

**NOTICE INVITING TENDER ENQUIRY FOR SUPPLY &
INSTALLATION OF HIGH TEMPERATURE TUBULAR FURNACE
FOR DEPARTMENT OF PHYSICS**

Tender No.2019-20/14

Date of Issue: 15.11.2019

Date of closing: 06.12.2019



Central University of Tamil Nadu

Neelakudi Campus

Thiruvarur-610 005



तमिलनाडु केन्द्रीय विश्वविद्यालय

(संसद द्वारा पारित अधिनियम 2009 के अंतर्गत स्थापित)

CENTRAL UNIVERSITY OF TAMIL NADU

(Established by an Act of Parliament, 2009)

नीलक्कुडी परिसर/Neelakudi Campus, तिरुवारूर/Thiruvavur - 610 005

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TENDER No.2019-20/14

15.11.2019

NOTICE INVITING OPEN TENDER ENQUIRY FOR SUPPLY & INSTALLATION OF HIGH TEMPERATURE TUBULAR FURNACE FOR DEPARTMENT OF PHYSICS

Central University of Tamil Nadu, an institution setup by an Act of Parliament, invites sealed Tender for **Supply & Installation of High Temperature Tubular Furnace for Department of Physics** as per the specifications given in **ANNEXURE-I**. The tender documents may be downloaded from www.cutn.ac.in.

The Technical Bid (**ANNEXURE-II**) and the Commercial Bid (**ANNEXURE-III**) shall be sealed by the bidder in separate covers duly superscribed as **Tender for High Temperature Tubular Furnace for Department of Physics - Technical Bid** and **Tender for High Temperature Tubular Furnace for Department of Physics - Commercial Bid** respectively and both the sealed covers are to be put in a bigger cover which should also be sealed and duly superscribed as **Tender for High Temperature Tubular Furnace for Department of Physics – Tender Notice No.2019-20/14**. The bidding may be made for a specific item or for all the items in ANNEXURE-I. **The technical details of the equipment/s along with the filled-in format (ANNEXURE-II) should be kept inside the Technical Bid Envelope and sealed.** The tender must reach **The Registrar, Central University of Tamil Nadu, Neelakudi Campus, Thiruvavur 610 005** by post or by hand on or before **06.12.2019, 15:00 hours**.

The Technical Bid will be opened on 06.12.2019 at 16.00 Hrs.

Tenders received after due date/time will not be considered under any circumstances. Canvassing in any form will result in the disqualification of the bidder. Tenders sent by fax/email will not be considered. To avoid any complications with regard to Late Receipt/Non Receipt of Tenders, it may please be noted that responsibility rests with the bidder to ensure that the tenders reach the above mentioned address on or before the due date.

Who can bid?

1. The tenderer should be either an original manufacturer or the authorized dealer having been established in the field for minimum period of THREE years as on 01.01.2019. (Enclose supporting documents)
2. The tenderer should have an annual turnover of at least **Rs.15 Lakhs** per year during the last THREE financial years viz. 2016-2017, 2017-2018 and 2018-2019 (each year). (Enclose supporting documents)
3. The bidder should have supplied similar equipment to at least three reputed central government educational/research institutions. Supporting documents such as purchase orders, work completion certificates should be attached with the bid
4. The firm should have registered with GST. (Enclose supporting documents)
5. The bidder should have an authorized service center in Chennai / Trichy / Tanjore / Kumbakonam or any other nearby city/town. (Enclose supporting documents)
6. The University has been granted the benefit of exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), Govt. of India, vide their Notification No.10/97 dt.01-03-1997 and 51/96 dt.23-07-1996 respectively, in respect of
 - a. Scientific and technical instruments, apparatus, equipment including computers.

- b. Accessories and spare parts of goods specified in (a) above and consumables.
- c. Computer software, compact disks, CD ROM, Recording magnetic tapes, microfilms, micro-chips etc.,
- d. Prototypes

Hence, the bidders should take into consideration about this facility of the University while quoting for the advertised Minor equipment.

Instructions to Bidders including Terms and Conditions

1. Scope of Bid

Central University of Tamil Nadu (CUTN), Thiruvarur, hereinafter called “**Purchaser**”, invites bid for supply, installation and commissioning of Laboratory equipment, including critical spares and warranty for three years after validation and subsequent maintenance for five years after the expiry of warranty for its Physics Laboratory at its campus in Thiruvarur.

2. Cost of Bidding

- 2.1. The Bidder shall bear all costs associated with the preparation and submission of its bid and the Purchaser shall in no case be responsible or liable for those costs regardless of the conduct or outcome of the bidding.

