

**THE SOUTH INDIA TEXTILE RESEARCH
ASSOCIATION (SITRA)**

13/37, Avinashi Road, Coimbatore - 641 014, Tamil Nadu

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E-mail: purchase@sitra.org.in

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**TENDER DOCUMENT
FOR
PROCUREMENT OF ANALYTICAL EQUIPMENT**

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Note: Interpretation of any term / word / clause lies with SITRA

INTRODUCTION

Background:

The South India Textile Research Association (SITRA) was established in the year 1956. SITRA is registered under Societies Registration Act 1860. SITRA is governed by Council of Administration consisting of members from the textile industry, Representatives from Ministry of Textiles, Government of India, and Representative from Government of Tamil Nadu, Scientists from reputed institutions and Directors of other Co-operative Cotton Textile Research Associations.

SITRA Textile Chemistry division offer to the textile industry wide ranging services in the realms of Textile Testing, Man Power Training, Consultancy and such other. The comprehensive listing of services offered by Textile Chemistry division is available at SITRA's web site (www.sitra.org.in).

In order to meet the challenges of modern technology and also to facilitate technology upgradation, the SITRA Textile Chemistry Division is being strengthened with the addition of equipment as listed for purchase in this present tender schedule.

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II) DETAILS OF TENDER AND TENDER NOTICE

Tender in sealed cover is invited by SITRA from manufacturers or authorized agents for the supply of testing instruments / accessories for the use of SITRA Textile Chemistry Division. Details of the equipment and accessory and their specifications are given in **Annexure I** of this Tender document. Interpretation of the terms & conditions and other related issues in the Tender would lie with SITRA only. The tender document can be downloaded from our website www.sitra.org.in. One Tender document is adequate even if bids are submitted for more than one item. Tender can be submitted for one item alone or any no. of items and a separate sheet should be used for financial bid for each and every item. Tender Document in full, duly signed with seal in every page together with Annexure V, in the Bidder's letter head should be submitted.

Tender documents are available from 13th May 2019 to 2nd June 2019 (up to 4.00 p.m.). LAST DATE FOR SUBMISSION OF DULY FILLED UP SEALED TENDER AT SITRA, COIMBATORE is 7th June 2019 (up to 4.00 p.m.). On 10th June 2019 the technical bids will be opened (at 10.00 a.m.at SITRA), in the presence of those bidders / their authorized representatives who choose to be present. Commercial bid opening will be on 11th June 2019.

SITRA reserves the right to accept or reject any or all the bids either in full or in part at its discretion without assigning any reason thereof.

Address for Communication: The South India Textile Research Association (SITRA), 13/37, Avinashi Road, Coimbatore - 641 014, Tamil Nadu.

III (A) TERMS AND CONDITIONS – GENERAL

1. Tender documents shall be downloaded from our website www.sitra.org.in by manufacturers / authorized agents. **SITRA, Coimbatore will be the tender issuing authority.**
2. Modifications, if any, made in the above documents will be done by addenda / corrigenda, copies of which will be sent in duplicate to each bidder before the due date of the tender. One copy should be signed, sealed and submitted along with the technical bids. Tender to be submitted, is as detailed hereafter. The bidder shall not make any additions / deletions to or amend the text of the documents except in so far as may be necessary to comply with any addenda / corrigenda issued. **The bidders shall use only tender documents as issued for submitting their bid and shall comply with terms and conditions mentioned therein.**
3. All pages of tender document shall be signed, duly affixing the official seal, by the person authorized to file the tender.
4. The full name of the person authorized to file the tender, designation, current and main office address, Phone Number, Fax Number and E-mail address shall be indicated in the tender.
5. Tenders sent through E-mail, Fax and Telex will not be entertained.
6. The tender should be filled in English. All accompanying literature and correspondence shall also be in English.
7. No claim for costs, charges, expenses incurred by the bidder in connection with preparation of tender for submission and for subsequent clarifications of their tender shall be accepted.
8. SITRA will not be responsible for any typographical errors/ ambiguity/ additions/ omissions committed by the bidder while filling up of the tender.
9. Submission of a bid by a tenderer implies that the bidder has read all terms and conditions, and has made himself aware of the scope and specifications of the items to be supplied, availability of materials, local conditions and other factors bearing on the execution of the supply.
10. The bidder shall be deemed to have full knowledge of documents and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

11. Any question regarding the tender document and discrepancies shall be directed to the Tender Issuing Authority, in writing minimum 7 days prior to the due date of submission of tender. The Tender Issuing Authority will issue all clarifications, interpretations, meanings and specific directions, if any, in duplicate in writing, to all the bidders. **One copy of these shall be returned duly signed and seal affixed along with the bids.**
12. It is for reasons mentioned under point numbers: 2 and 11 above that those intending bidders, who have downloaded Tender Documents from our said websites are suggested to remain in touch with Tender Issuing Authority, SITRA, either through writing, or visit our named websites at intervals deemed fit, so that they will not get left out from being informed as and when addenda / corrigenda/ clarifications, interpretations, meanings and specific directions, if any, are issued.
13. The bidder shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender and about the rates quoted by him and cover all his obligations under the tender.
14. Bids submitted by manufacturers and authorized agents only shall be considered.
15. **Earnest Money Deposit (EMD) and Performance Security:**

Tender must be accompanied by **Earnest Money Deposit (EMD) @ 2% of the value of the contract** either in the form of DD or pay order in favour of SITRA, Coimbatore and shall be interest free. If the EMD amount exceeds Rs.10, 000 /- bidders may give Bank guarantee (as per the format provided in **Annexure VII**). The amount of EMD for each item should be mentioned in **Annexure – II**. The DD / pay order can be for the combined amount of EMD payable for individual items, for which the bidder has quoted.

The Performance Security will be for an amount of 5% of the value of the contract. In the case of successful bidders, the EMD amount paid by them at the time of their participation in tender, shall be held back by us towards the Performance Security; in addition, they will be called upon to remit the balance of the cost of the item they are awarded the contract for, within 7 working days from the date of our communication in this regard thus making the total of Performance Security equal the prescribed 5%. This amount will be refunded after successful completion of the contract obligations including installation, trial and training of SITRA Staff. Any delay on the part of successful, bidder in remitting the said additional amount that makes up the Performance Security, beyond the time limit of 7 working days stipulated herein, will result in our deferring the order placement with identified bidder and favouring the next bidder in the pipeline for the item concerned.

