessful bidders shall be returned but without any interest.
- t) The MPPCB does not bind itself to accept the lowest or any tender and reserves to itself the right to accept or reject any or all the tenders, either in whole or in part without assigning any reason for doing so.
- u) The successful bidder has to submit Performance Security equivalent to 5% of the contract amount valid for one year in the form of Demand Draft or pay order of scheduled bank or in form of BG at the time of submitting agreement and TOR within seven days of issue of letter of award.
- v) Failure of the successful bidders to comply with the above requirement i.e. deposition of Performance Security, shall constitute sufficient grounds for cancellation of the letter of award and forfeiture of the earnest money.
- w) The earnest money of the successful bidder shall be returned after receiving the performance security in the prescribed manner or may be adjusted against the payable amount, otherwise EMD shall be returned along with the release of first quarter payment of CAMC.
- x) For successful bidder, the Performance security as bank guarantee of 5% of total contract value shall be returned at the successful end of the contract period or after premature termination of contract excluding damages claimed by the office, if any. In case if the performance security is submitted in the form of DD, will be paid at the successful end of contract period or after premature termination of contract excluding damages claimed by the office, if any.

(13) **Prices:** Prices quoted shall be firm.

(14) Break up of Prices:

- i. The bidder shall indicate the breakup of the lump sum price for items as given in the enclosed price bid sheet.
- ii. The total numbers of machines may increase or decrease subject to actual requirement at the time of issuing of work order. There are few machines which are under warranty, in future, as and when the warranty of these machines is over, systems will come under CAMC as per approved rates for which intimation by the office will be communicated to the firm. The number of machines found in working condition (shall be inspected jointly by the firm and MPPCB official)

- on the date of taking over by the firm, which shall be covered under AMC and exact CAMC cost calculation shall be based on those numbers.
- iii. The systems which are covered under warranty require software support only and hence the firm may indicate the applicable software support rates in the tender.
 - iv. The CAMC Contract is for three years starting from the date of issue of the letter of award. The award letter will be for a period of three years subjected to the permission of continuation of the contract in subsequent years (after one year) in writing from the competent authority, for which the firm has to request for continuation of contract in advance.
 - v. The continuation of the contract every year is subjected to satisfactory performance communicated from all users / section heads and permission from the competent authority for the contract continuation.
 - vi. MPPCB reserve the right to issue a letter of award for one year or for three years depending upon the decision taken by the competent authority.
 - vii. Unit price basis quotation for one year and three years CAMC should be submitted. The rates should be clearly mentioned for individual items CAMC cost separately in figures and in words. Total amount should also be clearly mentioned, summing up all breakups. There should be no typographical error in the final quote. The rates quoted should be inclusive of all taxes. The quoted cost must be without any precondition of minimum number of machines or any other condition put by the bidder.
 - viii. The CAMC cost should be inclusive of cost of spare parts. The spare parts should be of the same make as far as possible, if replacement is done the faulty parts shall become the property of MPPCB have to be deposited with the office. The replaced spare parts shall be submitted to store with the intimation to IT cell, MPPCB, Bhopal.
 - ix. Except the consumables like tonner /printer cartridge / printer ribbons, everything else has to be covered under CAMC in any conditions / situation.
 - x. Any damage to the machines due to Natural calamities Earthquake, fire etc. may not be covered under CAMC cost calculation.

(15) Taxes & Duties:

Central /State sales tax / works contract tax / excise duty etc. should be included in the rates tendered. Statutory deduction of tax if applicable at source will be made while releasing payment through running / final bills.

(16) Validity: The tender shall be valid for 360 days for the date of opening of bids.

(17) Mode of Payment: Payment will be made on quarterly basis by cheque after raising the demand by submission of bill, on obtaining satisfactory performance certificate from the users and records of the calls attended by the firm. The firms may also give their bank details such as bank name, bank account & code for safer & easier bank transaction through RTGS/NEFT.

(18) Penalty: Failure to rectify a down system (Computer, Laptop, Printer, Photocopier & scanners) for more than two working days (after logging the

complaint) for any reason like non availability of spares, non availability of Maintenance Engineer will be taken seriously and shall attract penalty of Rs. 100.00 per item per day from the date of failure of the system. This amount shall be deducted from the running payment without any notice to the firm. The competent authority, MPPCB may increase or decrease number of machines in CAMC at any point of time.

- (19) In any case of any legal dispute, the subject would be covered under jurisdiction of Bhopal courts only. The decision of the arbitrator shall be final and binding upon the parties.

Price bid for CAMC of computers, Printers, Scanners, Laptops & Photocopiers at MPPCB, Bhopal (PART-C)

Sl. No.	Description & Make	Model / Serial no.	Qty. (Nos.)	Unit cost Yearly (Rs.)	Total Cost (Rs.)
Computers					
1.	Make: DELL	• Dell X11-45371	01		
		• Dell Optiplex 990, i-7 configuration	01		
2.	Make: HCL	• HCL Infinity 1280 series	15		
		• HCL Infinity true BL 1330 ES, Intel core 2 duo	19		
		• HCL Infinity, Intel core i-7	06		
		• HCL Intel Pentium D	01		
3.	Make: HCL	• 23AA73 • E8503151 • 3053A1069125	04		
4.	Make: Lenevo	• Lenevo Think Centre, M-81, 5049BA7, SFF, i-5 configuration	04		
		• Lenevo Think Centre, , 35981Q4, M-72e, i-5 configuration	10		
		• Lenevo Think Centre, i-7 configuration	03		
		• Lenevo think centre MT-M 8985-AD2	01		
		• Lenevo Think Centre M82	07		

5.	Make: ACER	<ul style="list-style-type: none"> ACER Veriton Series, i-3 configuration 	12		
		<ul style="list-style-type: none"> ACER Intel core 2 duo 	01		
6.	Make: Wipro	<ul style="list-style-type: none"> Wipro 375 XX Series 	02		
		<ul style="list-style-type: none"> Wipro WSG 30106 	03		
7.	Make: HP	<ul style="list-style-type: none"> Intel Pentium HP Compaq P4 	03		
All –in –one Computers:					
8.	Lenevo	Lenevo Think Centre M 93z, all in one, intel core i-5 configuration	08		
		Lenevo Think Centre M 93z, all in one, Intel Core i-7 configuration	03		
Laser Jet Printers:					
9.	HP Laser jet Printer	<ul style="list-style-type: none"> P1106 (02) 1200 (10 No.) 1020 (04) P1108 (01) 1022N (01) CP1025 Color (01) 	19		
10.	Samsung	<ul style="list-style-type: none"> 4300 (08) ML 1640 (03) ML 1610 (06) ML 2851ND (02) 	19		
11.	Canon	<ul style="list-style-type: none"> LBP5050N color (05) MF226dn (03) F166500 LBP7100CN 500 LBPV230DN (02) MF4750 (05) LBP310813 (03) MTGA120893 LBP6200D (02) 	24		
12.	EPSON	<ul style="list-style-type: none"> M2310 (03) M1400 (03) 	06		
13.	Dot Matrix Printer Make: WEP	<ul style="list-style-type: none"> EX330DX (02) LQDSI5235 (02) 	04		
14.	Ricoh	<ul style="list-style-type: none"> SP1200SF 	02		
15.	Laptops	<ul style="list-style-type: none"> HCL Intel core i-5 (01) 	01		
		<ul style="list-style-type: none"> Lenevo, Model: Think Pad L 440, Intel core i-7 configuration (08) 	08		
		<ul style="list-style-type: none"> Dell, Model: Dell latitude 	16		

		E-6410, i-7 configuration, (15)			
16.	Document Scanners	• Kodak i-2440	02		
		• Canon DR 130L	06		
17.	Digital Photocopier cum Printer	• Make: Canon, Model: 2202N & 2002N	09		

SUMMARY OF PRICE BID FOR CAMC OF COMPUTERS, PRINTERS, LAPTOPS, SCANNERS & PHOTOCOPIER

S.No.	Description	Tentative Qty. (Nos.)	Total Cost (Rs.)	Amount in words (Rs.)
1.	Desktop Computer Systems	104		
2.	Laser Printers	74		
3.	Document Scanners	08		
4.	Laptops	25		
5.	Digital Photocopier cum Printer	09		

Date & Place:

**(Signature of the Bidder)
With office seal**

PART-D

Supply of office Stationery on Annual Basis

Madhya Pradesh Pollution Control Board, Bhopal invites sealed tenders from the Bhopal based reputed Firms / Contractors / Suppliers for one year Annual Purchase Contract for supply of Office Items, Office Stationery. The terms & conditions are as follows:

(1) Eligibility Criteria:

- a) The firm should be a registered entity under relevant competent authority. (Registrar of Firm / Society/Shop and Establishment / Company etc.)
- b) The firm should have experience for supply of stationery items to any two Government departments/Government undertakings, Semi Government – Autonomous organizations or public limited companies.
- c) The firm should have live VAT and Income Tax registration.
- d) The bidder should have minimum yearly turnover of Rs. 5.00 Lakh for last two financial years.

(2) Tender Cost: Bidders suing downloaded tender forms shall pay Rs. 1500.00 (Rupees One Thousand Five Hundred only) as a tender fee by demand draft along with Earnest Money in Envelop “A” drawn of Member Secretary, M. P. Pollution Control Board, Bhopal. 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.

(3) Earnest Money (EMD): Intending bidders shall pay as earnest money a sum of Rs. 10000.00 (Rupees Ten Thousand only) by bank draft of scheduled bank drawn in favor of Member Secretary, M. P. Pollution Control Board, Bhopal. Any bid received without stated earnest money shall be disqualified. EMD of all unsuccessful bidders will be released after finalization of rate contract with successful bidder(s). Earnest money of successful bidder shall be returned after successful completion of contract period.

(4) Duration of Rate Agreement: This allotment of work shall be on Annual Rate basis for a period of one year from the date of issue of work order or for such mutually extended period as competent authority, MPPCB may grant by specific written orders. Under this rate contract separate supply / work order shall be placed for time to time requirements for which the supply should be made within 2 days from the date of order. No price escalation will be granted during the rate contract period.

(5) Category and Indicative List of Items required: The list of generally required office items and office stationery is shown as annexure -1 (Part-D). The estimated

quantity of items given in the annexure is tentative and shall not be considered as minimum quantity. The actual purchase may vary as per requirement. In case the given specification is not available with the bidder at the time of placing of order, the same can only be submitted by a equivalent or higher specification after due approval of competent authority. In case bidder fails to supply the ordered items within the stipulated time, competent authority will be at liberty to get that items from the open market without any notice to the bidder and additional cost, if any, incurred by MPPCB for the same shall be recovered from the bidder.

(6) Documents required and Bid Submission Process: Each bidder shall submit his offer in three sealed envelopes A, B and C.