3. Tender Document

- 3.1. The Tender Document is not transferable.
- 3.2. The bidder shall make a copy of the tender document before submitting the same to the concerned office. No requests will be entertained for making a copy after the submission of the document.
- 3.3 Copy of Tender Document marked “Original” with each page signed and stamped to acknowledge acceptance of the same

4. Amendment of Tender Document

- 4.1. At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Tender Document by way of amendment(s).
- 4.2. Amendments will be intimated in University Website and shall be binding on them. Further, it will be assumed that the Bidder has taken into account such amendments while submitting the bid.

5. Language of Bid

- 5.1. The bid prepared by the Bidder and all correspondence and documents related to the tender exchanged by the Bidder and the Purchaser shall be in English and the Contract shall be construed and interpreted in accordance with that language.
- 5.2. If any of the brochures, leaflets or communication is prepared in any language other than English, a translation of such document, correspondence or communication shall also be provided at the cost and risk of the bidder. The translation so provided shall prevail in matters of interpretation. The bidder,
with respect to such documents, correspondence, and communications, shall bear the costs and risks of such translation.

6. Documents Comprising the Bid

- a. All the Documents as mentioned under the Heading Who can Bid?
- b. Earnest Money Deposit (EMD);
- c. Documents establishing conformity of the Equipment to the Tender Document;
- d. An undertaking to provide comprehensive onsite maintenance during the warranty and AMC periods for the equipment should be given by the bidder.

7. Format and Signing of Bid

- 7.1. The bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons authorized. All pages of the bid shall be numbered and except for unamendable printed literature, shall be initialled by the person or persons signing the bid.

8. Bid Prices

- 8.1. Prices must be quoted separately for each equipment/item identified.
- 8.2. Price quoted for equipment must include all costs associated with packing, transportation, insurance, all duties and levies, delivery of equipment, loading and unloading on DOOR DELIVERY basis to the university at Neelakudi Campus, Thiruvarur 610 005 including its installation, commissioning, integration and validation.
- 8.3. In case of equipment originating in other countries, prices shall be quoted both on FOB (port of shipment) and CIF (Port of Destination) and CIP (Carriage and Insurance Paid). The comparable prices will be arrived at based on CIP basis. In the case equipment originating in other countries, the bidder shall provide the following at the time of supply, within 24 hours of despatch:
 - a) Supplier's Invoice giving full details of the goods including quantity, value, etc.;
 - b) Packing list;
 - c) Certificate of country of origin;
 - d) Manufacturer's guarantee and Inspection certificate;
 - e) Inspection certificate issued by the Purchaser's Inspector;
 - f) Insurance Certificate;
 - g) Name of the Vessel/Carrier;
 - h) Bill of Lading/Airway Bill;
 - i) Port of Loading;
 - j) Date of Shipment;
 - k) Port of Discharge & expected date of arrival of goods and
 - l) Any other document(s) as and if required in terms of the contract.
- 8.4. Price of Annual Maintenance Contract (AMC) for **FIVE** years after the warranty period shall be quoted separately for each equipment in the format provided in **ANNEXURE-III**. Purchaser reserves the right to negotiate on AMC.
- 8.5. Prices quoted by the Bidder shall be firm during the validity of the bid.

9. Bid Currency

- 9.1. Prices of indigenous equipment/items shall be quoted in Indian Rupees.
- 9.2. Prices of equipment/items originating in other countries shall be quoted in the currency of country of origin and the portion of allied work and services, which are to be undertaken in India, are to be quoted in the Indian Currency. The comparison of financial bids would be done after converting the currency value in INR based on RBI rates applicable on the date of opening of the tender.

10. Conformity of the Tender Document

- 10.1. The Bidder shall furnish, as part of its bid, documents establishing the conformity of the Equipment that the Bidder proposes to supply under the Contract to the requirements of the Purchaser, as given in the Tender Document.
- 10.2. The documentary evidence of conformity of the Equipment to the Tender Document may be in the form of written descriptions supported by literature/diagrams/certifications, including:
 - (a) A detailed description of the essential technical, functional and performance characteristics of the Equipment that the Bidder is proposing to supply;
 - (b) Technical details of the major subsystems/components of the Equipment;

11. Earnest Money Deposit (EMD)

- 11.1. The Bidder shall furnish, as part of its bid, an **EMD value @ Rs.27,694/- by Demand draft drawn in favour of Central University of Tamil Nadu payable at Thiruvarur**.
- 11.2. The firms who are registered with National Small Industries Corporation (NSIC) / or Small Scale Industrial (SSI)/ Micro & Small Enterprises (MSEs) are exempted to furnishing the EMD. Self-attested photocopy of valid registration certificate issued by competent authority for supply of laboratory equipment must be enclosed with the technical bid.
- 11.3. Any bid not accompanied with the EMD shall be rejected by the Purchaser as non-responsive.