Manufacturing units registered with Central Purchase Organization and / or National Small Industries Corporation (NSIC) are exempted from the payment of EMD. In order to avail of this provision, however, a copy of the currently valid registration certificate should accompany the completed tender document and the original of the same should be

produced for our verification purposes.

Performance Security, unlike the EMD, will be required to be paid at the prescribed 5% by **all successful bidders irrespective of their registration status** with Central Purchase Organization and / or National Small Industries Corporation (NSIC); those of the manufacturing units granted EMD exemption on the said grounds, in case happen to emerge as successful bidders, should arrange pay an amount equal to **5% of the value of the contract** towards Performance Security within 7 working days from the date of our communication in this regard. Any delay in ensuring compliance with this requirement will result in our deferring the order placement with identified bidder and favouring the next bidder in the pipeline for the item concerned. The money held towards Performance Security will be refunded after successful completion of the contract obligations including installation, trial and training of SITRA Staff.

The Performance Security, in addition to DD / Pay order modes, will be accepted in the form of Bank guarantee as well; in case any successful bidder is interested to give Bank guarantee towards Performance Security, the tender issuing authority may be approached for obtaining the prescribed format for the same. Bank guarantee in formats other than the one prescribed will not be accepted.

The EMD of unsuccessful bidders will be returned within 30 days from the date of opening of the financial bids.

The EMD shall be forfeited if the tenderer withdraws his offer after the tender opening during the bid validity period. SITRA shall not be liable for payment of any interest on EMD or any depreciation thereof.

Any offer not accompanied with the EMD shall be rejected summarily as non-responsive.

16. **Authority of signing:**

If the tender is submitted by an individual, it shall be signed by him.

If the tender is submitted by a proprietary firm, it shall be signed by the proprietor.

If the tender is submitted by a partnership firm, it shall be signed by all the partners of the firm or by a partner holding the power of attorney for the firm for signing of the tender, in which case, a certified copy of power of attorney shall accompany the technical bid.

If the tender is submitted by a limited company or a corporation, it shall be signed by a duly authorized person or the person holding the power of attorney for signing of the tender, in which case a certified copy of the power of attorney shall accompany the technical bid.

17. **Price & Currency bid:**

The tender shall be filled up in English with a neat hand / type and all the figures and words shall be legible.

The rates shall be written both in words and in figures. The bidder shall also show the amount of each item, the total of each section and the grand total of the whole tender.

Correction(s), if any, shall be made by crossing out, initialling with date and rewriting.

In case of conflict between the figures and words in the rates, the latter shall prevail.

The tenders shall be verified by the bidder for accuracy in the arithmetical calculations, prior to submission.

18.1 Technical details shall contain (Cover “A”):

- a) Original Tender document **duly signed** by the authorized person on ***all pages***.
- b) **Earnest Money Deposit (EMD)** in the form of a DD/Bank guarantee/NEFT for an amount of 2% on the total value of commercial bid given by the vendor.
- c) **Compliance to technical specifications** of the equipment / item for which bids are submitted – Authorized person to specify “all the above technical specifications will be complied with” and sign in respective pages of the Tender document, where machinery / equipment / instrument items for which bids are submitted are given.
- d) **Compliance to the terms and conditions** of the tender document – Authorized person to specify, “all the above terms and conditions will be complied with” and sign in respective pages of the tender document, where “terms and conditions” are given.
- e) Adherence to the stipulated **delivery schedule** of the equipment / item – Authorized person to specify “delivery schedule given above will be complied with” and sign in respective pages of the tender document, where “Delivery Schedule” is given as in **Annexure III and Annexure IV**.
- f) **Proof that the bidder** is (i) either manufacturer or (ii) an authorized agent for the equipment / item for which the bid is submitted.
- g) List of organizations in India and abroad, along with Name of contact person, address, Tel. No., Fax No. etc., to which similar make / model of the machinery / equipment / instrument were supplied in the past.

- h) Compliance that the bidder has manufactured or supplied the particular equipment / instrument mentioned during the past 3 years and **performance report from at least 2 such users** for the past 2 years.
- i) List of clients with details for contact.
- j) Covering letter, in the letter head of the bidder, stating:
1. That the minimum **Warranty period will be one year.**
 2. That the bid **conforms to the terms and conditions** of the tender.
 3. Confirmation about the supply of **Certified Reference Materials / Samples** for checking the performance of the machinery /testing instruments, wherever applicable.
 4. Confirmation that the quoted rates are valid for 180 days.
 5. The details regarding the service centres, stocking of spares etc.,
- (k) Addenda / corrigenda / clarification issued by SITRA before due date of tender, duly signed by the authorized person.
- (l) Descriptive leaflet / brochure giving the technical details of the machinery / equipments / instruments/accessories.
- (m) A letter indicating assumptions, criterion, technical alternative etc., if any. However, the alternatives suggested by the bidder would not be taken as the basis for technical / commercial evaluation of the bids.
- (n) The probable life expectancy of the machine / instrument / accessory under normal conditions of operation should be stated wherever applicable.
- (o) Details of pre-installation requisites including space, electric power, compressed air supply, water / gas supply and any other, size of the table required in the case of test instruments etc.
- (p) Power of attorney authorizing the person who has filed the tender, if applicable.
- (q) A copy of the certificate for the calibration of the particular model of equipment / instrument for which bid is submitted from an accredited calibration laboratory or National Physical Laboratory or by the manufacturer, wherever applicable.

18.2 Commercial details shall contain (Cover “B”):

- a) Total cost of the main equipment / instrument and accessories (imported / indigenous), required for the functioning of the equipment, including the control system, printer, packing & forwarding, taxes etc., duly filled and signed **in the format prescribed in the tender document at Annexure – III**. No money other than the total indicated above will be payable on any account.
- b) Additional warranty of 24 months, after the expiry of the warranty period for the faultless functioning of equipment, in the format prescribed in the tender document **at Annexure – III**.

19 Validity of the tender:

Rates quoted by the bidder shall be valid for 180 days, or to an extended date as agreed upon mutually.

The Bidder shall not withdraw or revise or alter any condition(s), rate(s) quoted within this stated period, unless he is called upon to do so on mutual agreement / negotiations.

20 Opening of tender:

The Tender shall be opened by a Purchase Committee constituted by the Competent Authority, SITRA, Coimbatore, at the time, date and venue as given under item S.No. II – “Details of Tender and Tender Notice” (Page No. 4 of this Tender Document).