- a) Envelop “A” should contain demand draft of Tender cost (in case downloaded from the web site) and requisite amount of Earnest Money Deposit (EMD).
- b) Envelope “B” should contain and application form in annexure “1” (Part-D) along with necessary documents such as self attested copy of registration certificate (for Ex Under Shop & establishment, society registration or any respective act) and Partnership deed / Memorandum of Association as the case may be, self attested copy of VAT registration certificate, self attested copy of Income Tax return & recently paid challan, if any, self attested copies of rate contract / work orders, issued during last three financial years (2012-13, 2013-14, 2014-15) of supply of stationery items to any two Government departments / Government undertakings, Semi Government – Autonomous organizations or public limited companies. The firm should submit at least two years Balance Sheet for any of the last three financial years (2012-13, 2013-14, 2014-15) duly verified by a Chartered Accountant.
- c) Envelop “C” should contain rates quoted (up to two digits after decimal) against the items listed in the given format only and subscribed as “Financial bid”. The format for financial bid should be neatly typed or photocopied as specified in annexure-2 (Part D). The quoted rates should be clearly legible.

(7) The tender shall be deposited within due date and time. No tender shall be entertained after due date and time and the delay on any account shall not be accepted. No separate receipt will be given on submission of this tender.

General Terms & Conditions:

- i. MPPCB reserves the right to reject / accept tender without assigning any reason thereof.
- ii. MPPCB reserves right to divide the work order among bidders.
- iii. The tender must be completed in all respects. Any queries made by MPPCB should be promptly replied by the bidder.
- iv. The bidder shall have to comply with all rules, regulation, law and by laws of the hand in force for the time period concerned. MPPCB should be fully indemnified

- for any such act and shall have no liability for such violation. If any, made by the bidder, on account of fulfillment of order under this rate contract.
- v. In case of any dispute or difference between MPPCB and the bidder in connection with this rate contract except as to the matters decision for which has been specifically provided in this tender document, either party may give a notice in writing of existence of such dispute of difference and the same shall be referred to the sole arbitration of the Competent Authority of MPPCB or a person nominated by him.
 - vi. MPPCB at any time, any give notice in writing to the supplier either to stop the supply altogether or reduce or cut it down.
 - vii. Any notice, statement and / or other communications sent by MPPCB through registered/speed post to the bidder at his specified address shall be deemed to have been delivered to the supplier.
 - viii. Any expenditure incurred by MPPCB due to breach of contract on the part of the bidder / supplier will be recovered from security deposit or / and from pending dues. For all legal matters area of jurisdiction shall be Bhopal.

Terms of Payment:

- i. Monthly payment will be processed for all excepted and undisputed supply of ordered items at MPPCB, Bhopal office against submission of bill along with the indent, inspection report (if required) signed delivery challan, duly signed & verified by MPPCB.
- ii. Rates quoted in the tender shall be valid till the entire contract period including extended period, if any.
- iii. The rate quoted shall be considered inclusive of all taxes & duties, transportation, loading, unloading etc complete. No additional cost will be payable.
- iv. The bidder will be totally responsible for complying with the rules and requirements concerning all taxes and duties.
- v. Any defects found / identified / discovered or developed in the supplied items, within guarantee period shall be rectified or replaced by the bidder promptly. In case the suitable replacement is not made by the bidder within 7 days from the receipt of the complaint, MPPCB can reject and return such item or can get it repaired as may be necessary to restore the system in working condition at the cost of bidder. The expenditure so incurred by MPPCB shall be deducted from bidder's pending claims and /or security deposit and if necessary may be recovered in any other mode provided under the law.

**Annexure -1 (Part-D)
Application Format**

1.	Name & Address of the Bidder with contact person's mobile numbers, Fax number, E. mail address	
2.	Registration No. (attach required document)	
3.	Registering Authority (for Ex Under Shop & Establishment, Society registration or any registrar under respective act)	
4.	VAT registration Number (attach required documents)	
5.	PAN No. (attach required document)	
6.	Turnover (in Lakh) during last three financial years (attaché self attested copy of duly audited balance sheet for two F years)	2012-13: 2013-14: 2014-15:
7.	Details of experience / existing work order (attach copies of supply / work orders)	
	Name of Government departments / Government undertakings, Semi – Government – Autonomous organizations or public limited companies.	Date of issue and respective duration of work order
	1.	
	2.	

We hereby declare that the above information provided by us is true to the best of our knowledge and belief. We have ensured that the relevant documents / references that authenticated the information given above are available with us and can be provided if so required by MPPCB.

Authorized Signature (in full and initials)

Name and Title of Signatory:

Name of the Firm:

Address:

(Affix the Official Seal of the firm)

**Annexure -2 (Part-D) Financial Bid
List of Office Stationery Items and Rates Quoted**

S. No.	Office Stationery Items	Unit	Tentative Annual Requirement (Qty.)	Quoted Unit Rate (inclusive of all taxes & duties)	
				Rupees	Paise
1.	आलपिन – 400 ग्राम	पैकेट	30		
2.	बस्ता	नग	1000		
3.	करेक्शन फ्लूड – सफेद	नग	50		
4.	डस्टर	नग	150		
5.	डाक पेड	नग	50		
6.	फाईल ट्रे	नग	20		
7.	लिफाफे यलो ए – 3 (12 X 16)	नग	1000		
8.	लिफाफे खाकी ए – 4 (12 X 10)	नग	1000		
9.	लिफाफे सफेद (11 X 5) खिड़की एवं प्लेन नाम सहित	नग	10000		
10.	लिफाफे सफेद (9 X 4) खिड़की एवं प्लेन नाम सहित	नग	10000		
11.	फाईल पेड – सुपर क्वालिटी	नग	5000		
12.	फाईल कवर – सुपर क्वालिटी	नग	5000		
13.	फाईल लैस – सुपर क्वालिटी	नग	5000		
14.	टैग – सुपर क्वालिटी	नग	10000		
15.	गोंद बॉटल बड़ी	नग	20		
16.	गोंद बॉटल छोटी	नग	10		
17.	पेपर वेट	नग	20		
18.	स्केल	नग	50		
19.	पिन कुशन	नग	20		
20.	स्टेम्प पेड	नग	20		
21.	स्टेम्प पेड इंक बॉटल	नग	10		
22.	पेन्सिल	नग	100		
23.	टोंचा	नग	50		
24.	पंचिंग मशीन	नग	20		
25.	एल फोल्डर ए – 4	नग	300		
26.	एल फोल्डर फाईल	नग	300		
27.	बॉल पेन	नग	500		
28.	पेन की रिफिल	नग	200		
29.	पेपर ए – 4 सुपर क्वालिटी	पैकेट	800		
30.	पेपर ए – 3 सुपर क्वालिटी	पैकेट	50		
31.	पेपर एफ-एस	पैकेट	50		

32.	रजिस्टर – 2 क्वायर	नग	50		
33.	रजिस्टर – 4 क्वायर	नग	50		
34.	रजिस्टर – 6 क्वायर	नग	50		
35.	रजिस्टर – 8 क्वायर	नग	50		
36.	जावक रजिस्टर – 12 क्वायर	नग	20		
37.	आवक रजिस्टर – 12 क्वायर	नग	20		
38.	स्टेपलर	नग	50		
39.	स्टेपलर पिन	पैकेट	500		
40.	टेबिल ग्लास – 8 एम.एम.	नग	20		
41.	U पिन	पैकेट	20		
42.	डस्टबिन	नग	50		
43.	राईटिंग पेड (50 पेज)	नग	300		
44.	रीप फाईल	नग	300		
45.	मीटिंग फोल्डर	नग	100		
46.	स्टाक रजिस्टर – 4 एवं 8 क्वायर	नग	10		
47.	शार्टहेण्ड बुक	नग	20		

We hereby declare that the above rates quoted are inclusive of all taxes & duties, transportation, loading, un- loading etc. complete. We will be totally responsible for complying with all rules and requirements concerning all taxes and duties.

Authorized Signature (in full and initials)

Name and Title of Signatory:

Name of the Firm:

Address:

(Affix the Official Seal of the firm)



M. P. POLLUTION CONTROL BOARD

TENDER AND CONTRACT FOR SUPPLY OF MATERIALS GENERAL RULE AND DIRECTIONS FOR THE GUIDANCE OF SUPPLIERS

- (1.) All suppliers proposed to be obtained by contract will be notified in a form of invitation to tender posted in public places/News Paper.
- (2.) The tender form will State the supplies to be made, as well as the date for submitting and opening tenders and the time allowed for supply, also the amount of earnest money to be deposited with the tender.
- (3.) In the event of tender being submitted by a firm it must be signed separately by each member thereof or in the absence of any partner, it must be signed on its behalf by a person holding a power of attorney authorizing him to do so, such power of attorney should be produces with the tender and it must disclose that the firm is duly registered under the partnership Act.
- (4.) Any person who submits a tender shall fill up usual printed form stating at what rate he is willing to undertake supply of each items. Tender which propose any alteration in the work/supply specified in the said form of invitation to tender, or time allowed for carrying out work/supply will be liable for rejection.
- (5.) The Member Secretary or his duly authorized assistant will open tenders in the presence of any tenderer who may be present at the time and will enter the amount of several tenders in a comparative statement in a suitable form. Receipts for earnest money will be given to all tenderers except those whose tenders are rejected and whose earnest money is refunded on the day that the tenders are opened.
- (6.) The officer competent to dispose of the tenders shall have the right of rejecting all or any of the tenders.

CONDITIONS OF CONTRACT

1. The time allowed for the supply of materials as entered in the tender shall be strictly observed by the supplier and reckoned from the data of which the order to commence supply of materials shall throughout the stipulated period of the contract be proceeded with allude diligence (time being deemed to be the essence of contract) on the part of the supplier and the supplier shall pay as liquidated damage an amount equal to one percent or such smaller amount as the Member Secretary, M.P. Pollution Control Board, may decide on the amount of estimated cost of the whole of the materials as shown in the estimated cost of the that the supply remains un commenced or unfinished after the proper dates. In the event of the contractor failing to comply with this condition shall be liable to pay as liquidated damage an amount equal to one percent or such smaller amount as the Member Secretary may decide on the said

estimated cost of the whole of the materials for every day that the due quantity of supply remains incomplete to, provided that the due quantity of liquidated damage to be paid under the provisions of this clause shall not exceed ten percent on the estimated cost of the supply of materials as shown in the tender.