12. **Period of Validity of Bids:** Bids shall remain valid for a period of 180 days after the date of deadline for submission of bids prescribed by the Purchaser.

13. Deadline for Submission of Bids

- 13.1. Bids must be received by the Purchaser at the address specified not later than the time and date as stated. In case this date happens to be a declared holiday for the office of the Purchaser or happens to be a holiday declared incidentally, the Bids shall be received up to the appointed time on the next working day.
- 13.2. The Purchaser may, at its discretion, extend this deadline for submission of bids in which case all rights of the Purchaser and all obligations of the Bidders will thereafter be subject to the deadline as extended.

14. Late Bids: Any bid received by the Purchaser after the bid submission deadline prescribed by the Purchaser, shall be rejected and returned unopened to the Bidder.

15. Clarification of Bids: During the bid evaluation, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing, and no change in the price or substance of the bid shall be sought, offered or permitted.

16. Evaluation of Responsive Bids: The Purchaser will evaluate the bids that have been determined to be substantially responsive.

17. Contacting the Purchaser

- 17.1. From the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Purchaser on any matter related to the bid, it shall do so in writing.
- 17.2. If a Bidder tries to directly influence the Purchaser or otherwise interfere in the bid evaluation process and the Contract award decision, his bid shall be rejected.

18. Award Criteria

- 18.1 Purchaser will award the Contract to the Bidder whose bid has been determined to be substantially responsive and the Lowest Quote Evaluated Bid.
- 18.2 The University reserves the right to buy different items/quantity from different bidders considering price of individual/group of equipment or any other factors as decided by the committee.

19. Purchaser's Right to Accept/Reject/Modify Bids

- 19.1. The Purchaser reserves the right to accept or reject any bid or to annul the bidding process and reject all bids at any time prior to Contract award, without thereby incurring any liability to the Bidders.
- 19.2. The Purchaser reserves the right to negotiate with the Bidder having the Lowest Evaluated Bid.

20. Award of Purchase Order

- 20.1. Prior to the expiration of the period of bid validity, the Purchaser will issue the Letter of Intent / Purchase Order to the successful Bidder in writing.
- 20.2. The Purchase Order will constitute the foundation of the Contract.
- 20.3. Upon the successful Bidder's furnishing of the copy of the Purchase Order duly signed on each page and the Performance Security, for the equipments ordered in foreign currency, the Purchaser will open a letter of credit (LC) in a convenient Nationalized Bank in India. For opening of LC necessary arrangements shall be provided by the supplier or its authorized agents.

21. Contract Agreement

- 21.1. Within fifteen (15) days of receipt of the Purchase Order, the successful Bidder shall sign and date its copy on each page and return it to the Purchaser, along with the Performance Security.
- 21.2. Copy of Purchase Order duly signed and dated by the successful Bidder on each page shall constitute the Contract Agreement.

22. Performance Security

- 22.1. Within fifteen (15) days of receipt of notification of award from the Purchaser, the successful Bidder shall furnish the performance security equal to 10% of the Contract value (excluding the value of annual maintenance charges). **The Performance Security will be valid all along the warranty period and shall extend upto sixty (60) days after the date of completion of warranty period.**
- 22.2. The security shall be in one of the following forms:
- (a) A bank guarantee (in the format as provided in **Annexure-VII** of the bidding documents) issued by the Indian Scheduled bank acceptable to the Purchaser.
 - (b) A Demand Draft favouring, **Central University of Tamil Nadu** payable at **Thiruvavur**.
- 22.3. The security shall automatically become null and void once all the obligations of the Supplier under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any extensions to the period. The security shall be returned to the Supplier not later than fifteen (15) days after its expiration.
- 22.4. Failure of the successful Bidder to comply with the requirements shall constitute sufficient grounds for the annulment of the award and forfeiture of the EMD, in which event the Purchaser may make the award to the next lowest evaluated bid submitted by a qualified Bidder or call for new bids.

23. Contract Documents

- 23.1. All documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.
- 23.2. The order of precedence of the Contract documents will be as follows:
- (i) Contract Agreement
 - (ii) All other Forms
 - (iii) Equipment and their Requirements
 - (iv) Supplier's Bid
 - (v) Tender Document

24. Amendment to Contract: No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract and is signed by a duly authorized representative of each party to the Contract.