21 Agreement:

The successful bidder shall sign an Undertaking on Judicial paper worth Rs.100/= in the format prescribed in **Annexure VI** before releasing of the Purchase order by SITRA. A copy of the Purchase order so received should be signed and returned as a token of acceptance of the terms and conditions of the Purchase Order.

22 Criterion for rejection:

SITRA reserves the right to accept or reject any tender or reject all tenders without giving any reason whatsoever for their decision.

Tenders liable to be rejected are those in which any of the prescribed particulars / information is either missing or incomplete in any respect and / or if the prescribed conditions are not fulfilled.

Tenders which are found to be technically non-responsive shall be rejected and their commercial details shall not be considered.

Canvassing in connection with tender is strictly prohibited and tender submitted by bidder who resorts to canvassing will be liable to rejection.

Tenders containing specific conditions of the bidder, other than the terms and conditions given in the tender document, and not acceptable to SITRA, are liable to be rejected.

If the validity of the tender is not for 180 days, the tender will be rejected.

If the tender document is not duly signed by the authorized person on all () pages, the same will be rejected.

SITRA caters to a wide range of customers / stake holders including manufacturers / exporters. Hence, Purchase Committee, may at its discretion, give preference to more popular brands of machines and instruments / accessories, which are generally believed to out-perform and output results that are widely accepted internationally and the decision of the Committee on this score will be final.

Before submission of the tender, the prospective bidders are expected to examine technical specifications of the equipments required, terms and conditions, etc., given in this tender document. Failure to furnish all information required in the tender document may result in the rejection of the bid.

SITRA reserves the right to cancel items, from the stated list of requirement of machinery, equipments and instruments, without assigning any reason thereof.

23. It should clearly be noted that all contracts resulting out of entering into a formal agreement / issue of a purchase order for procurement of the particular equipment / instrument will be interpreted under Indian Laws and for all disputes the jurisdiction will be Coimbatore only.

All the above terms and conditions will be complied with

III (B) TERMS AND CONDITIONS – SPECIAL

1. Cost details are to be filled up in the prescribed format as given at Annexure – III for the machinery, equipments and instruments as applicable, imported / indigenous as the case may be, indicating therein total charges.
2. All accessories, start up kit required for installation & commissioning the main equipments are to be specified and quoted.
3. The terms of payment shall be as follows:
 - a) 20% of the total price of the machinery / equipment will be paid as advance on receipt of acceptance of purchase order.
 - b) 70% of the ex-works price of the machinery / equipment will be paid against invoice and delivery of the equipment in good condition at SITRA Textile Chemistry Division.
 - c) 10% remaining amount plus packing, freight and insurance charges will be paid after successful commissioning of the machinery / equipment, demonstration of satisfactory performance and imparting training to the technical personnel of SITRA Textile Chemistry Division.
4. The bidder should take responsibility for delivering the machinery/ equipments inside the premises of respective SITRA Textile Chemistry Division.
5. The suppliers of machinery / equipment should provide adequate training for at least 5 to 6 technical personnel of SITRA Textile Chemistry Division, in equipment, including trouble shooting etc. and make them confident of operating the same independently.
6. The bidder shall adhere to the delivery period of the equipment / item as committed by him in Annexure III or the one indicated in Annexure IV of the tender document, whichever is earlier. **Penalty** for non-execution of the order within the delivery period shall be **0.5%** of the total cost of the equipment / item for every week of delay.

Should the delay become unavoidable due to some unforeseen reason, this fact together with proper justification for the same should be communicated to the Chairman of Purchase Committee - The Director, SITRA and his written permission should be obtained to avoid penalty. The decision of the said Chairman on matters relating to grant of extension of time will be final and binding on the bidder.
7. During the warranty period, regular servicing / maintenance should be undertaken free of charge, including the replacement of defective parts / travel cost, etc. Subsequently, servicing / maintenance should be undertaken by the authorized agency of the manufacturer / supplier as per the warranty contract conditions.

8. Operation manuals, calibration procedures and other instruction documents should be provided along with each of the equipment.
9. Terms for service contract (comprehensive or non-comprehensive) after the expiry of warranty period are to be clearly stated.
10. The Control Systems like computer and printer, compatible to the main machine / instrument, are to be supplied from indigenous sources with latest configuration and licensed operating system.
11. If the bidder is not himself a manufacturer but, is participating in the tender as the agent of the manufacturer, authorization letter of the manufacturer to the bidder for marketing and servicing the equipments in India should be enclosed along with the technical bid of the tenderer. In the absence of such authorization, the tender will not be considered at all.
12. In case of short supply or wrong supply of machinery / instrument, its parts or accessories or supply of items in damaged condition, it is the responsibility of the bidder to arrange for the supply of the required items in good working condition as per the purchase order, within a reasonable time. Any additional expenditure, whatsoever, for the above will be borne by the bidder only.
13. The specifications given in this document are the minimum requirement. The bidders are free to offer machinery /equipments / instruments with better features also. However, evaluation shall be based on the features mentioned in the tender document only. If different models are quoted, the cost details may be given in separate sheet.
14. An order for the supply of items, once placed with successful bidder, is non- transferable and no sub-contracting is permitted. SITRA reserves the right to cancel the order in such an event.
15. Any non-fulfilment of the stipulations given above will make the bid invalid.
16. The bids shall first be evaluated for their “technical responsiveness” which shall inter-alia include,
 - (i) Enclosure of all pages of the Tender Document, duly signed along with official seal together with Annexure V in the bidders’ letter head, duly signed with official seal.
 - (ii) Proof that the bidder is (i) either manufacturer or (ii) an authorized agent for the machinery/ equipment / item for which the bid is submitted,
 - (iii) Enclosure of EMD and **Tender Document fee of Rs.2360/- (inclusive of GST)**, the later being applicable in those cases, where tender document was downloaded from our websites.
 - (iv) Adherence to the warranty period.

- (v) Documents in support of compliance to the calibration of the equipment / instrument and its traceability to national / international standards of measurement and proven performance through proficiency testing, wherever such requirement is specified,
- (vi) Necessary documentary proof that the bidder has manufactured or supplied the machinery / equipment during the past 3 years along with the list of such customers and performance report of the machinery / equipment from atleast 2 of such customers / users for the past 2 years.
- (vii) Details regarding the service centres, stocking of spares etc.
- (viii) Confirmation about the supply of Certified Reference Materials / Samples for checking the performance of the testing instruments, wherever applicable.
- (ix) Compliance to all other relevant and critical terms and conditions of the tender.
- (x) Compliance to Technical specifications of the equipment for which the bid is submitted.
- (xi) Validity of the tender for 180 days.