2. If the Tenderer shall be hindered in the supply of the materials so as to necessitate an extension of the time allowed in this tender he shall apply in writing well in advance or immediately after the cause occur to the Member Secretary, M.P. Pollution Control Board who shall if in his opinion (which shall be final) reasonable grounds be shown therefore authorize such extension for a period not exceeding in 15 days. Any further extension shall be subject to the previous sanction of the Chairman.
3. The supplier shall give notice to the consignee officer of his intention of making delivery of materials and on the materials being approved a receipt shall be granted by him to the Consignee Officer or his assistant, and no material will be considered for payment until so approved.
4. On the completion of the delivery of the materials the supplier shall be furnished with a certificate by the Consignee Officer of M.P. Pollution Control Board.
5. The material shall be of the best description and in strict accordance with the specification and the supplier shall receive payments for such materials only as are approved and passed by the Member Secretary/Consignee Officer.
6. In the event of materials being considered by the Consignee Officer to be inferior to that described in the specification the supplier shall on demand in writing forth with remove the same at his own charge and cost and in the event of his neglecting to do so within such period as may be named by the Consignee officer that officer may have such rejected material removed at the contractor's risk and expense incurred being liable to be deducted from any sum due or which may become due to the supplier.
7. Receipts for payment made on account of a supply when executed by a firm must also be signed by several partners except where the contractors are described in their as a firm in which case the receipt must be signed in the name of firm by one of the partners or by some other person having authority to give effectual for the firm.
8. Under no circumstances whatever shall the contractor be entitled to any compensation from Board on any account.
9. The supplier shall supply at it own expense all tools, plant & implements required for the due fulfillment of his contract and the materials shall remain at his risk till the date for final delivery, unless it shall have been in the mean time removed for use by the Consignee Officer.

10. No materials shall be brought to site or delivered on Sunday/holiday without the written permission of the Consignee Officer.
11. The supplier shall not sublet this contract without the written permission of the Member Secretary, M.P. Pollution Control Board. In the event of the contractor subletting his contract without such permission, he shall be considered to have thereby committed a breach of the contract, and shall forfeit his earnest money and shall have no claim, for any compensation for any loss that may occur from the materials he may have collected or engagements entered into.
12. The decision of the Chairman, M.P. Pollution Control Board, Bhopal shall be final, conclusive & binding on all parties to the contract upon all questions relating to the meaning of specification and instructions herein before mentioned and as to quality of materials or as to any way arising out of, or relating to the contract specifications, instruction orders of these conditions or otherwise concerning the supplies whether arising the progress of after the completion or abatement thereof.
13. On the breach of any term of condition of this contract by the supplier, the said Chairman shall be entitled to forfeit the earnest money, security deposit and the balance thereof that may at that time be remaining and to realize and retain the same as damages and compensation for the said breach but without prejudice to the right of the said Board to recover any further sums as damages from any sums due or which may be come due to the contractor by M.P. Pollution Control Board, or otherwise howsoever.

NOTE: The tenders shall be liable for rejection in breach of any of the special or other general conditions of the tender document and no correspondence in this regard shall be entertained in future.

**[Dr. Reeta Kori]
Chief Scientific Officer**

(Part-A)

TENDER SPECIFICATIONS VS OFFERED SPECIFICATIONS

Sl. No.	Tender Specifications	Offered Specifications	Documentary evidence/ leaflet enclosed

Signature of Bidder -----
Name -----
Business Address -----

Place: -----

Date : -----

(Part-A)

**PRICE SCHEDULE FOR ANNUAL MAINTENANCE AND REPAIR
CHARGES AFTER WARRANTY PERIOD**

Sl. No.	Item Description	Qty.	Annual Maintenance & Repair charges for each unit including supply of spares [Price to be quoted either in Indian Rupees or in Foreign currency] Excluding guarantee period	Maintenance and Repair charges for 3 years, including supply of spares.

Note: In case of any discrepancy between unit price and total price, the unit price shall prevail.

Signature of the Bidder -----
 Name -----
 Business Address -----

Place -----
 Date -----

(Part-A)

PRICE SCHEDULE FOR GOODS IMPORTED

1 Sl. No.	2 Description	3 Country of origin	4 Quantity	5 Unit Price CIF New Delhi	6 Total CIF price per item	7 Unit price of Inland delivery to final destination and unit price of other incidental services.

Note: In case of discrepancy between unit and total price, the unit price shall prevail.

Signature of the Bidder.....
Name
Business Address
.....

Place:
Date:

(Part-A)

PRICE SCHEDULE FOR GOODS INDIGENOUS

Sl. No.	Name of equipment with make & model	Unit Price in Rupees	VAT/CST or any other Tax/duty	Unit price including all taxes up to final destination

Note: In case of discrepancy between unit and total price, the unit price shall prevail.

Signature of the Bidder

Name

Business Address

.....

Place:

Date:

(Part-B)
APPLICATION FORM FOR RATE CONTRACT WITH MPPCB, BHOPAL
(For Laboratory Chemicals/CRM, Glassware and Gas Refilling)

(A Separate Application Form is required for each Product Category)

1.	Name & Address of the Manufacturer [With Tel./Fax/Mobile/e.mail address]	
2.	Name & address of the Local Authorized Dealer / Distributor [With Tel./Fax/Mobile/e.mail address]	
3.	Quoted Product Category	
4.	Percentage of Discount Offered [In figures & words]	
5.	Name of the Any Pollution Control Boards of similar RC [Max. Three]	
6.	Exact % of CST/VAT to be charged [Form "C" or "D" will not be issued by MPPCB]	
7.	Delivery Charges	
8.	Delivery Period	
9.	Delivery of materials	Free delivery at MPPCB laboratory
10.	CST/VAT no. of the Dealer	
11.	Period of Contract	Minimum one year from the date of award of contract.

Notes:

- We hereby declare that all the particulars given in the application are true and complete to the best of our knowledge and we will produce all the relevant documents promptly, if necessary or as and when asked for by MPPCB. We understand that information provided by us will serve as Pre-qualification Criteria for enlistment being detected even after the approval of Rate Contract our contract may be cancelled and all our claims may be forfeited by MPPCB. We have read and understood all the terms and conditions of RC and we fully agree to it.
- We also declared that we will not sell our product at a lesser price to other parties than those given to you and in the event of happening of such

situation, we will be bound to refund the difference and our enlistment maybe cancelled at the discretion of MPPCB.

- We also undertake that all the terms and such as product Range, price, Discount, Delivery/other charges, Terms of Payment and also the name/s of the Dealer/Distributor will remain unchanged during the period of no alteration will be done without your official approval. However, we will promptly change our distributor/supplier of a request/compliant is received from your end with regard to this effect due any reason.

Date :

Signature

Place :

Name :

Designation :

Seal of the firm :

TECHNICAL SPECIFICATIONS

(PART-A)

Atomic Absorption Spectrophotometer [GTA /FLAME / VGA]

S. No.	Specification	Requirement
1.0	INSTRUMENT COMPOSITION	Atomic Absorption Spectrophotometer (GTA/FLAME/VGA), Unit for Flame (Air Acetylene and nitrous oxide- acetylene), Graphite Tube Atomizer (GTA), Chiller / Water circulating unit, Auto samplers for GTA and flame.
2.0	TECHNICAL SPECIFICATION	
	Atomic Absorption Spectrophotometer	Computer Controlled with built-in flame emission mode
	Wave length range	190 – 800 nm wave length
	Sensitivity	Sensitivity at least 0.35 abs for 5µg/ml aqueous copper standard solution with air – acetylene flame.
2.1	Optics	Double Beam dual blazed / holographic Mono chromator
	Focal length	At least 250 mm focal length
	Resolution	1800 lines / mm
	Width	Automatic bandwidth of 0.2 to 2.0 nm
2.2	Flame Atomizer	All titanium or equivalent burner with impact bead / Flow spoiler, premix Design
	Movement	Automatic movement into the sample compartment
	Affect from Acids /Organic solvent	Unaffected from attacks by acid solution or organic solvents (e.g. Methyl isobutyl Ketone i.e. MIBK
	Flame Alignment in liquid beam	Fully automatic, optimized with motorized burner mount for vertical and horizontal burner adjustment
	Nebulizer	High precision able to provide manually adjustable uptake rates material of the nebulizer and related Venturi should be inert to acid solutions and organic solvents such as MIBK
2.3	Flame Control	Computer controlled ignition
2.4	Gas Control	Computer controlled with oxidant and fuel gases monitoring to monitor constant fuel / oxidant ration ignition.
2.5	Safety Function	Interlocking system to prevent ignition
2.6	Essential Interlock Monitor	Burner type as well as its presence in position, air selector, flame sensor, liquid trap level, gas supply pressure and air supply anywhere in the network of gas tubings in the system
2.7	Automatic Lamp Selection Function	Computer controlled Hollow Cathode Lamp selection and alignment
	Lamp Holder	At least 8 lamp holder with built in power supplies

		for hollow cathode lamps and electrode – less discharge lamps or equivalent
	Operating Parameter setting	Automatic Setting
2.8	Read Out /Display	Display facility for absorbance as well as concentration, Display of errors or error codes, absorbance range at least up to 2.0 Abs.
	Scale Expansion	Scale expansion at least up to 100x
	Integration time	Integration time should cover at least 0.2 to 50 seconds range
	Measurement	Measurements of mean, RSD and CV, Background only mode, Integration of peak height and peak areas.
2.9	Accessories / Spares with Flame AA System	
2.9.1	Vapor Generation Assembly	Should be continuous flow based hydride / mercury vapor generator with option of using with or without a programmable auto sampler
	Precision	Precision of better than or at least 1% at ppb levels of mercury, arsenic etc.
	Absorption Cell	The absorption cell's material should have no effect of the high heat of the flame and the cell for the analysis of mercury should be of a closed absorption design
	Flame Arrester	Flame arrester should be provided in the tube which connects the assembly to the absorption cell
	Cell Design holder	The design of the cell holder should give a firm and easily adjustable (for alignment) mounting on the burner head.
	System accessories	Complete with necessary reagent bottles, connectors etc.
2.9.2	Hollow Cathode lamps	16 hollow cathode lamps. One lamp each for the elements: Arsenic, Antimony, Boron, Calcium, Chromium, Cobalt, Copper, Iron, Nickel, Lead, Manganese, Mercury, Selenium, Tin, Vanadium and Zinc. Equivalent coded lamps will also be acceptable.
2.9.3	Air Compressor with Air Filter or equivalent Air Service Unit	Complete with pressure regulator quite in operation, necessary tubing and connectors and should meet the air supply requirements of AAS operation.
	Oil Free Pump	Oil- free pump and moisture trap
	Corrosion Resistant	Resistant to acidic vapour and the drain valve (if any) should be made of stainless steel of equivalent corrosion resistant material
2.9.4	Gas Regulators	
	Nitrous – oxide gas regulator	Nitrous Oxide Gas regulator (two stage) with heater, with necessary tubings and connectors. Necessary

		transformer should be provided to transform this supply to the requirements of the heater. The heater should work on 230±10volts 50 Hz AC power supply.
	Acetylene Gas regulator	Acetylene gas regulator (two stage) with necessary tubing and connectors.
	Nitrogen Gas regulator	Nitrogen regulator (two stage) with necessary tunings and connectors.
2.9.5	Gas Cylinders	High pressure Stainless Steel cylinder fitted with high purity 99.99% analytical gases (as mentioned ahead) having gas capacity 7 m ³ (water capacity 47 ltrs). Cylinder should be ISI marked confirming to IS 7285 flat bottom fitted with valve as per IS: 3224 complete with neck ring and cap painted as specified under Gas Cylinder Rules 1981. Gas Cylinder should be supplied with hydraulic test certificate and explosive certificate from Chief Controller of Explosives, Nagpur.
2.10	Graphite Furnace System	
	(a) Graphite Tube Atomizer	Should be computer controlled fully enclosed graphite tube system consisting of stabilized temperature / total pyrolytic graphite plate form.
	Gas Supplies	Provision of two gas supplies (programme selectable) with independent control over the gas supply through the furnace.
	Heating Rate	Heating rate of at least 2000°C per second
	Cooling Time	Cooling time 20 seconds
	Temperature Range	Temperature range ambient to 2600°C or more in 1°C increments
	Feed back system	Feed back system for furnace temperature control, interlocks for water, gas, temperature, furnace door, graphite tube damage and mains power.
	Temp. Programming	At least eight steps temperature programming facility with flexibility of programme selection, ramp time, gases, gas flow and read trigger for each temperature step.
	Control	Computer controlled with appropriate provision for print out of the furnace and sample parameters
	Display	Calibration data / graphs, temperature profiles, signal graphics and the instrument status.
	Memory	Memory should be able to store at least ten non volatile programmes
	(b) Chiller / Cooling	Refrigerating water circulation unit of appropriate