25. Supplier's Responsibilities

- 25.1. The Supplier's obligations involve:
- (a) Supply of Equipment/items given in Tender Document.
 - (b) Making operational the Equipment (installation, commissioning & validation of Equipment).
 - (c) Development of test methods & applications.
 - (d) Training, at the cost of Supplier, of personnel in operation, day-to-day maintenance and troubleshooting of the Equipment
 - (e) Supply of Material (instruction/operation/service/maintenance manuals including drawings & circuit diagrams and application notes), Calibration Certificates (where applicable, traceable to national/international standards) and any other documents specified in the Contract.
 - (f) Maintenance of the equipment during and after the warranty period (Five Years of AMC after the warranty of three years).
- 25.2. The Supplier shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items, services and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for installation & commissioning, integration & validation of Equipment as if such work and/or items and Materials were expressly mentioned in the Contract.
- 25.3. The Supplier shall comply with all laws in force in India. The laws will include all national, provincial, municipal or other laws that affect the performance of the Contract and are binding upon the Supplier. The Supplier shall indemnify and hold harmless, the Purchaser from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the Supplier.

26. Time for Supply, Installation, Commissioning and Validation of the Equipment

- 26.1 The Supplier shall supply the Equipment within the period specified in the tender document i.e. **within FOUR weeks of signing the purchase order or within the period mutually agreed between purchaser and supplier.**
- 26.2 The Supplier shall thereafter proceed with the installation & commissioning, integration and validation and demonstrate operational acceptance of the Equipment within the period specified, unless it is mutually agreed.

27. Terms of Payment

- 27.1. For **indigenous equipment**, 90% payment will be released after satisfactory delivery, installation of the equipment and remaining 10% will be released on submission of a Bank Guarantee for equivalent value (10%) as performance security to cover the warranty period (36 months).
- 27.2. For **imported equipment**, normally a letter of Credit will be opened for 100% CIP price on receipt of order of acknowledgement. However, 90% of the LC amount only will be paid on proof of the shipment of the consignment with necessary documents to be detailed at the time of placing of the purchase order. Balance of 10% of the LC amount shall be released after receipt of a performance bond of 10% of the total contract/purchase value in the form of bank guarantee covering the warranty period, obtained from a bank which has its office in India.
- 27.3. For equipment ordered in foreign currency, opening of LC, Payment of Customs Duty and clearance of goods shall be done/assisted by the supplier or its authorized Indian agent. The custom duty as applicable after considering eligible concessions based on DSIR exemption etc will only be paid by the purchaser. The University can provide the copy of the DSIR customs and excise duty exemption certificate upon request.
- 27.4. Payment for annual maintenance contract after the warranty period shall be released at the end of six month/1 year after the expiry of warranty period, subject to Government of India norms.
- 27.5. If any time before the delivery of the equipment, it is found that the same equipment have been offered to another party in India at a lower rate, payment shall be restricted to the extent of such lower rate and the Supplier shall be liable to pay the Purchaser the difference in two rates i.e. excess charged over such lower rate, if payment had been made by the purchaser. The University will look into a reasonable past period to ensure this.
- 27.6. The bidder should submit Mandate Form for e-payment through EAT module as per the format given in the bid document at **Annexure – V**.

28. Taxes and Duties: The Supplier should ensure payment of all taxes, duties, levies and charges assessed by all municipal, state or national government authorities, in connection with the Goods and Services supplied under the Contract.

29. Product Upgrades: The Supplier shall continue to support and maintain the version/model of the Equipment supplied by upgrading the software and the hardware as and when amendments are carried out in the existing version or the product is upgraded. Whereas upgrades to the software shall be supplied free of cost, the Supplier may charge for upgrade in hardware provided it is of major nature. An upgraded higher version of the instrument and software related with the instrument shall be supplied.

30. Penalties

- 30.1. If the Supplier fails to complete any of the activities in accordance with the time specified for it, or any extension of the time granted by the Purchaser, the Supplier shall pay to the Purchaser penalties at the rate specified in the Tender document.
- 30.2. The Purchaser reserves the right to terminate the contract if the Supplier defaults on any of the time limits by more than **FOUR** weeks.

31. Defect Liability

- 31.1. The Supplier warrants that the Equipment, including all subassemblies and components provided, shall be free from defects in the design, engineering/manufacturing, workmanship and performance that prevent the Equipment and/or any of its subassemblies and components from fulfilling the

Equipment Requirements or that limit in a material fashion the operation, reliability, accuracy, sensitivity and precision of the Equipment, its subassemblies and components. Commercial warranty provisions of products supplied under the Contract shall apply to the extent that they do not conflict with the provisions of this Contract.

- 31.2. The Warranty Period shall commence from the date of validation of the Equipment and shall extend for the length of time specified in the tender document supra.
- 31.3. If during the Warranty Period any defect found in the Equipment, the Supplier shall promptly, at its sole cost, repair or otherwise make good such defect as well as any damage to the Equipment caused by such defect. Any defective Equipment, Subassembly or component that has been replaced by the Supplier shall become the property of the Supplier and the new substituted/replaced equipment in good condition shall become the property of the purchaser.
- 31.4. Validation of the Equipment shall be carried out by the Supplier each time a major repair is carried out in the Equipment during the warranty period.
- 31.5. Response time for attending to defects shall be 24 - 48 hours after they are reported to the Supplier or its designated service agent. If the Equipment cannot be used for more than TWO working days by reason of such defect and/or making good of such defect, the warranty period for the Equipment shall be extended by a period equal to the period during which the Equipment could not be used by the Purchaser because of such defect and/or making good of such defect.