If any of the above mentioned parameters are not fulfilled, the bid will be considered as technically non-responsive.

17. The commercial details of those bidders who are technically responsive only shall be evaluated based on the following criteria:

- (i) Total price of the items including delivery charges up to SITRA Textile Chemistry Division.
- (ii) Additional warranty charges for two years after the expiry of the warranty period.

Annexure I

IV) LIST OF MACHINERY / EQUIPMENTS / INSTRUMENTS

S. No	Description of Machinery / Equipment / Instrument	Place of Installation
1	GC – MS Triple quad	Textile Chemistry Division- SITRA Coimbatore
2	ECD	
3	Dual injector system	
4	EI	
5	NIST Library +Residue and contaminant database	
6	Latest Software (Free)	
7	Warranty (1 Year Free + 2 Years Additional)	
8	Columns (1 set with instruments and 1 additional set - Based on applications which we shared – please compare with page no. 19 point no. 9)	
9	Vial tray for GC-MS-MS (Minimum -100 Vials)	
10	Gas Filters (Carrier Gas Filter)	
11	Training on site and Vendor site (5 to 6 days of training at Site and 4 to 5 days at Vendor site for 5 persons including travel, boarding and lodging)	
12	IQ and OQ	
13	Calibration / performance check of instrument once in 3 months for the first 3 years	
14	Consumables for 5 years (Filament - 4 Nos, Auto sampler Syringe-2 no, Ferrule, septa, vial, liner, nuts, micro pipettes)	
15	<p>Additional Requirements:</p> <p>A) Back flushing, source cleaning technology, Vent free source cleaning.</p> <p>B) Head Space with minimum vial configuration required for our range of testing (for VOC – up to 10 ppb level)</p> <p>C) HPLC</p> <p>a. Auto sampler</p> <p>b. Quaternary Pump with degasser</p> <p>c. Column Oven</p> <p>d. Detectors (DAD, FLD and RI)</p> <p>e. Warranty and consumables for 3 years.</p>	

Detailed Specifications given below:

Gas Chromatography with triple quad requirements:

1. Gas Chromatography with triple quad

System should be capable of supporting analysis of Hazardous chemicals & Pesticide residues in Textile, Water, Food and Accessory products should have inlet equipped with Automatic pneumatic controls for all the gases and should have Chromatography Data system which is based on Microsoft Windows operating system for instrument control, data acquisition, chromatographic deconvolution and library (qualitative and quantitative data) using generated data.

2. Inlet (one PTV + one SSL)

- Should have temperature programmable vaporizer and capillary split/split less injector.
- GC should have temperature programmable vaporizer inlet and programmable up to 8 ramps and have heating rate 800 °C/min or better
- PTV inlet configured with liquid N₂ & Air should have maximum temperature of $\geq 350^{\circ}\text{C}$ and support sub-ambient temperature setting up to -30° C or equivalent technology
- PTV should accommodate liner volume capacity up to 900uL for standard S/SL.
- Inlets should have advanced electronic flow control modules with Pressure set points adjustable in increments of 0.001 psi and pressure range up to 100 psi.
- Inlets Split ratio up to 6000:1 and suitable for all capillary column from 50 μm to 530 μm or better
- Inlet should be capable of doing large volume injection up to 100 micro litres. The inlet should also perform programmable Split & Split less injection both in hot and cold modes.

3. Column Oven:

- Column oven should have provision to install two or more columns
- Operating temp range of column oven from near ambient to 450 °C

- Column oven temperature ramp rate of oven should be 120 °C or better
- Column oven should have possible to program 15 temp ramps (16 plateaus) or better.
- **Column Back flush system:** The system should have post-column back flush or mid column back flush capabilities using Advanced flow technology to eliminate long bake-out times for highly retained or high-boiling contaminants or better
- GC-MS/MS should house two columns to be connected with ease to MS without breaking the vacuum.
- Software complaints with GLP standard or 21 CFR

4. Auto Sampler:

- The GC-MS/MS should be supplied with the auto sample holding at least 100 vial capable of injecting with standard & sandwich type of injection.

5. Mass Spectrometer:

- EI Source temperature up to 350°C preferable, especially when analyzing dirty samples.
- Mass range (m/z) up to 1,000 amu or better
- Mass axis stability should be 0.10 amu/24 hours or better
- Scan rate (electronic) of 20000 u/s or better
- Mass resolution must have unit mass adjustment by tune, 0.7 to 2.5 daltons
- Collision cell should be carried out ion fragmentation and filtration using advance technologies.
- Mention collision gas used with appropriate reason
- Minimum MRM Dwell Time must be at least 0.5 msec
- MRM speed (transitions/sec) 800 or more enabling automatically quantifying and confirming more targets in a single method run
- Collision Energy must be selectable up to 60 eV or better
- The system should have independently heated GC/MS interface
- Dynamic range (electronic) 10 e⁶ or better
- **Ion source cleaning:** Auto or vent free or equivalent advance technology has to be quoted optionally
- EIMRMS/N :14,000 or better
- EIMRMIDL: 4 fg or lower (mention the mass ratio and Column)

- Turbo molecular vacuum pump for creating high vacuum (≥ 300 L/s) and Rotary-vane foreline pump supporting the turbo molecular pump which ensures the vacuum should be restored in minutes or better.
- Suitable Carrier Gas Filter should be provided

6. Software: (Free)

- Provide Suitable PC with preloaded software tools and original OS in the quote.
- Suitable data acquisition software to acquire the data that has optimization tools like determination of precursor and productions from Scan/SIM data and Optimization of collision energy (CE).
- Qualitative data analysis software tool or equivalent with built-in features like chromatographic deconvolution, spectral/compound identification with locked retention time library should be available
- Quantitative data analysis software tool or equivalent with quick method setup, batch analysis of samples, calibration, QC etc. and pdf reporting formats.