	Water Re-circulation Unit	capacity. No discharge of water from this water circulation unit.
3.0	DATA WORK STATION	
3.1	Application Software	<p>Programme facility with multitasking software</p> <p>Should provide complete control of instrument with instrument status display and its various accessories.</p> <p>Provide accurate and reproducible time averaged, integration, non – averaged integration, multi level calibration.</p> <p>Software should handle instrument linear absorbance reading, concentration, or emission intensity, integration time, built-in statistics, calibration equation control, slope of analytical curve using operator selective calibration standard</p> <p>Built-in interface for computer connection and use of optional accessories.</p> <p>Comprehensive quality control protocols facility including blank, multiple quality control standards, QA/QC audit trail and calibration failure.</p>
3.2	Computer System	
	Make	Reputed brand such as HP/Compaq/IBM/ Dell
	Processor	Intel core 2 duo processor 3.00 GHz or above
	RAM	4 GB (upgradable up to 8 GB)
	HDD	500 GB ultra DMA or higher HDD (7200 RMP)
	Monitor	21” TFT – LCD Flat Colour
	CD ROM	52X CD- ROM
	DVD-CDRW	32X DVD-ROM and CDRW – combo Drive Max speed 48x24x48
	Ports	2 serial, 1 parallel and 2 USB front 6 rear USB2 PS/2 Port, 1 VGA integrated Port 1line in/out port
	Key Board	104 keys 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
3.3	Operation Software	<p>Preloaded Windows XP Professional operating system with Licensed CD</p> <p>MS Office 2000 Standard with media, manual and Licensed CD or better</p> <p>Preloaded Antivirus with latest version along with Licensed CD</p>
4.0	ADDITIONAL ITEMS	Following items to be supplied
	Operation Kit	Manufacturers Standard Operation Kit including all required items, tubings, fittings for start up / regular

		operation of instrument.
	Operation / maintenance Manual	Operation / maintenance Manual for each unit
	Analytical manual	Analytical manual including applications for flame, VGA and graphite system
	Service Manual	Service manual with one set of required tools for each system / unit
	Trouble Shooting Charts	Trouble Shooting Charts
	Spare parts Catalogue	Spare parts Catalogue
	Application Notes	Application Notes for trace metal analysis in environmental, biological, geological, metallurgical and industrial samples
	Dust Cover	One for each unit
	Consumables	For three years operation for each of the following units: <ul style="list-style-type: none"> • Flame AAS (basic unit, burner system) • Vapour generation assembly • Graphite Furnace Atomizer • Auto sampler
5.0	Operation and Maintenance Training	Two weeks training to be provided to two scientist on software training, operation, maintenance and trouble shooting aspects of instrument as its application laboratory in India
6.0	General Conditions of Supply	<ul style="list-style-type: none"> • The instrument and all its units should operate on 230 ±10 volts 50Hz power supply • All the operation and maintenance manuals, circuit diagrams, application notes and application software to be supplied should be in English Language. • The supplier / manufacturer should have Indian Agent to provide after sales service. • The main unit and all the sub units of the instrument should be serviced by the Indian representative of supplier. • The Bidder should be a manufacturer / authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied ten numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening. • The bidder should furnish the information on past supplies and their satisfactory

		<p>performance.</p> <ul style="list-style-type: none">• Bidders shall invariably furnish documentary evidence (client's certificate – at least two) in support of the satisfactory operation of the equipment as specified above.• Notwithstanding anything stated above the purchaser reserves the right to assess the capability of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.• Comprehensive warranty with spares for three years from the date of installation of the instrument should be covered.
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Aerosol Particle Counter

Principle	Light Scattering Method
Light Source	Laser diode (>100,000 hours)
Sensitivity	0.3 μ m
Size Range	0.3 μ m to 10 μ m
Channels	All three channels are user configurable (size selections from 0.3 μ m, 0.5 μ m, 0.7 μ m, 1.0 μ m, 2.0 μ m, 2.5 μ m, 5.0 μ m and 10 μ m)
Counting Efficiency	50 \pm 20% @0.3 μ m , 100 \pm 10% @0.45 μ m
Zero Count	<1 count per 5 minutes
Flow Rate	2.83 L /min (0.1cfm)
Sampling Time	User defined: (up to 59m59s) and auto repeat (up to 99 times)
Sampling Mode	Cumulative, differential, concentration (counts/liter), mass concentration (μ g/m ³ , can be interpreted as PM1, PM2.5, PM10 or TSP)
Error Indications	Excess count limit, optics contamination, loss of laser power, insufficient battery power
Power	Li-ion polymer rechargeable battery (7.4V/2800mAH) or 9VDC AC, Adapter (100~240V input)
Max. Operating Time	Continuous operation > 5 hours with Li- ion battery, Storage: -20 ~ 65°C, < 90%RH
Dimensions	180 (H) \times 93 (W) \times 46 (D) mm
Weight	< 950 grams (including battery)
Environmental Conditions	Operating: 5 ~ 45°C, < 90%RH
Optional Accessories	Zero-count filter, digital temperature and humidity sensor probe, mini printer, printer cable, tripod, portable carry case

Automatic COD Digestion System

- Microprocessor based COD Digestion System with Air Condensers of 20 Reaction vessels.
- 20 Samples at a time.
- Construction: Compact design made of Mild Steel construction body and aluminium block consisting of 20 holes to take reaction vessels.
- Stainless Steel Insert Rack to hold COD reaction vessels
- Tube support rack to place reaction vessels along with stand.
- Stand to hold air condensers.
- Capacity of glass vessels: 250 ml each with 42 mm dia.
- Auto alarm / Buzzer for user's attention.
- Auto Power off mode on completion of COD digestion.
- Graphical digital LCD display.
- Temperature Range: 40 to 400°C.
- Temperature Accuracy: $\pm 1^\circ\text{C}$.
- Temperature Controller: Microprocessor based PC compatible temperature controller with Feather Touch membrane Switches setting.
- Sample Size: 20 ml (As per APHA Method 1:2:3) with USB port with memory programs and ramps. Built in software giving live schematic process flow feature.
- Timer: Integrated Programmable time and digital display of set value and process value.
- Glassware: 20 reaction Vessels along with 20 Air Condensers.
- Heating Block: Aluminium Solid Metal block.
- Air Condensers: Reflux condensers with ground joint.
- Automatic safety features like auto over temperature protection.
- FRP water tank with provision of tap water circulation to cool 20 Nos. vessels during addition of reagents.

BOD INCUBATOR

Sl. No.	Specifications	Requirements
1.	Description	Digital Display, Vertical BOD Incubator for incubation of environmental samples for measurement of Biochemical Oxygen Demand having both cooling and heating facilities.
2.	Construction	Triple walled construction, Outer body made of Mild Steel with White Powder coated enamel.
3.	Shelves	Three adjustable Stainless Steel Perforated Shelves.
4.	Glass Door	Full view inner toughened Glass Door with Aluminium Frame closes on a resilient gasket and permits inspection of the specimens, without disturbing the thermal conditions of the chamber.
5.	Mounting	Cooling Unit is placed on heavy duty Iron angle frame below the Chamber with castor wheel
6.	Door	Door with magnetic gasket and lock & key arrangement
7.	Inside Chamber	Stainless Steel with ribs for adjusting perforated shelves at convenient illumination Lamp (15W) will be provided inside the Chamber
8.	Inside Chamber Size	900mm x 580mm x 650mm (H x W x D)
9.	Inside Chamber Capacity	0.339 cubic meter (12 cubic ft.)
10.	Insulation	75 mm gap between the walls is filled with PUF insulation to avoid thermal loss
11.	Temperature Range	5 - 60 °C with an accuracy of ±0.2 °C or better

BACTERIOLOGICAL INCUBATOR

Size (Inner chamber)	:	605x605x910mm (approx)
Temperature Range	:	Ambient to 70°C
Accuracy	:	±0.2°C
Timer	:	99hrs/cotinuuous
Chamber/Body	:	Tripple wall construction. Inner Chamber made of stainless steel SS-304 grade & middle wall made of G.I. sheet. Outer body made of M.S. painted in epoxy powder with perforated adjustable SS shelve 03No.

Power Supply : 220/230Volt Single phase, 50Hz/ AC

>Air Circulatory fan should be provided for circulation of hot air in between inner chamber.

>Digital Temperature Controller cum Indicator

Display: up to one decimal point

>Door with glass window should be provided.

>Wheel base should be provided.

Bio Metric Attendance Machine

An Integrated device for recording biometric attendance Machine with TCP-IP technology based certified fingerprint sensor meeting following configuration / requirements:

Microprocessor based Bio metric Attendance machine with TCP- IP Technology.

Finger Print based Time attendance Machine with inbuilt web camera

Display: 16 X 2 LCD display,

CPU: 32 Bit RISC ARM

Hard Key/Soft Key Numeric key pad with inbuilt embedded EM Proximity Reader with Power supply (software free less than 100 employees)

Operating Temp.: 0°C to 45 °C,
Operating Humidity: 20% - 80%

Command control software for 500 users with employee self service module, Advance access Management module and attendance module advance attendance management module.

The fingerprint scanner should be ergonomically placed to support ease of usage for biometric attendance in standing posture of the users.

Complete with installation charges and cabling work at actual of 6 core shielded.