32. Intellectual Property Rights Warranty and Indemnity

- 32.1. The Supplier hereby represents and warrants that the Equipment as supplied, installed & commissioned along with its Application Software and copying of Manuals & other documents provided to the Purchaser in accordance with the Contract does not and will not infringe any Intellectual Property Rights held by any third party.
- 32.2. The Supplier shall indemnify and hold harmless the Purchaser from and against any and all losses, liabilities and costs (including losses, liabilities and costs incurred in defending a claim alleging such a liability), that the Purchaser may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights.

33. Effect of Force Majeure

- 33.1. If the Supplier is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the Purchaser in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fifteen (15) days after the occurrence of such event.
- 33.2. The Supplier, when affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its performance of the Contract and to fulfill its obligations under the Contract, but without prejudice to Purchaser's right to terminate the Contract.
- 33.3. No delay or non-performance by the Supplier caused by the occurrence of any event of Force Majeure shall:
 - (a) Constitute a default or breach of the Contract;
 - (b) Give rise to any claim for damages or additional cost or expense occasioned by the delay or non-performance.
- 33.4. If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than THIRTY days or an aggregate period of more than sixty (60) days on account of one or more events of Force Majeure, the Purchaser shall have the right to terminate the Contract by giving a notice to the Supplier.

34. Extension of Time Limits for supply & making operational the Equipment

The time limit for supply, installation & commissioning, integration & validation shall be extended if the Supplier is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

- (a) Any occurrence of Force Majeure;
- (b) Any other matter specifically mentioned in the Contract;

By such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Supplier.

35. **Assignment:** The Supplier shall not, without the prior written consent of the Purchaser, assign to any third party, the Contract or any part thereof.
36. **Governing Law:** The Contract shall be governed by and interpreted in accordance with the laws of India.
37. **Settlement of Disputes :** Any dispute or claim arising out of/relating to this Contractor the breach, termination or the invalidity thereof, shall be settled by the Hon'ble Courts of Justice at Thiruvavur.
38. The page number should be marked in all pages serially (including all supporting documents enclosed with the tender document) and the declaration for the same shall be submitted by the bidder as **Annexure-VIII**.
39. **REASONABILITY OF PRICES:** Please quote best minimum prices applicable for a premier Research Institution, leaving no scope for any further negotiations on prices. The quoting party should give a certificate to the effect that the quoted prices are the minimum and they have not quoted the same item on lesser rates than those being offered to INST to any other customer nor they will do so till the validity of offer or execution of the purchase order, whichever is later. We request you to fill the price reasonability certificate format in the enclosed file (**ANNEXURE "IX"**)
40. ***Central University of Tamil Nadu reserves the right to accept or reject any or all the tenders in part or whole or may cancel the tender at its sole discretion without assigning any reason whatsoever. No further correspondence in this regard will be entertained.***
41. **Acknowledgement:** It is hereby acknowledged that we have gone through all the conditions mentioned above and we agree to abide by them

TECHNICAL SPECIFICATION

It is requested that model(s) meeting these specifications be quoted along with their detailed specifications and capabilities. It may be noted that these are minimum specifications for a guideline. The vendor(s) may give full details and specifications of the system in their quote.

Details of the Furnace:

The furnace should be Triple walled rectangular (or other) furnace with properly insulation, uniformly heated with imported MOLYBDENUM DI SILICIDE RODS. The temperature should controlled by Microprocessor based Programmable PID Controller (Eurotherm or better).

Continuous Working temp. – 1500°C -1600°C (up to 12 hrs or more)

Maximum Working Temp. - 1700° C (withstand up to 5 hours)

Outer Chamber:

The outer chamber has to be with thick Cold Rolled Mild Steel/ G.I. Sheet, double walled, fully reinforced with angle iron frame work to make the equipment mechanically very rigid. The outer shell has to be appropriately air cooled to make the skin temperature as low as 50-70°C.

Inner Chamber:

The inner chamber has to be high pure (~99.7%) recrystallized Alumina tube of 90 mm ID x 100 mm OD x 900 mm L, capable of withstanding temperature up to 1700 Deg. The hot zone uniformity required is over 300 mm in the middle of the Alumina chamber. The inner chamber has to be open at both end and High Alumina Plug has to be provided as closure.