7. NIST Library (free) + Residue and Contaminants Database

- Latest version of NIST library with license.
- Pesticide and environment pollutant MRM database consisting MRM list more than 1000 compounds belong to wide range of compound groups on average of 6 MRMs for compounds provided with chromatographic conditions with retention times to build acquisition methods in quick time.
- MRM information for Phthalates, Organotin, Pesticides, Amines, PCB, PAH, Aromatic/Halogenated Solvents, Flame retardants, Chlorinated Benzene, PFCs and Glyoxal for Textile application should be provided for quick method setup.
- IQ and OQ has to be done by the vendor

8. Warranty (1 Year Free + 2 Years Additional)

- Standard Warranty of 36 months starting from date of satisfactory installation and faultless functioning of the equipment.

9. Columns:

- Columns suitable for Phthalates, Organotin, Pesticides, Amines, PCBs, PAHs, Aromatic/Halogenated Solvents, Flame retardants, Chlorinated Benzene, PFCs, VOCs and Glyoxal for Textile and water application should be provided – 2 sets (Default 1 set & additional 1 set)

10. Training:

- Training on site and Vendor site (5 to 6 days of training at Site and 4 to 5 days at Vendor site for 5 persons including travel, boarding and lodging – cost to be borne by the vendor).

11. Consumables:

- Filament, Auto sampler Syringe, vacuum pump oil, Ferrule for the above mentioned columns, septa, vial with septa, liner, nuts,. (Has to be provided for five years or 5000 samples.),
- Micro pipettes– 4 Nos. (1 no. of 1-10 µl, 10-100 µl, 100-1000 µl & 0.5-5 mL each)

12. ECD:

- Maximum operating temperature should be 400°C or better.
- Minimum Detectable limit < 4.4fg/mL for Lindane or any equivalent compound or lower
- Linear dynamic range >10⁴
- Data rate up to 50 Hz and Detect or gas flow control through Automatic Pneumatic control
- ECD should have cell design that enhance sensitivity and minimizes contamination

Additional Requirements:

1. HPLC: High Performance Liquid Chromatography.

a. Auto sampler:

- Auto sampler with minimum 100 vial positions.
- Sample injection volume should be variable between 0.1 µL to 900 µL in 0.1 µL increments or better

- Precision - < 0.25% RSD of peak areas from 5 – 100 μL or better
- The carry over must be below 0.004% or better

b. Quaternary Solvent Delivery System:

- Maximum Pressure setting range should be 400 bar or more
- The flow range should be 0.2 to 10 ml/min, or better
- Flow rate accuracy should be 1% or $\pm 10 \mu\text{L}/\text{min}$ or better
- Flow rate precision should be less than $\pm 0.07\%$ RSD or better
- The composition precision should be below 0.2% RSD
- Reservoir tray with four solvent bottles complete with fittings
- It must have a leak sensor as safety feature, built in seal wash facility

c. Degassing Unit:

- On line degassing unit should have four channels
- Maximum operating flow rate should be up to 10mL/min per channel

d. Column Compartment:

- Temperature range should be 5 to 85 $^{\circ}\text{C}$
- Temperature stability should be $\pm 0.10 \text{ }^{\circ}\text{C}$ or better
- Temperature accuracy should be $\pm 0.5 \text{ }^{\circ}\text{C}$
- Should be able to keep 2 columns upto 25 cm of 4.6mm ID or Better

e. DAD:

Photodiodes: > 512 diodes or better up to 1024 diodes

- The Slit width should be Programmable: > 2 nm or better
- Light source: Deuterium and Tungsten or better.
- Wavelength range must be from 190nm to 800nm or better.
- Should have flow cell- >12 μL volume or better
- Wavelength accuracy must be $\pm 1 \text{ nm}$ maximum.
- Drift should be less than 0.5 mAU/hr or better

f. FLD:

- Light Source- Xenon Lamp or Better.(Max or Min lifetime has to be mentioned)

- Optical System- Holographic grating mono chromators for both Excitation and Emission.
- Excitation and Emission range-200 to 650 nm or more.
- Bandwidth- 20nm.
- Wavelength accuracy- ± 2.0 nm.
- RAMAN (S/N) -1200 (noise reference measured at signal) or better.
- Standard flow cell Volume $> 8\mu$ L or more.
- Programmable single wavelength detection (excitation and emission)

g. Software, Computer & warranty:

- Suitable software (3D UV software should be provided) with Computer (original OS) should be provided
- Software compliant with GLP standard or 21 CFR, capable of controlling complete HPLC through PC with data acquisition, data control, chromatogram, Data analysis or better
- Complete support for equipment for at least a period of 24 months Warranty. Vendor to provide operator training on the system start-up, usage, maintenance, Quality control, trouble shooting for 5 to 6 staff of SITRA at both on-site and vendor site.

2. Head Space Sampler:

- Headspace sampler with minimum vial capacity (at least 10) to be provided with compatibility with vials of 10 mL and 20 mL sizes of Screw or crimp top closure and Flat or rounded bottom style.
- All temperature zones (oven, valve and loop, transfer line) have set point increments in 1 °C with 0.1 °C resolution for actual temperatures and can be set to temperature up to 300 °C or better.
- Vial shaker with frequency and acceleration adjustable parameter
- Vial pressurization and Loop Fill is fully controlled by the included onboard EPC module with Flow set points may be adjusted by increments of 0.01 mL/min or better.
- Fully automated purging of sample and vent paths between each analysis
- The transfer line accommodates the either Fused Silica Capillary or metal tubing or equivalent

- Headspace Sampler Should be compatible with using Helium, Nitrogen or Hydrogen as carrier gas.