CARBON MONOXIDE (CO) ANALYZER
(Conforming to USEPA Automated Federal Reference Method (FRM)
Designation

S. No.	Specifications	Requirement
1.0	Principle	Non Dispersive Infra – Red (NDIR) with Gas Filter Correlation
2.0	Measurement	Carbon Monoxide in Ambient Air
3.0	Display	Digital
4.0	Ranges	At least four ranges Auto ranging 0 to 100 PPM
5.0	Minimum Detectable Limit	0.1 PPM
6.0	Zero Noise	0.05 PPM with time constant \pm 30 seconds
7.0	Zero Drift	< 0.2 PPM / 7 days
8.0	Span Drift	< 1% full scale in 24 hrs.
9.0	Linearity	Continuous \pm 1%
10.0	Output Signals or Analog Output	3 Analog output 0 - 1 V, 0 - 10 V, 2 - 20mA / 4 – 20 mA for digital
11.0	Digital Output	Multiple drop RS 232
12.0	Consumables and spares	Recommended requirements of 3 years of continuous operation along with the list of Items.

Conductivity Meter**General Requirement:** - Light weight, Bench Top, Microcontroller Based

Salient Point	Specification
Size	Light Weight
Display	7 digits, 7 segments LED. (3 digits for temp / tempco. and 4 digits for Conductivity) With automatic decimal point selection
Conductivity Range	0.1 μ S to 100 mS (6 decadic range)
Accuracy	$\pm 1\%$ of Full scale ± 1 digit
Resolution	0.001 μ S
Temperature Range	0 to 100 degree Celsius (Auto / Manual)
Resolution	0.1 degree Celsius
Accuracy	± 0.2 degree Celsius ± 1 Digit
Cell Constant	Acceptable from 0.1 to 5.0
Auto Temperature Compensation	0 to 100 degree Celsius with PT-100 Sensor
Manual Temperature Compensation	0 to 60 degree Celsius user selectable
Conductivity Tem. Co-efficient	0.0% to 9.9% user selectable
Printer Port	Epson compatible 80 column Dot Matrix
Power	230 v AC $\pm 10\%$, 50 Hz.
Standard Accessories	i) Conductivity Cell, Cell Constant 0.1 ii) Conductivity Cell, Cell Constant 1.0 iii) Temperature Probe (PT-100 sensor) iv) Stand & Clamp v) Instruction Manual and warranty card.

FIRE ALARM SYSTEM

Fire Alarm System	Approx. Qty.
Supply, Installation, Testing and Commissioning of Microprocessor based intelligent and electronically addressable, modular, with networking card & printer port- loops Panel (expandable) with each loop capacity of 250 detectors. Fire alarm control panel with coloured touch screen LCD display, multiple access levels, 10,000 event history logs in the non volatile memory (EEPROM). The panel should be modular microprocessor based in nature With provision for CPU & loop redundancy. The panel shall have 240V AC power supply, Automatic battery charger, 24V , ceiled lead acid maintenance free batteries sufficient for 24 hours normal working and then be capable of operating the system for 30 minutes during emergency condition. The panel shall be EN54 / Vds / OEM certification.	01
Supply, Installation, Testing and Commissioning of addressable– Automatic Dual LED smoke detector with two integrated light-scattering smoke sensors using LEDs with different colors/wavelengths (blue/infrared) to avoid False alarm & should comply to Test Fire 1, including mounting base with LED etc. complete as required, Each Detector should have 2 Isolators (one for incoming and one for outgoing line) integrated in detector for maintaining operational availability of all elements in the loop, even in the event of a short circuit & Drift Compensation feature & Automatic addressing. High resistance to electromagnetic effects in accordance with EFSG agreement EFSG/F/97/005 Shall be EN54/ VDs/OEM certificate	22
Supply, Installation, Testing and Commissioning of addressable manual break glass unit (Double action) with inbuilt isolators, with flexible network structures & necessary fixing arrangements with key complete for outdoor application as required. Shall be EN 54 / Vds Certification.	03
Supply, Installation, Testing and Commissioning of Stand alone Loop Powered Addressable sounder with inbuilt isolators & with 32 different tone variants selection options & adjustable sound pressure by 5 levels, the sound pressure 100.0 dB , it should be programmed from the panel. Shall be EN54 / Vds Certification. for outdoor application	03
Providing and Laying of 2 Core 1.5 sq mm Armored Cable	500 mtrs.
OEM authorization certification needs to be submitted by the Bidder.	

FILTRATION ASSEMBLY (VACCUM)

Specifications	Requirements
A. Filter Holder	
1. Material	Stainless Steel Lid, Funnel, base, clamp and filter support of SS perforated filter mesh with 6 place Manifold.
2. Filter Diameter	47 mm
3. Filtration Area	12.5 cm ²
4. Funnel Capacity	Autoclable SS body, 47 mm dia with 500 ml (Minimum) Capacity
5. Suction Flask Cap	1.0 / 2.0 litre
6. Connections	Outer diameter of base outlet 10 mm
7. Operating pressure	Vacuum only
B. Vacuum Pump	
8. Type	Single Phase motor with IP 44 type of protection, with carrying handle and sturdy rubber feet
9. Vacuum	Should be adequate for smooth filtration of water / waste water. The pump should be an oil free pump / diaphragm with continuous heavy duty type.
10. Flow Rate /Rating	15 LPM (maximum) / 0.12 KW or 1/16 HP
11. Supply Voltage	230 ± 10 Volts, 50 Hz, Single Phase AC
12. Ambient Temperature	45°C (Maximum)
13. Warranty	Comprehensive warranty / Guarantee should be valid for three years.
The Filtration Assembly should be complete with perforated Neoprene stopper, Vacuum hose pipes, stainless steel forceps, power cord with plug and toggle switch and operating manual with standard tool kit.	

FLUE GAS ANALYZER

1.	Gases to be measured	CO, O ₂ , CO ₂ , SO ₂ , NO, NO ₂ , HC, H ₂ S, NO _x and combustion efficiency
2.	Sensors	IR or Electro – chemical Sensors with high accuracy and life span of 3 to 5 years
3.	Gas Flow	At least 1 Liter / min.
4.	Temperature Measurable	Up to 600°C
5.	Operating Temperature	0 to 45 °C
6.	Power Supply	Battery operated along with built-in charger on Mains 230 V ± 10 VAC, 50 Hz ± 3%
7.	Flue Gas Probe	Stainless steel Shaft, Sintered Filter with Silicon hose and handle.
8.	Pre Programming	For Natural Gas, Light Oil, Heavy Oil, LPGs, Propane, Butane, Coke, Coal etc.
9.	Parameter wise specifications	Please see annexure- “A”
10.	Software/ operator	Easy to handle Key Board operated and user friendly, Data Format transferable to user software.
11.	Weight	Light weight /Portable housed in sturdy Carrying Case
12.	Calibration Certificate	Calibration and certificate of approval from recognized agency like EPA, TUV
15.	Documents	Instruction manual for operation

Annexure-“A”

Parameter	Range	Resolution	Accuracy
TEMPERATURE MEASUREMENT			
Flue Temperature	0.1°C use high temperature probe for gases > 600°C / 1112 °F	0.1° (C/F)	0.1° C ± 0.3% of reading
Inlet temperature	0°- 600°C	0.1°(C/F)	0.1° (C) ± 0.3% of reading
GAS MEASUREMENT			
Oxygen (O ₂)	0 to 25%	0.1%	± 0.2%
Carbon Monoxide (CO)	0 to 10000 ppm	1 ppm	± 5% of mv (200 to 20000ppm CO) ±10% of mv (2001 to 10000ppm CO) ± 10ppm CO (0 to 199 ppm CO)
Pressure	0 – 150 mbar	0.01 mbar / kpa	± 0.05% full scale

Carbon Dioxide (CO ₂)	0 to 50 Vol. %	0.01 vol. %	± 0.3 Vol. % CO ₂ + 1% of mv (0 to 25 Vol. % CO ₂) ±0.5 vol % CO ₂ + 1.5% of mv (>25 to 50vol % CO ₂)
Efficiency	0 – 100%	0.1%	--
Flow Velocity	0 to 40 m/s	0.1 m/s	--
Pressure	- 200 to + 200 hPa	0.01 mbar	±1.5% of mv (-200 to -50 hPa) ±1.5% of mv (+50 to 200 hPa) ± 0.5 hPa (- 49.9 to + 49.9 hPa)
Hydrocarbon (HC)	100 – 40000 ppm	10 ppm	< 400 ppm (100 to 4000ppm) < 10% of mv (> 4000ppm)
Nitric Oxide (NO)	0 to 4000ppm	1 ppm	±5% of mv (100 to 1999.9 ppm NO) ±10% of mv (2000 to 4000 ppmNO) ± 5 ppm (0 to 99 ppm NO)
Nitrogen Di Oxide (NO ₂)	0 to 500 ppm	0. 1ppm	± 5% of mv (100 to 500 ppm NO ₂) ± 5 ppm (0 to 99.9 ppm NO ₂)
Sulphur Dioxide (SO ₂)	0 to 5000 ppm	1 ppm	±5% of mv (100 to 2000 ppm SO ₂) ±10% of mv (2001 to 5000 ppm SO ₂), ± 5 ppm (0 to 99 ppm SO ₂)
Hydrogen Sulphide (H ₂ S)	0 – 300 ppm	0. 1 ppm	±5% of mv (40 to 300 ppm H ₂ S) ± 2 ppm (0 to 39.9 ppm H ₂ S)