Insulation:

The space between the inner and outer chamber has to be tightly packed with superior quality high density ceramic fiber blankets/ Imported CERAMIC BOARDS or better which can withstand temperature over 1800°C. In addition, layers of Vacuum Forming Zirconia BOARDS capable of withstanding 1600°C with low mass high grade thermal insulation has to be provided to ensure consistent result in efficient heating (totally eliminate the radiation heat loss) and at the same time cooling of the furnace and to keep the surface temperature within permissible limits.

Heating Elements:

Imported Molybdenum di silicide rods type heating elements capable of delivering 1700°C (or higher) has to be provided on the sides of the furnace ensuring uniform temperature in the hot zone, as required. The power to the heating elements has to be fed from a step down transformer through a current limit feedback type Thyristor power control device. The terminals of the heating elements have to be neatly brought out in a compact junction box. It has to made absolutely sure that an easy replacement of individual heating element can be done without any trouble. The temperature of the furnace has to be uniform in the inner chamber as specified.

Gas inlet/ outlet flanges:

Gas inlet/ outlet flanges or in other words the Gas Purging System has to be provided at the both end of the Alumina Tube with SS End Fittings, Silicone 'O' Ring, Water Cooling Jacket, inlet & outlet valves. 1 No. Acrylic Rotameter (Flow meter) for inert purging of Nitrogen Gas, inlet for an extra thermocouple, 1 KF16 flange with dummy and 'C' clamp has to be provided on any one of the flanges.

Temperature Indication and Control:

The temperature inside the Alumina chamber (in the hot zone and not near the heating element) has to be is indicated and controlled by (Eurotherm make or better) Independent smart range Microprocessor based digital Programmable PID controller with standard control systems. The controller should have multi program and multi segment options for multiple user requirements. The Programmer Controller must have indications for process value, set value and other normal indications.

The thermocouple assembly must consist of 'B' Type thermocouple which must be placed preferably from side. Additionally, an extra 'B' Type thermocouple has to be provide from determining the temperature in the hot zone.

Power Supply:

Max. Power: 3 -4.5 KW

The power to the heating elements controlled by thyristor pack with control and indication accuracy + / - 2 to 3 °C.

The system has to be suitable for operation on the power supply available with the user: 230 V AC, 50 Hz., Single Phase.

Control Panel:

A compact control panel accommodating Eurotherm make or better temperature controller, Pilot Indicating lights, HRC Fuse units and other essential entities has to be provided along with the furnace:

Technical Specifications:

1. Clear inner dimensions: 90 mm ID x 100 mm OD x 900 mm Length.
2. Hot zone Length: 300 mm +/-5 mm
3. Max. attainable Temperature: 1700°C (withstand up to 5 hours)
4. Continuous Operating Temperature: 1500-1600° C (up to 12 hrs or more)
5. Temperature Control: Eurotherm or better Imported Microprocessor Programmable PID Control
6. Power Control: Thyristor Power Control – Imported with Current limit specification.
7. Accuracy: + / - 2 Deg.C
8. Thermocouple: 'B' Type
9. Power Ratings: 3- 4.5KW.
10. Heating Element: Molybdenum di silicide rods.
11. Power Input: 230 V +/- 10 % Single Phase AC 50 Hz.
12. Skin Temperature: Less than 70°C.

Kindly quote the unit price for the following essential accessories separately:

- A. B- Type thermocouple (600mm Length)
- B. MoSi₂ Heating elements compatible with the quoted furnace model.
- C. 90 mm ID x 100 mm OD x 900 mm Length Recrystallized Alumina tube
- D. Crucible Tong
- E. Protective High Temperature Glove and Apron set.
- F. Alumina Beads-500g
- G. Double bore alumina tube for thermocouple
- H. 4 bore circular alumina tubes
- I. Thermocouple connectors
- J. Yttria-stabilized zirconia plates/sheet.
- K. Ceramic fibre blanket 2ft x 2ft.

Provide a clear technical drawing of the furnace with proper scale. The drawing should clearly indicate all dimensions and positions, including but not limited to the heat zone, thermocouples, heating element, controller, switches, transformer, water jackets, etc.

Note: Also provide the list of educational institutions to which similar high Temperature Furnace were provided by you in the last 18 months.

Without the technical drawing and the list your bid will not be accepted.