3. Purge and Trap System:

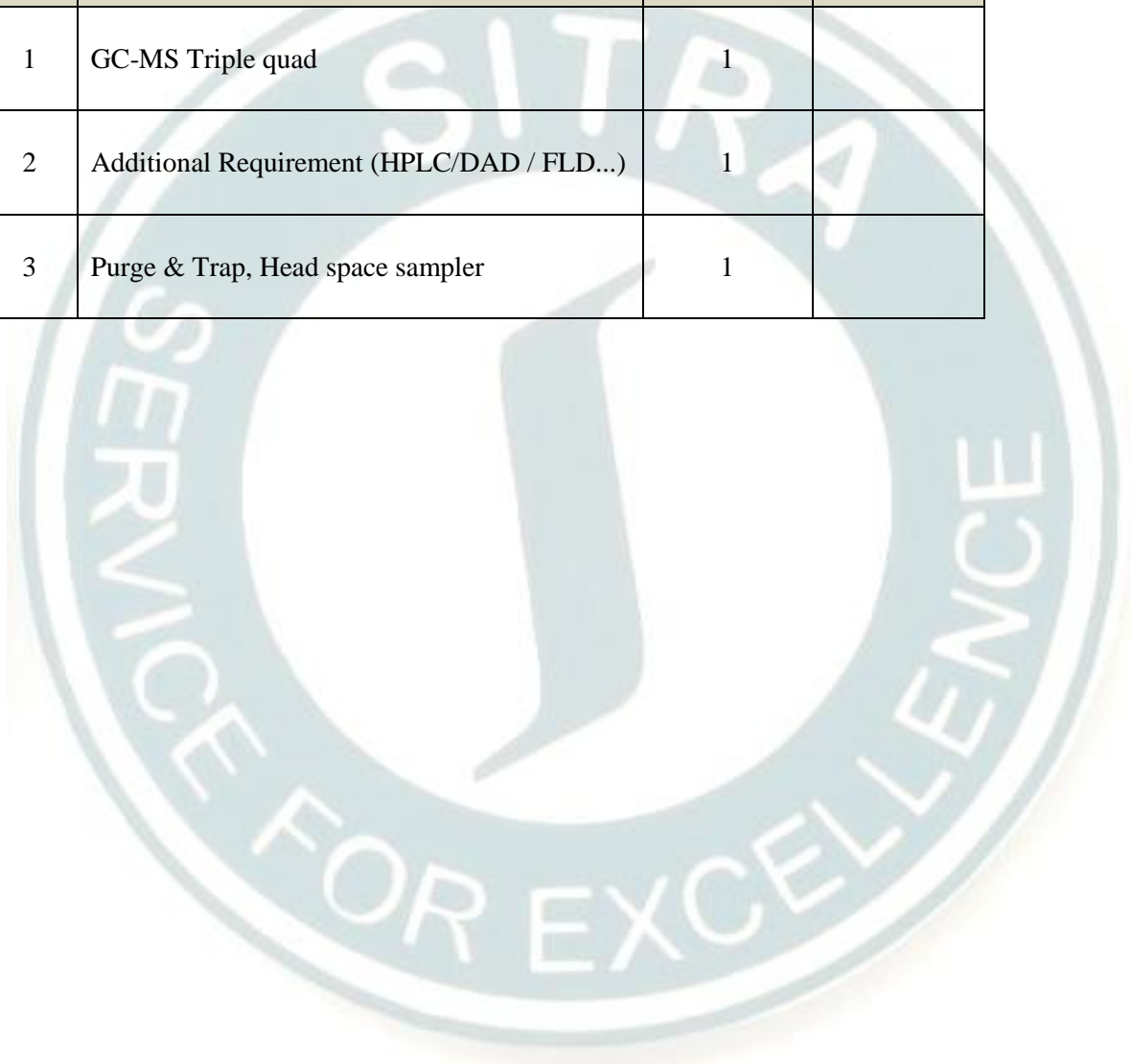
- The purge and trap equipment consist of three separate pieces of apparatus: the purging device, trap, and desorber. Construction details for a purging device and an easily automated trap-desorber hybrid which has proven to be exceptionally efficient and reproducible.
- The Purge and Trap unit should be compatible with GC-MS/MS provided.
- The Purge and Trap unit should have automated leak checking
- Purging device should be all glass 5 mL or better purging device
- The glass frit installed at the base of the sample chamber allows finely divided gas bubbles to pass
- Purging device should be heatable upto 90 °C.
- 25 mL frit sparger should be quoted
- The trap should be constructed with a low thermal mass so that it can be heated ambient to 350°C per minute for efficient desorption, then rapidly cooled to room temperature for recycling in less than 90 seconds or equivalent.
- Traps should contain sorbents are acceptable for this analysis
- Electronic Mass Flow Controller allows for use with either Helium or Nitrogen and can control flow rates from 5mL to 500mL/min with each mode is independently controlled
- Sample Pathway should be inert coated tubing and fittings. Transfer line heated up to 250°C.

Notes:

1. Complete warranty for 3 years from the date of Installation.
2. Complaints have to be addressed in 24-48 hours and further delay vendor has to bear the demurrage charges of Rs 10, 000 per day.
3. Further supply of consumables have to be given in discounted price in future.
4. Equipment should be upgradable with features like detectors, headspace, injectors, etc.,
5. Upgradation of Instrument software, NIST Library and database has to be done by the vendor.

Details of EMD for each of the equipment

S. No	Description of Machinery / Equipment / Instrument	Quantity	EMD (Rs)
1	GC-MS Triple quad	1	
2	Additional Requirement (HPLC/DAD / FLD...)	1	
3	Purge & Trap, Head space sampler	1	



FORMAT FOR COST DETAILS

(Cost particulars should be given in this format machinery-wise / instrument-wise/
accessories-wise separately)

Note: All the cost particulars should be furnished in Indian Rupees only. If more than one machinery / instrument is quoted, use separate sheets.