FILTER PAPERS FOR AIR & WATER ANALYSIS

- (a) **Filter Paper (Quantitative)** Equivalent to Whatman Grade No. 41 & 42, Ash Less with specifications -Pore Size - 2.5 μm , Ash content - 0.007% & Thickness- 0.20 mm and weight - 100 g/m² or less with the finest particles retention of all cellulose filter typical analytical precipitates include Barium Sulphate, Metastanic Acid and finely precipitated calcium carbonate ash less circles, 125 mm diameter. [Box containing minimum 100 no. circle form paper]
- (b) **Filter Paper (Quantitative)** Equivalent to Whatman Grade No. 40, Ash Less with specifications- Pore Size - 2.5 μm , Ash content - 0.007% & Thickness- 0.20 mm and weight - 100 g/m² with the finest particles retention of all cellulose filter typical analytical precipitates include Barium Sulphate, Metastanic Acid and finely precipitated calcium carbonate ash less circles, 125 mm diameter. [Box containing minimum 100 no. circle form paper]
- (d) **Glass Micro - Fiber Extraction Thimbles** Equivalent to Whatman Grade HP-GF with specifications - High purity, internal diameter X External length [19mm X 90mm] The Thimble should be free of binders or additives and can be used at temperature up to 500° C. [Box containing minimum 25 Thimbles] [to be used for stack monitoring]
- (e) **Cellulose Extraction Thimbles** Equivalent to Whatman Grade with specification - Internal diameter X External length [28mm X 100mm] [Box containing minimum 25 Thimbles] [to be used for stack monitoring].
- [f] **Glass Micro- Fiber Filters sheets** Equivalent to Whatman Grade GF/A with specifications- to be used in Ambient Air monitoring for measuring PM₁₀, high purity borosilicate glass filter, thickness -maximum 0.43mm, Particle retention - 99.95 % (min.), Flow rate - 1.52 \pm 0.18 M³/min., weight - 80 g/m² maximum and should sustain for temperature of 500°C. Size - 203mm X 254 mm [Box containing minimum 100 sheets]
- [g] **Glass Micro- Fiber Filters sheets** Equivalent to Whatman Grade GF/A and EPM 2000 with specifications- to be used in Ambient Air monitoring for measuring PM₁₀, high purity borosilicate glass filter, binder free, thickness -maximum 0.43mm, Particle retention - 99.95 % (min.), Flow rate - 1.52 \pm 0.18 M³/min., weight - 85 g/m² maximum and should sustain for temperature of 500°C. Size - 203mm X 254 mm [Box containing minimum 100 sheets]
- (g) **PM 2.5 monitoring filters** Equivalent to Whatman Grade with specifications - Made up of high purity thin PTFE membrane required for ambient air monitoring. Size - 46.2mm circular box containing minimum 50 circles in box. Filter Pore size - maximum 2.0 μm , thickness - 40 μm , Particle retention - 99.7%.
- (h) **Glass Micro Fiber Filter** Equivalent to Whatman Grade 934-AH with specifications- Pore Size - maximum 1.5 μm , Thickness- minimum 0.33 mm and weight - maximum 64 g/m² with the finest particles retention, Circle size-47 mm diameter. [Box containing 100 no. circle form paper] suitable for suspended solids in all types of water and effluent and filtration of particles in water, algae and bacterial culture.
- (i) **Glass Micro Fibre Filter** Equivalent to Whatman grade GF/A with specifications - Pore size- maximum 1.6 μm , Thickness - 0.26 m, Dry tensile 430 gm, suitable for PM 2.5 sampling in ambient air quality monitoring. Circle size - 37mm diameter. (Box containing minimum 100 no. paper circles)

GAS DETECTION PUMPS & TUBES

Gas Detection Pump: Portable, handy piston type pump. The Pump should have built in tip breaker for breaking of gas detector tubes. The flow Indicator should be available to not down a fixed volume 50 ml to 100 ml. The pump should be of good quality, plastic preferable ABS resin material of better, so as to avoid reaction with the gases collected.

Description & Ranges of Gas Detection Tubes		
1.	Ammonia	0.5 to 1 ppm
		2.5 to 5 ppm
2.	Benzene	0.5 to 10 ppm
		1 to 20 ppm
3.	Carbon Monoxide	1 to 30 ppm
		25 to 1000 ppm
4.	Chlorine	0.05 to 0.5 ppm
5.	Chloride	0.05 to 1 ppm
6.	Hydrogen Chloride	0.2 to 1 ppm
7.	Hydrogen Sulphide	0.2 to 2 ppm
8.	Mercaptans	0.1 to 0.2 ppm
9.	Methyl Mercaptans	0.25 to 2.5 ppm
10.	Ethyl Mercaptans	0.2 to 0.5 ppm
11.	Nitrogen Oxides	0.04 to 0.08 ppm
		0.2 to 0.1 ppm
12.	Sulphur Dioxide	0.2 to 5 ppm

Hot Air Oven

Specifications	Requirements
Internal Chamber Size	75cm x 75cm x 120cm (L x W x H)
Outer Body	Powder Coated Mild steel, White stoned enamel
Inner Chamber	Double walled construction inner chamber made of stainless steel
Trays	4 nos. stainless steel , perforated adjustable
Door	Single door fitted with heavy brass chorme plated hinged and door lock
Cabinet	Cabinet double walled mild steel
Insulation	Minimum thickness 5 cm of glass wool
Air Circulation	Ventilated through internal fan with ISI marked motor to assist circulation or air
Operating Temperature Range	Ambient to 300°C
Temperature Control	Digital temperature controller cum indicator with accuracy of $\pm 0.5^{\circ}\text{C}$, installation should be on top towards door side. The supplier will have to provide Calibration Certificate for Digital Temperature Controller from NABL recognized Calibration Laboratory
Timer	Digital with rage upto 999 minutes, installation should be at top towards door side, Automatic to control ON/OFF cycle.
Power	230 \pm 10 Volts AC 50 Hz
Heaters & heating load	ISI marked heating elements 2 KW
Ventilator	Two adjustable air ventilator on both upward side of the instruments
Standards	The apparatus should confirm to IS 6365 – 1971 (Reaffirmed 1995) with latest amendments in Indian Standard Specification for laboratory Electric Ovens or equivalent International Standards covering marking tests and safety requirements.

Ion Analyzer with Fluoride, Nitrate, Cyanide and Ammonia Electrodes

S.No.	Specification	Requirement
1.0	Description	Should be Microprocessor controlled with RS 232-C output facility. The front panel should be splash proof, corrosion resistant and impact resistant.
2.0	Mode	pH, Concentration, Temperature, MV
3.0	pH range	0.00 to 14
	Resolution	0.001
	Accuracy	± 0.005
	Slope	80 to 120 %
	Calibration	Auto three to five points calibration (automatic buffer recognition)
	Temperature Compensation	Automatic throughout the range
4.0	Concentration Range	0.001 to 19900 ppb / ppm
	Resolution	At least one significant digit
	Accuracy	± 0.5%
5.0	Temperature Range	-10° to 130°C
	Resolution	± 0.1°C
6.0	Millivolt Range	± 1500
	Resolution	0.1mV
	Accuracy	± 2.0 mV or ± 0.05%
7.0	Timer	Date and Time can be called up and recorded any time
8.0	Display	Graphic LCD display, LCD dot matrix 128 / 64 dps panel with backlight and feather touch keys.
9.0	Ready	Indication of stable value reached.
10.0	Blank	Optional entry of blank or back ground solution, correction
11.0	Power	9 volts line adaptor or compatible adaptor for (230 ± 10) volts / 50 Hz AC
12.0	Requirement	In case of power failure, secure storage of all calibration and programme data.
13.0	Input	At least 1 or more BNC / DEIN input. 1 pin tip F-type, banana type, RS -232C, Printer connection facility
14.0	Drift	< 50 micro volts / °C
15.0	Electrode	Complete electrodes sets for reference Ammonia, Fluoride. Nitrate, Cyanide, Chloride, Calcium & pH along with instruction / application sheet standard accessories including electrolytes, standard solutions (ppm) etc.
16.0	Others	The instrument should be complete with connecting cable, adaptor for 230 ± 10 volts AC 50 Hz power supply, dust cover, electrode stand (adjustable), operation and maintenance manual along with the accessories with spares and consumables for three years of trouble free operation

**INDUCTIVE COUPLE PLASMA WITH MASS SPECTROPHOTOMETER
(ICP-MS)**

S. No.	Specification	Requirement
1.0	Instrument Composition	
	RF System	One Unit
	Nebulizer & Spray Chamber	One Unit
	Peristaltic Pump	One Unit
	Plasma Torch	One Unit
	Mass Spectrometer	One Unit
	Auto Sampler / Diluter	One Unit
	Data Work Station	One Unit
2.0	Technical Specification	
2.1	System Application	Computer controlled fully automatic, data work station based, ICP-MS system
		Sub - ppt analysis, simultaneous multi-elemental analysis with exceptional sensitivity and stability of diverse range of environmental, biological, geological and industrial samples.
2.2	System Operation	Computer Controlled Solid State RF Generator, without any consumable parts.
		Auto start from Switch or computer keyboard.
		Automatic detector system controlled by Multitasking Windows based operating software with built-in diagnostics.
		High-speed data acquisition system, quality control protocols, calibration, auto optimization and auto tuning of system with status display.
2.3	RF System	Solid State, auto start RF Generator (27 MHz or more), without any consumable parts.
	Wattage	Computer controlled from 750 Watt to 1500 Watt in 1 watt increment with auto tuning.
	Power Efficiency	Greater than 75% with < 0.1% variation in output power stability, Should provide high efficiency, superior performance for elements such as As, Se and Hg.
2.4	Sample Introduction System	Corrosion resistant to various acids and Aqua Regia. Capillary nozzle tip with guaranteed flow rate of fine aerosol mist and controlled sample uptake flow.
2.5	Micro Flow	Ultrasonic nebulizer

	Nebulizer	
2.6	Spray Chamber	Corrosion Resistant to most acids including Hydrofluoric acid and Aqua –Regia.
	Location	Glass cyclonic spray chamber should be located in a thermally controlled area.
2.7	Plasma Torch	Easily demountable quartz torch for plasma. The computer controlled plasma torch adjustment / alignment for optimal analytical positioning relative to ion sampler interface.
	Torch design	Several multiple loops of an induction coil with three concentric tubes. Central tube to inject sample aerosol and carrier gas introduction, middle tube for plasma gas (argon) and outermost tube for Auxiliary gas.
	Corrosion Resistance	Torch should be full corrosion resistant to all acids including Aqua – Regia.
	Torch Adjustment	Computer controlled plasma torch adjustment / alignment for optimal analytical positioning relative to ion sample interface.
	Neutral Plasma	Capable to produce electrically neutral plasma fully controllable through PC.
2.8	Plasma Gas Control	Computer Controlled Plasma Gas (Argon) flow controlled and Mass Flow Controller.
	Range	Range 0 to 20 LPM in 1 LPM increment
2.9	Safety Interlock	Monitoring and display the shear gas pressure, plasma Gas Pressure, sample compartment door closer, water flow, plasma stability, interlock status.
	Automation	Automatic shutdown of plasma, in case any of the feature is interrupted.
2.10	Plasma Ignition	Computer Controlled Plasma ignition. Software should have capability to ignite Plasma automatically at user determined time to warm up the system prior to analysis.
	Power Control	Automatic turn off of Plasma after analysis
2.11	Cooling System	Water Re – circulating cooling system with appropriate flow & pressure and temperature between 15 to 25 ⁰ C.
2.12	Peristaltic Pump	Computer controlled, multi channel (3-4) pumps.
	Speed	0.25 to 5.0 ml/min in 0.1 ml/min increments, precise computer controlled pumping of the sample.
	Pump operation	Should be auto –fast for rapid rinse out, wash –out and analysis time
	Location	Located close to spray chamber for faster rise.
3.0	Mass Spectrometer	High Resolution Magnetic .
3.1	Detector	Solid State dual stage dynode discrete over 8 orders of magnitude with count response range of 2×10^6 (low resolution) to 2×10^4 (high Resolution) cps / ppb
		Should be unique log amplifier circuit, features a high speed analog mode for transient signals and a true nine orders dynamic