For any queries please contact Dr. Venkata Saravanan, Mr. Sulthan Ibrahim, Department of Physics, CUTN at Ph:94885 68068 & Email: venketvs@cutn.ac.in

TECHNICAL BID			
1.	Name of the Company/Organisation		
	Complete Postal Address:		
	Full address of the premises		
	Telegraphic address		
	Telex number		
	Telephone number		
	Fax number		
	Name of the proprietor /Partners		
2.	E-mail ID:		
	Name of Contact Person/ representative of firm		
	Designation:	Mobile number:	
Particulars		Remarks of Bidder	Documentary proof Attached at page no.
3.	Nature of Business		
4.	Years of operations in India		
5.	Years of Establishment		
6.	Location of offices in India		
7.	Type of firm: Propriety/ Private/ Private Ltd/ MNC/ Cooperative /Govt. undertaking		
8.	Firm Registration No.		
9.	Year of starting of manufacturing		
10.	PAN Number		
	GST Number		
11.	Experience towards dealing with the supply of similar equipment at least THREE years as on 01-01-2019.		
12.	Annual turnover of at least Rs.15 Lakhs per year during the last THREE financial years viz. 2016-2017, 2017-2018 and 2018-2019		
	Annual Turnover (2016-2017)		
	Annual Turnover (2017-2018)		
	Annual Turnover (2018-2019)		
	Supply of similar equipment to at least three reputed central government educational/research institutions.		
	Authorized service center in Chennai / Trichy / Tanjore / Kumbakonam or any other nearby city/town.		
13.	Name & Location of service centres in India		
14.	Whether the OEM makes available any service support in India		
15.	Whether the service set up maintains stock of essential spares in India		
16.	Lead time for supply of essential spares		
17.	Has the firm ever been debarred/blacklisted by any Govt. Organization/Dept.? If yes details thereof and if No. undertaking to be submitted		
18.	Whether Submitted Price Reasonability Undertaking as per Annexure 10 (Mention YES /No and Page No.)		
<p>Testimonials from three satisfied customers may be attached</p> <ul style="list-style-type: none"> Compliance Statement to specifications of the equipment to be provided by the tenderer as in ANNEXURE-IV. All equipment must operate at 230V/50 Hz single phase and/or equivalent three phase electrical power. Quoted model shall be in accordance to the geographical location. <p style="text-align: right;">Signature _____ Name _____ Designation _____</p> <p>Date: _____ Place: _____</p> <p>Seal of Company : _____</p>			

Commercial Bid**(To be enclosed in separate sealed cover)**

1. The price of the Lab Equipment in the **Annexure-I** is to be given individually in the format mentioned below:

FOR IMPORTED SUPPLIES**(IN FOB/FCA) – MANDATORY**

Sr. No	Short Description of Item & Specification	HSN Code / SAC Code	Qty in Units	Price Basis FOB/FCA	Total Bid Price
1			1No.		
	Installation and commissioning Charges (if any, quote in INR)				
	Agency Commission (If any, quote in Percentage %)				
	Other Charges (if any please specify)				
Grand Total					

FOR IMPORTED SUPPLIES**(IN CIF) – MANDATORY**

Sr. No	Short Description of Item & Specification	HSN Code / SAC Code	Qty in Units	Price Basis CIF	Total Bid Price
1			1No.		
	Installation and commissioning Charges (if any, quote in INR)				
	Agency Commission (If any, quote in Percentage %)				
	Freight Charges				
	Other Charges (if any please specify)				
Grand Total					

**FOR IMPORTED SUPPLIES
(DOOR DELIVERY PRICE) - MANDATORY**

Sr. No	Short Description of Item & Specification	HSN Code / SAC Code	Qty in Units	Price Basis CIF	Total Bid Price
1			1No.		
	Installation and commissioning Charges (if any, quote in INR)				
	Agency Commission (If any, quote in Percentage %)				
	Freight Charges				
	Custom Clearance Charges				
	Concessional Custom Duty				
	Excise Duty				
	Other Charges (if any please specify)				
Grand Total					

#HSN Code: "Harmonized System of Nomenclature Code No." and SAC Code: "Service Accounting Codes Code No."

1. Delivery Period..... days
2. Validity of the bid: 180 days from the date of submission of quotation/tender.
3. Mode of Shipment:.....
4. Port of Shipment:.....
5. Maximum educational discount as could be offered should be mentioned.
6. Price quoted for equipment must include all costs associated with packing, transportation, transit insurance, all duties and levies, delivery of equipment, loading and unloading, including its installation, commissioning, integration and validation.

Place:
Date:

Signature.....
Name.....
Company Name & Address:
Affix RubberStamp:

Note: Price Bid should be submitted in given format only. For additional information/extra items above format may be typed and used.

**PRICE BID
FOR INDIGENOUS SUPPLIES, QUOTES IN INR ONLY**

Sr. No.	Description of Item & Specification	HSN Code / SAC Code	Qty in Units	Unit Price ₹	Discount %	IGST %	CGST %	SGST %	Total Bid Price
1			1No.						
	Installation and commissioning Charges (if any, quote in INR)								
	Other Charges (if any please specify)								
Grand Total									

#HSN Code: "Harmonized System of Nomenclature Code No." and SAC Code: "Service Accounting Codes Code No."