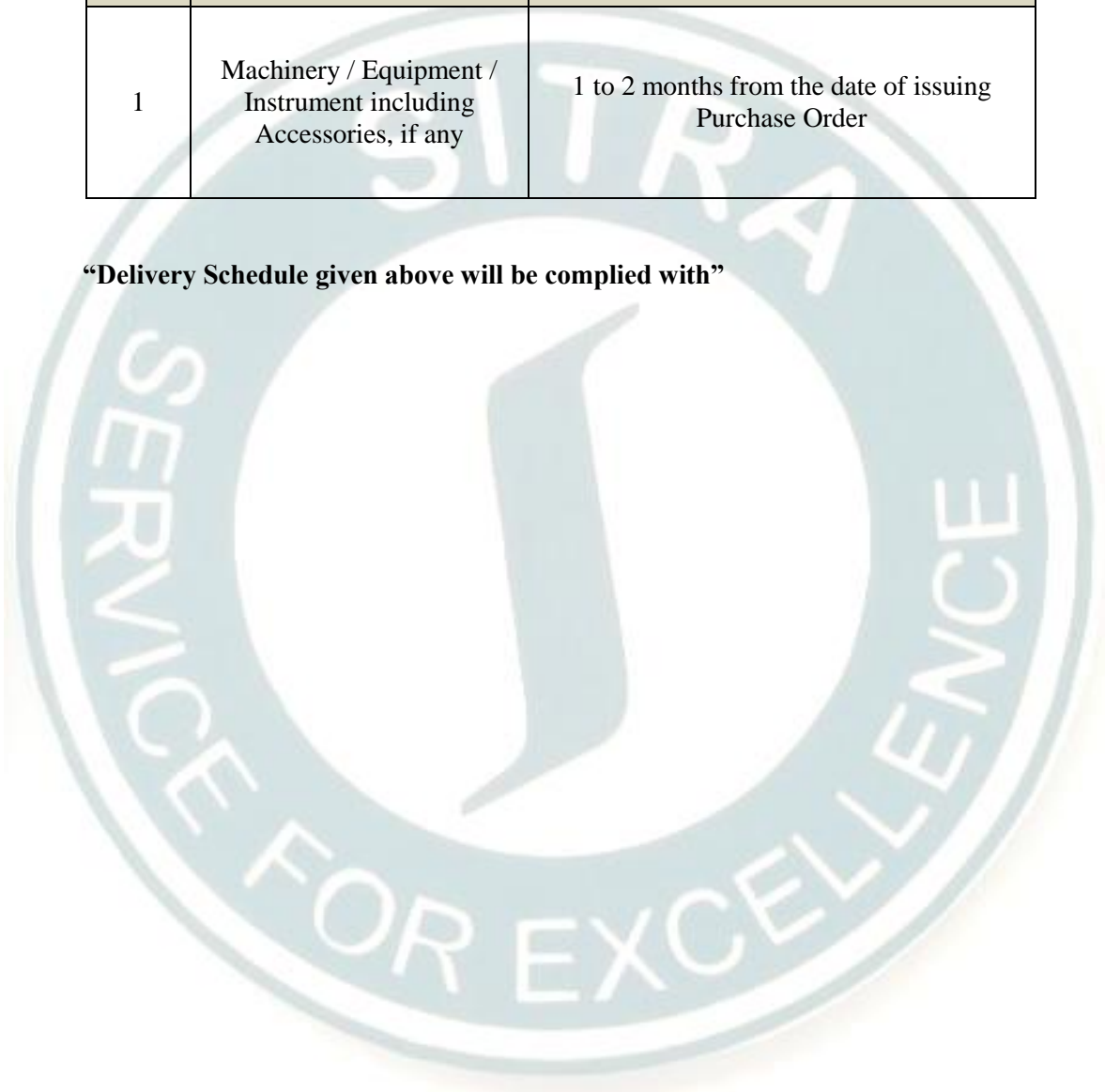
Cost details of machinery / equipments / instruments:

Name of the Machinery /Instrument:		
S.No.	Cost Details	Cost in Rs.
i)	Total cost of GC-MS/MS (Triple Quad with all accessories as per the detailed specifications given in Annexure I.) inclusive of all demands – like, taxes & duties, inspection, packing, forwarding & handling charges, insurance charges, freight charges and all other. (Detailed break-up to be given separately).	
	ECD suitable for the above instrument with necessary accessories and as per the detailed specifications given in Annexure I.	
ii)	Total cost of HPLC – DAD / FLD (inclusive of Auto sampler and other accessories as per the detailed specifications given above) inclusive of all demands – like, taxes & duties, inspection, packing, forwarding & handling charges, insurance charges, freight charges and all other. (Detailed break-up to be given separately).	
iii)	Cost of other additional requirements such as Purge and Trap, Head space sampler and other items as specified in Annexure I (Please quote separately for individual items)	
iv)	<u>Warranty</u> Standard warranty of 3 years including the 1 year free warranty covering the service and spares.	1 st Year :Free 2 nd Year : 3 rd Year :
	EMD as per Annexure II	
	Delivery schedule of the machinery / equipment	_____ weeks

DELIVERY SCHEDULE OF MACHINERY / EQUIPMENT

S. No.	Machinery / Equipment	Delivery Schedule - maximum time limit
1	Machinery / Equipment / Instrument including Accessories, if any	1 to 2 months from the date of issuing Purchase Order

“Delivery Schedule given above will be complied with”



**FORMAT TO BE FILLED UP AND SUBMITTED
IN THE LETTER HEAD OF THE BIDDER**

To,

**The Director
The South India Textile Research Association (SITRA)
13/37, Avinashi Road
Coimbatore – 641 014**

Dear Sir,

**Sub: Supply of Machinery/ Equipments /Instruments and / or accessories for
SITRA Textile Chemistry Division as per the specifications mentioned in the Tender -Reg.**

Ref: Your Tender No. SITRA/CHEM/GCMS/001/2019 dt.13.05.2019

Item No: Name of the Items Quoted

- a) Having examined the conditions of Tender and Specifications of the machinery, instruments and / or accessory, we, the undersigned, offer to supply machinery / instruments and equipments as mentioned in **Annexure I** as per the specifications given in the tender along with standard spares / accessories as specified.
- b) Earnest Money Deposit (EMD) as given in Point No.15- under III (A) – Terms and Conditions - General in the form of Bank Demand Draft / Pay Order in favour of SITRA, payable at Coimbatore as detailed in Tender Conditions is enclosed.(For the items for which the cost of EMD is less than Rs.10,000/-).
- c) **The original tender document duly signed on all pages is enclosed.**
- d) We agree to abide by the conditions mentioned in this tender during the entire period when it remains active.
- e) If our tender is accepted, we undertake to supply the machinery / instruments and equipments and install the same at the respective SITRA Textile Chemistry Division within the specified periods mentioned by us in **Annexure III**.
- f) We agree to supply consumable spare parts and replacement of the broken/damaged/non-compatible parts during the guarantee / warranty period, free of charge, as per the terms and conditions.
- g) The probable life expectancy of the machine/instrument/accessory under normal conditions of operation will be _____ Years.

- (r) We agree to train the personnel of SITRA Textile Chemistry Division, free of charge, as per the terms and conditions.
- (s) If our tender is accepted we will obtain and arrange:
1. To sign an Undertaking on Judicial Paper worth Rs.100/- in the format prescribed in Annexure VI before releasing of the Purchase order by SITRA.
 2. Payment of Performance Security as per the norms specified in the tender
- j) We agree for the validity of our tender for 180 days.
- k) We understand that unless and until a formal Agreement / order is prepared and issued by SITRA, this tender together with our written acceptance thereof, shall constitute a binding contract between us and SITRA.
- l) We declare that only tender documents, as issued for submitting this bid have been made use of by us and agree to comply with terms and conditions contained therein.
- m) We understand that you are not bound to accept the lowest or any other tender you may receive
- n) We agree to make a presentation of the products to be supplied by us, before the Purchase Committee, if necessary, on a mutually convenient date.