		range. Minimum dwell time 100 μ s (in both pulse count and analog modes).
3.2	Dynamic Range	Complete periodic table inclusive of all isotopes, dynode electron multiplier detector or equivalent. Capable of analysis of all measurable elements including of high ionization potential in a single run including As, Hg, Sb, Bi, Se elements in up to ppt level
3.3	Vacuum System	Air cooled turbo molecular pump having capacity of producing 1×10^5 torr or less pressure in analyzer.
3.4	Quadrupole	Quadrupole system should have 3.0 MHz or more quad resolution, best resolution and mass accuracy. Made of Gold coated ceramic for a very low coefficient of thermal expansion.
3.5	Mass Calibration stability	Better than 0.05 amu/day
3.6	Nebulizer	Cross flow
3.7	Mass Range	2 – 260 amu or better
3.8	Detection Limit (ng/l)	9 Be < 9.0, 40Ca <5, 56 Fe <1, 59 Co <2.0, 115 In <0.5
3.9	Sensitivity	Should be capable to quantify from ppt to high ppm without dilution 24Mg > 10 m cps/ mg/l, 115 In > 40m cps/mg/l, 238.
4.0	Ion Extraction	Ion extraction from plasma through two cone (sampler and shimmer) type interface, Sampling cone orifice diameter shall be 0.8mm or greater.
4.1	Cone Tip	Standard sampling cone tip and sharpener cone tip of nickel Additional 2 nos. Ni sampling cone and skimmer cone and 2 nos. Platinum sampling cone and skimmer cone. Shimmer cone servicing shall be without the need of venting the high vacuum portion of spectrometer use. Should specify the life of sampler cone / shimmer cone with cone HNO ₃
4.2	Stability	Long term stability < 4% RSD for > 2-4 hours for 24 Mg 63 Ca, 114 Cd, 208 Pb Short Term Stability is < 4% RSD for 24 Mg 63 Cu, 114 Cd, 208 Pb
4.3	Back Ground Signal	Less than 5 cps for mass 220
4.4	Abundance Sensitivity	Low mass < 5.0×10^{-7} - high mass < 1×10^{-7}
4.5	Ion Beam Detection	Dual stage discrete dynode electron multiplier with a count response range of 2×10^6 cps / sec.
4.6	High TDS Capability	Should be able to perform direct analysis of 1% solids or greater without dilution. The direct analysis must also be automatically tuned for robustness depending on solid

		content via integrated software.
5.0	Water Chiller	Efficient thermal management, noise free, re-circulating heat exchange water chiller of reputed make.
6.0	Hydride Generation Assembly	Compatible hydride generation assembly for ultra trace analysis of hydride forming metallic elements such as As, Se, Te, Hg etc.
7.0	Auto Sampler / Diluter	Highly effective auto sampler/ diluter compatible with operation along with ICP- MS without user intervention.
	Capacity	Auto sampler with 150 or more tubes holder space and cover with 500 nos. 15 ml capacity tubes.
	Programming Facility	Programmable complete with inert PTFE coated probe with PTFE inner tubing
	Extension Tube	Spare extension tube complete with 20 ml syringe for programmed auto dilution
	Auto Sampler Accessories	Complete with all accessories, racks, bottles, tubing assembly, dust cover etc.
8.0	Data Work Station	
8.1	Application Software (Features)	Programme facility with multitasking software displaying method sample and analysis status.
		Instrument control reintegration/ report, multi level calibration, automatic data acquisition and processing.
		Calculation of data and report formatting.
		External and dilution calibration, automatic correction for interferences and measurement with internal standards.
		Measurement of transient signals, self diagnosis, remote diagnostics and LAN Connectivity.
		Quality control protocols including preparation blanks, multiple quality control standards, calibration, check samples, spike recoveries, duplicates calibration failure and QC limits.
		Storage of complete spectrum of elements for future reference.
		Provision for statistical analysis, printer/plotter function and battery backup for memory protection.
		Linear least squares- weighted linear least squares, linear forced through zero least squares.
		Standard addition methods, addition calibration.
		Real time graphics with ability to display transient and continuous signal profile.
		Should control whole ICP system sample introduction, calibration, quantitative analysis, data retrieval data acquisition and reporting
		Auto optimization of plasma parameter customizable instrument status display software control of MS and other accessories.
8.2	Computer system	Two nos. (with similar technical specification as below)-

		one online and additional for offline analysis.
	Make	Reputed brand such as HP/Compaq/Dell
	Processor	Intel core i7 (3 rd Generation) processor
	RAM	4 GB DDR RAM (upgraded to 8 GB DDR RAM)
	HDD	500 GB SATA
	Monitor	21" TFT-LCD Flat Color (Digital)
	DVD Writer	DVD- Multi-Drive
	Ports	2 serial, 1 parallel and 2 USB front 3 Rear USB 2 Port, 1 VGA 4 bays (2 external & internal) with LAN 1 PS, 2 mouse port
	Keyboard	Latest Multimedia (HP/Microsoft)
	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 Laser Jet Printer 1200x1200 dpi 12 PPM black
8.3	Software	Pre loaded windows XP Professional or windows 7 Professional operating system with Licensed CD Compatible with operational software MS Office 2010 Professional with media, manual and Licensed CD Compatible with operational software Preloaded Norton Antivirus with latest version of 3 years lifetime along with Licensed CD
9.0	Additional items	
9.1	Reference standards	Multi elemental calibration standards having at least 23 elements should be supplied in 100 ppm range- 5 nos.
9.2	Manual	Operation and maintenance manual for each unit.
9.3	Application notes	Application notes (CD-ROM) for elemental analysis in environmental, geological, metallurgical, biological and industrial samples.
9.4	Methodology package	Comprehensive EPA Methodology package software (CD-ROM) for environmental application.
9.5	Service manual	Service manual with set of required tools for each system/unit.
9.6	Spare parts catalogue	One set
9.7	Trouble shooting charts	Trouble shooting charts for all sub units.
9.8	Dust cover	Dust cover for all sub units.
9.9	Operation kit	Operation kit comprising all required items pump tubings, transfer tubings, work coils etc. for startup/regular operation of instrument.
9.10	Consumables	Consumables for three years operation of the system for main ICP unit, spare torches, nebulizer, tunings, moisture trap are required to be quoted.

10.0	Local Supplies	
10.1	Stainless steel Hood and Duct	Corrosion resistant Stainless steel Hood and Duct for exhausting of acidic fumes. May be quoted per meter basis.
10.2	Pressure Regulator	Corrosion resistant/ stainless steel two stage argon and nitrogen gas regulators with max cylinder pressure 4000 psi / 280 kg/cm ² and line pressure 230 psi /16kg/cm.
10.3	Argon, and Nitrogen gas cylinders	Four Argon and two Nitrogen gas cylinders. High pressure seamless steel cylinder filled with high purity 99.999% argon gas, and another Nitrogen 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: Argon- Four cylinder Filled Nitrogen- Two cylinder Filled
10.4	Air Compressor	Air Compressor with auto – cut device max. pressure up to 160 psi or 11 bar
11.0	Operation and maintenance training component	On – site comprehensive training for scientific personnel operating the system and support services till customer satisfaction with the system followed by complimentary (all expenditure inclusive) two weeks comprehensive training to two scientists on operation and maintenance aspect of the instrument at manufacturer’s laboratory abroad.
12.0	Warranty	Comprehensive warranty with spares for 3 years from the date of installation of the instrument should be covered, the AMC charges to be mentioned for next two years after warranty is over.
13.0	General conditions of supply	<ol style="list-style-type: none"> 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 diagram, application notes and application software to be supplied should be in English language. 3.The supplier/ manufacturer should have Indian agent to provide after sales service. 4. The main unit and all the sub units of the instruments should be serviced by the Indian representative of supplier. 5.The bidder should be a manufacturer/ authorized representative of a manufacturer, who must have designed, manufactured, tested and supplied two numbers of such equipment similar to the type specified in the past five years, which shall be in successful operation for at least 2 years as on the date of bid opening.

		<p>6.The bidder should furnish the information (Address, telephone nos. & E-mail) on past supplies made during last 5 years and their satisfactory performance.</p> <p>7.Bidders shall invariably furnish documentary evidence (client's certificate – at least two) in support of the satisfactory operation of the equipment as specified above.</p> <p>8. Notwithstanding anything stated above the purchaser reserves the right to assess the capability and capacity of the bidder to perform the contract, should the circumstances warrant such an assessment in the overall interest of the purchaser.</p>
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Micro Analytical Balance

S.No.	Specification	Requirement
1.	Capacity	6.1 g
2.	Readability	1 µg (0.01mg)
3.	Repeatability	± 1 micrograms
4.	Linearity, Micrograms	± 3 micrograms (±0.03 mg)
5.	Linearity, 0 - 500 µg	± 1 micrograms (±0.01 mg)
6.	Operating Temperature	10°C to 40 °C
7.	Pan Size (mm / in)	ø 30 mm / 1.2 in Standard pan ø 50 mm / 1.9 in Standard filter
8.	Automatic zero tracking	Standard feature (can be turned off by menu code)
9.	Calibration	Self-Calibration
10.	Power Source	230 ± 10 V AC with AC adapter with scale
11.	Standard Equipment	230 ± 10 V AC adapter, Level indicator, adjustable feet, operational manual
12.	Warranty	Minimum 3 years warranty

pH Meter**General Requirement:** - Light weight, Bench Top, Microprocessor Based

Salient Point	Specification
Display	2 line, 20 - character alphanumeric LCD
Weight	Light Weight
pH Range	0 to 14.00pH
Resolution	0.001pH
Stability	0.002 pH per hour
Relative Accuracy	± 0.002 pH ± 1 Digit
Calibration	Automatic 5 Points Calibration 1, 2, 3, 4 and 5 points Calibration
Standard Buffers	1.679, 7.000, 4.004 or 9.183, 12.454
mV Range	0 to ± 1999 mV
Temperature Compensation	Auto/ Manual
Range	0 to 99.9 degree Celsius
Resolution	0.1 degree Celsius
Accuracy	± 0.5 degree Celsius ± 1 Digit
Printer Port	Epson compatible 80 column Dot Matrix
Power	230 v AC $\pm 10\%$, 50 Hz.
Standard Accessories	i) Electrode ii) Temperature Probe (PT-100 sensor) iii) Stand & Clamp v) Instruction Manual and warranty card.

SURVEILLANCE SYSTEM

IP Camera	Specifications	Approx. Qty.
Dome Camera	Full HD 1080P IP Indoor infrared dome Camera, 1/2.7-inch CMOS, Sensor Pixels (1920 x 1080), IR LED high efficiency array, for night viewing minimum 15 mtrs, Varifocal 3 to 10 mm auto zoom lens, DC Iris Lens, Audio Input / Output, True day/night switching, WDR ,tamper/motion detection, ONVIF, UL Certified, power supply complete as per required specification.	5
Fish eye camera	5 Megapixel Panaromic 360 degree view IP camera Audio Input / Output, IP66 Housing, True day/night switching, WDR Impact Protection IK10, ONVIF, UL Certified with power support.	1
Box Camera	Full HD 1080P IP Outdoor infrared Box Camera, 1/2.7-inch CMOS, Sensor Pixels (1920 x 1080), IR LED high efficiency array, for night viewing minimum 30 mtrs, Varifocal 3 to 12 mm auto zoom lens, DC Iris Lens, Audio Input / Output, IP66 (NEMA Type 4X) Housing, True day/night switching, WDR Impact Protection IK08, tamper/motion detection, ONVIF, UL Certified complete with wall/pole mounting arrangement and power supply.	1
Network Video recorder (NVR)	Stand alone Network Video Recorder of server client base video manager system including hardware and software for 32 cameras, inclusive of 8TB Storage, Intel i3-2120 processor 1333 MHz, 4 GB memory installed, 1 x USB DVI port, onboard graphics VGA port UL Certified, including 5 Client PC License, 1 Keyboard License, 5 Forensic Search client License.	1
N.B. : Entire surveillance system should be of same reputed OEM. The supplier should be either OEM or authorized by the OEM firm having service centre / branch in Madhya Pradesh, preferably in Bhopal.		

Turbidity Meter**General Requirement: -**

Tender Specifications	Requirement
	The instrument should be a micro processor based, Laboratory and Portable, suitable for measurement even for coloured samples and with the following specification.
Display	2 line 16 Characters LCD
Detector	Photodiode
Ranges	0-1000 NTU in Four Ranges (Automatic) A) 0-1NTU B) 0-10 NTU C) 0-100 NTU D) 0-1000 NTU
Accuracy	$\pm 1.5\%$ of FSD in 0-500 NTU $\pm 2\%$ of FSD in 500-1000 NTU
Repeatability	$\pm 1\%$ of FS (Std.)
Calibration	Formazine Standard Solution
Data Storage	Calibration and Data Storage in Memory
Power Requirement	230 v AC $\pm 10\%$, 50 Hz.
Standard Accessories	All necessary accessories to make instrument functional such as Epoxy – coated steel case, instruction manual, power cable and plug, dust cover, light shield, test tubes (25mm diameter) [04 nos.] and stand.

VOC ANALYSER

S. No.	Specifications	Requirement
1.0	General	Portable (Hand Held) battery operated Total Volatile Organic Compound Monitor for direct assessment /monitoring of fugitive/ source emissions with calibration gas and dilution probe.
2.0	Accuracy	$\pm 5\%$ of reading or ± 1 ppm, whichever is greater.
3.0	Precision	One percent of calibration (calibrated with 100 ppm isobutylene)
4.0	Lower Detection Limit	1.0 ppm as isobutylene or better
5.0	Resolution	0.1 ppm
6.0	Drift	Zero Gas: < 0.1ppm (as isobutylene) over 24 hours Span Gas: for 100 ppm isobutylene, < 3% over 24 hours
7.0	Operating Concentration Range	0 to 1000 ppm / 10000 ppm
8.0	Response Factor / Response Time	< 10 sec for most compounds to 90% of final reading, using isobutylene cal. Gas /5 sec.
9.0	PID Lamp	10.6 eV (life span > 6000 hrs.)
10.0	Batteries	Rechargeable, Intrinsically safe, Minimum 8 hours operation capacity
11.0	Dilution Probe	With suitable length to monitor stack emission (1-2m)
12.0	Material in Sample stream	Stainless Steel, Teflon, Polypropylene, butadiene rubber, nickel
13.0	Pump Flow Rate	0.3 – 0.6 L/min with low flow alarm, auto shut off at low flow conditions
14.0	Inlet Filter	Replaceable Teflon / Polypropylene, 1 μ m
15.0	Operating Temperature Range	0 to 40°C
16.0	Operating Humidity Range	0 to 95% relative Humidity (non – condensing)
17.0	Data Out put	Serial Output – RS 232 for downloading of data to window – based PC
18.0	Data Display, Alarms, Storage & Software	Digital Direct read – out of VOC concentration by volume, average, high and low values, Fault, TWA and STEL alarms with auto storage of monitor serial number, user ID, Site ID, Date & Time Data storage of approx. 15000 data points or more with software capability of processing data in various averaging time (1, 2, 4, 8, 12, 24 hrs.) in the form of min. max. average & std. deviation etc. in excel format.

19.0	Calibration	Calibration of Zero and Standard reference gas, calibration memory of > 5 calibration (spell) gases, alarm limits and calibration date.
20.0	Calibration Gas Certification	± 2%
21.0	Power	230 ± 10V, 50/60Hz AC
22.0	Accessories	
	Calibration Gas Concentration (certified & traceability certificate)	Two calibration gas cylinders with 100 ppm, 2000 ppm of isobutylene in Nitrogen, 34 L in volume (NIST traceable)
	Tedlar Bags	3 & 5 L capacity – 50 Nos.
	Spare PID lamp	10.6 eV (life span > 6000hrs.) & 11.7 eV (life span ~ 140 hrs) one each
	Battery pack	1 additional rechargeable battery pack with each unit
	Operation & Maintenance Manual	1 set
	Tool kit	1 set
	Carrying Case	One
	Consumables / Spares	Should include required consumables / spares for three years of trouble free operation
23.0	Installation, Onsite Training & Warranty	Satisfactory Installation & hands on training to concerned officials and three years comprehensive warranty.

Water Analysis Kit

pH	Range	0 to 14.00pH
	Resolution	0.01pH
	Accuracy	± 0.01 pH ± 1 Digit
	Sensor	Combined Electrodes
	Temp. Compensation	Auto and manual
MV/ ORP	Range	± 1999 mV
	Resolution	1 mV
	Accuracy	± 1.0 mV ± 1 digit
	Sensor	Combined Electrodes
Conductivity /TDS	Range	0 to 100 mS, (5 ranges) 0 ppm to 100 PPT (5 ranges at TDS factor)
	Accuracy	$\pm 1\%$ of F.S ± 1 digit
	Sensor	Conductivity cells (0.1 to 5.0 CC)
	Temp Compensation	Auto / Manual
Salinity:	Range	0 to 40 PPT
	Resolution	0.1 PPT
	Accuracy	$\pm 2\%$ of F.S ± 1 digit
	Sensor	Conductivity cells (0.1 to 5.0 CC)
	Temp Compensation	Auto / Manual
Dissolve Oxygen	Range	0 to 20 ppm
	Resolution	0.1 ppm
	Accuracy	$\pm 1\%$ of F.S ± 1 digit
	Sensor	Au/Ag Probe
	Temp Compensation	Auto / Manual
Temperature	Range	0 to 100 degree Celsius
	Resolution	0.1 degree Celsius
	Accuracy	± 0.5 degree Celsius ± 1 Digit
	Sensor	PT-100
Colorimeter	Range	0 to 2.0 Abs,0 to 100%T&Conc.0-1999
	Resolution	0.01 Abs, 0.1 %T
	Accuracy	± 0.5 Abs
	Sensor	Photo Diode
	Source	Tungsten lamp
	Filters	Blue-440nm,Green-540nm,Red660nm
Turbidity	Range	0 to 1 NTU, 0 to 10 NTU, 0 to 100 NTU
	Accuracy	$\pm 2\%$ of F.S
	Sensor	Photo Diode
	Source	Tungsten lamp
General	Display	LCD 2 line, 20 Character, Alphanumeric

	Power	230V,50Hz +/-% or Internal Battery with charger
	Accessories	Combined Electrode, Conductivity Cell, D.O. Probe, Temp. Probe, 4 No's Test tube for Colorimeter & Turbidity meter 3 No's filter

Rate Contract Items (Part –B)**Laboratory Chemicals/Certified Reference Material (CRM)**

All chemicals should be of Analytical Reagent grade (AR Grade) or above of popular/reputed manufacturers [such as E.merck, Rankem, Qualigens/ Fisher Scientific, SD-fine Chem, CDH, Hi-Media (*only for bacteriological tests*)], Thomas Backer, Sigma Aldrich and Certified Reference Material [CRM] should be of popular/reputed manufacturers such as Dr. Ehrenstorfer, Merck, Sigma, LGC Standard, Accu Standard, Thomas Baker.

Laboratory Glassware/ Plasticware

All Glassware should be of Borosilicate Glass - Class "A" with certificate of popular/reputed manufacturers (such as Borosil, Rivera, SD-fine, Merck, JSGW, Sigma Aldrich and ASGI). Plastic ware should be of popular/reputed manufacturers such as HiMedia, Tarson, Merck, RFCL.

Gas Cylinder Refilling

S.N.	Name of the Gas	Purity of Gases	Cylinder Volume (Water Capacity)	Gas Pressure Required	Remarks
1.	Nitrogen	Zero Grade (99.999% pure)	47 litres	140 Kg/cm ²	Refilled cylinder should be supported with purity certificate of gases
2.	Hydrogen	Zero Grade (99.999% pure)	47 litres	140 Kg/cm ²	
3.	Zero Air	Zero Grade (99.999% pure)	47 litres	140 Kg/cm ²	
4.	Nitrous Oxide	Zero Grade (99.999% pure)	47 litres	50- 70 Kg/cm ²	
5.	Acetylene	Zero Grade (99.95% pure)	41 litres	16 - 20 Kg/cm ²	
6.	Argon	Zero Grade (99.999% pure)	47 litres	140 Kg/cm ²	

CHECK LIST**[Part-A]**

ENVELOP "A"	Earnest Money of requisite amount and tender cost in case of tender document is downloaded from web site.
ENVELOP "B"	<ul style="list-style-type: none"> • Technical compliance details in Annexure "1" • Company Profile. • Leaf let / brochure of the applied item. • Copy of sales tax registration number. • Copy of PAN No. • Undertaking regarding not being blacklisted. • User's List & Performance reports etc. • Manufacturer's authorization certificate, in case the offer is not submitted by Manufacturer. • Commercial Terms & conditions • Information regarding Bank Details for safer & easier bank transaction through RTGS/NEFT.
ENVELOP "C"	<ul style="list-style-type: none"> • Price schedule for Indigenous items in annexure "4" • Price schedule for Imported items in annexure "3" • Price schedule for AMC in annexure "2" • Documents regarding evidences towards reasonability of rate quoted in this bid for the same specification (at least two copies of recent supply orders indicating price schedule).

CHECK LIST

[Part-B]

**RATE CONTRACT FOR LAB. CHEMICALS, GLASSWARES, PLASTIC
WARES, Refilling of Gas Cylinders**

- Information in Annexure -5 (Part-B)
- Copy of Firms VAT / TIN No. [Registration Certificate]
- Copy of PAN Card
- Name, addresses and other contact details of Dealers / stockiest / distributors in annexure-5.
- Current Price list of the manufacturer
- Copies of award of RC from vendors like CPCB / any SPCBs / any Govt. organization /PSU.