Authorized Signatory to Tenderer

Signature dated

Designation / Capacity

Name

Tender Reference No.:

Dated:

UNDERTAKING / DECLARATION

(To be submitted by the successful bidder on Rs.100/- Stamp Paper)

To

**The Director
The South India Textile Research Association (SITRA)
13/37, Avinashi Road
Coimbatore – 641 014**

Dear Sir,

- i. We, _____ (Bidder's Name & Address) undertake to supply the item (s) _____ (Name(s) of machinery/instruments) as per the detailed specification of Tender and honour the terms and conditions of the tender document.
- ii. We undertake to supply the machinery/equipment within the stipulated period of time and accept the penalty clause imposed by SITRA as per the terms and conditions of the Tender.
- iii. We undertake that during the warranty period, regular servicing / maintenance will be carried out as per the Warranty Clause.
- iv. We undertake to provide adequate training (operational routines, trouble shooting, application training) to 5 to 6 technical personnel of SITRATextile Chemistry Division on the supplied machinery / equipment and make them confident of operating the machinery / equipment independently at both on-site and vendor site.
- v. We agree that the final settlement will be made to us only after completion of satisfactory installation, trial and training on the said machine / instrument.

Dated at _____ this _____ day of _____ 2019

Authorized Signatory

Signature:

Name:

Designation:

Name & Address of the Company:

Seal of the Company:

**PROFORMA FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT
(TO BE OBTAINED FROM A NATIONALISED BANK IN INDIA)**

Ref: _____ Date: _____ Bank Guarantee No: _____

In accordance with invitation to Tender Notice No. **SITRA/CHEM/GCMS/001/2019 Dated 13.05.2019** for procurement of machinery, equipments and accessories for The South India Textile Research Association, Post Box No.3205, 13/37, Avinashi Road, Aerodrome Post, Coimbatore - 641 014. (herein after referred to as SITRA), M/s. BIDDER'S Name & Address (herein after referred to as BIDDER) wish/wishes to participate in the said tender and a Bank Guarantee for the sum of Rs. _____ (Rupees _____) valid up to **10.07.2019** is required to be submitted by the Bidder towards the Earnest Money Deposit for -----
----- (Instrument Name)

1. We the (Banker's Name _____) (Indicate the Name of the Bank) (Hereinafter referred to as 'the Bank') at the request of the BIDDER do hereby unequivocally and unconditionally guarantee and undertake to pay during the above said period, on written request by SITRA an amount not exceeding Rs. _____ to the SITRA, without any reservation. The guarantee would remain valid up to **10.07.2019** and if any further extension to this is required, the same will be extended on receiving instruction from the BIDDER on whose behalf this guarantee has been issued.

2. We the bank do hereby further undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the SITRA stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the SITRA by reason of any breach by the said BIDDER of any of the terms or conditions or failure to perform the said bid. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (in words).

3. We, the bank undertake to pay the SITRA any money so demanded not withstanding any dispute or disputes so raised by the supplier(s) in any suit or proceeding instituted/pending before any court or Tribunal relating thereto, our liability under this agreement being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the supplier(s) shall have no claim against us for making such payment.

4. We the bank or our local branch at Coimbatore further agree that the guarantee herein contain shall remain in full force and effect during the aforesaid period i.e. _____ and it shall continue to be so enforceable till all the dues of the SITRA under by virtue of the said Bid have been fully paid and its claims satisfied or discharged or till SITRA certifies that the terms and conditions of the said bid have been fully and properly carried out by the said BIDDER and accordingly discharges in guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before the _____ we shall be discharged from all liability under this guarantee thereafter.

5. We, the bank or our local branch at Coimbatore further agree that the SITRA shall have the fullest liberty without our consent and without affecting in any manner our obligations here under to vary any of the terms and conditions of the said bid or to extend time of performance by the said BIDDER from time to time or to postpone for any time or from time to time any of the powers exercisable by the SITRA against the said BIDDER and to forbear or enforce any of the terms and conditions relating to the said bid and we shall not be relieved from our liability by reason of any such variation, postponement or extension being granted to the said BIDDER or for any forbearance act or omission on the part of the SITRA or any indulgence by the SITRA to the said BIDDER or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the name, style and constitution of the Bank or the BIDDER.

7. We, the bank or our local branch at Coimbatore lastly undertake not revoke this guarantee during its currency except with the previous consent of the SITRA in writing.

8. We, the bank further agree that this guarantee shall also be inviolable at our place of business at _____ in the state of _____ dated _____ day of 2019.

9. Notwithstanding anything contained herein above

I. Our liability under this Bank guarantee shall not exceed Rs. _____/- (Rupees _____ only)

II. This Bank guarantee shall be valid up to **10.07.2019**

III. We are liable to pay the guaranteed amount or any part thereof under this Bank guarantee only and only if you serve upon us a written claim or demand.

IV. Witness (signature, name & address) for _____ (Indicate the name of bank)

1. Power of Attorney No. _____

2. Date _____

SEAL OF BANK



(V) CHECK LIST TO THE BIDDERS

Cover “A” Technical Bid

S. No	Description	Enclosed Yes/No
1	Tender Document duly signed in all pages	
2	Tender Document fees (copy of the receipt or DD)	
3	Earnest Money Deposit (EMD)	
4	Proof regarding manufacturer / authorized agent	
5	Covering letter duly signed (specimen at annexure V)	
6	Performance Certificate from users	
7	List of customers along with full details	
8	Descriptive leaflet or Brochures	

Cover “B” Commercial Bid

S. No	Description	Enclosed Yes/No
1	Covering letter along with Financial Bid (Separate sheet for each and every item/model)	

- The Technical and commercial details are to be submitted separately super-scribing “Cover ‘A’ - Technical details for _____ equipment (Item Nos.) and Cover ‘B’ – Commercial details for _____ equipment (Item Nos.).
- **Both the covers are to be put together in one envelope and sealed properly, super-scribing the name of the Equipment, Tender Reference no, last date for submission.**

Note: If the bidder fails to furnish all the relevant documents / information as mentioned in the Tender Document, the Tender will be rejected.