1. Delivery Mode: Delivery at CUTN, Thiruvapur Only.
2. Total bid price in the above column should be inclusive of all taxes and levies transport, loading, unloading etc.
3. Delivery Period days
4. Validity Date: Minimum 180 days from the date of submission of quotation/tender.
5. Payment Term: Payment within 30 days from the date submission of bill Acceptance Certificate to concerned Dept./Sect./MMD.
6. Maximum educational discount as could be offered should be mentioned.
7. Price quoted for equipment must include all costs associated with packing, transportation, transit insurance, all duties and levies, delivery of equipment, loading and unloading, including its installation, commissioning, integration and validation.
8. Prices quoted in other currencies will be summarily rejected.

PAN No:
GST Registration No. :
Signature:
Name:
Company Name & Address:

Date:
Place:

Note: Price Bid should be submitted in given format only. For additional information/extra items above format may be typed and used.

2. The quote should include a warranty of **THREE** years from the date of commissioning/installation. The AMC Charges from 4th years onwards may be quoted in the format below:

Sl. No.	Annual Maintenance Contract (AMC) after the Warranty Period					
	Name of the Equipment	4 th Year	5 th Year	6 th Year	7 th Year	8 th Year

Compliance Statement to specifications of the equipment

(Compliance with specification column is to be filled up by the bidder stating YES/NO as the case may be)

Sl. No.	Specification	Requirements	Compliance with Specification (Y/N)

**MANDATE FORM FOR PAYMENT THROUGH EAT MODULE IN PFMS
DETAILS OF ACCOUNT HOLDER:**

Name of the Vendor/Beneficiary	
Name of the Bank	
Account Number	
IFSC Code	
PAN Number	
GST Number (if applicable)	
Address (Including City, Pin code etc.)	
Mobile No./email id	

I hereby declare that the particulars given above are correct and complete.

DATE:

SIGNATURE WITH SEAL

DETAILS OF PREVIOUS EXPERIENCE AND SUPPLY ORDERS

SI No.	Name of the similar Equipment	Name of the Organisation where supplied	Type of Organisation (Govt./University/ PSU/ Private/Autonomous Body etc.)	Date of receipt of Purchase Order	Quantity	Value of Order

Enclose Relevant/Supporting Documents such as Purchase Order, Work completion certificate etc.

DATE:

SIGNATURE WITH SEAL

FORM OF PERFORMANCE SECURITY (GUARANTEE) BY BANK

1. This deed of Guarantee made this day of _____ between Bank of _____ (hereinafter called the "Bank") of the one part, and Central University of Tamil Nadu, Thiruvaurur (hereinafter called "the Purchaser") of the other part.
2. Whereas the Purchaser has awarded the contract for Supply, Installation, Commissioning, Integration and Validation of _____ (name of the equipment) (hereinafter called the contract) to _____ (hereinafter called the Supplier); (Name of the Supplier)
3. AND WHEREAS the Supplier is bound by the said Contract to submit to the Purchaser a Performance Security for a total amount of Rs. _____ (Amount in figures and words).
4. Now, I/we the undersigned, being fully authorized to sign and to incur obligations for and on behalf of and in the name of _____ (Full name of Bank), hereby declare that the said Bank will guarantee the Purchaser the full amount of Rs. _____ (Amount in figures and words) as stated above.
5. After the Supplier has signed the aforementioned Contract with the Purchaser, the Bank is engaged to pay the Purchaser, any amount up to and inclusive of the aforementioned full amount upon written order from the Purchaser to indemnify the Purchaser for any liability of damage resulting from any defects or shortcomings of the Supplier under the Contract mentioned above, whether these defects or shortcomings are actual or estimated. The Bank will deliver the money required by the Purchaser immediately on demand without delay without reference to the Supplier and without the necessity of a previous notice or of judicial or administrative procedures and without it being necessary to prove to the Bank the liability or damages resulting from any defects or shortcomings of the Supplier. The Bank shall pay to the Purchaser any money so demanded notwithstanding any dispute/disputes raised by the Supplier in any suit or proceedings pending before any Court relating thereto and the liability under this guarantee shall be absolute and unequivocal.
6. This Guarantee is valid for a period of thirty six months from the date of signing. (Initial period for which this Guarantee will be valid must be for at least thirty (30) days longer than the anticipated expiry date of warranty period).
7. At any time during the period in which this Guarantee is still valid, if the Purchaser agrees to grant a time extension to the Supplier or if the Supplier fails to complete the work within the time of completion as stated in the Contract, or fails to discharge himself of the liability or damages as stated under Para 5 above, the Bank shall extend this Guarantee under the same conditions for the required time on demand by the Purchaser and at the cost of the Supplier.
8. The Guarantee hereinbefore contained shall not be affected by any change in the Constitution of the Bank or of the Supplier.
9. The neglect or forbearance of the Purchaser in enforcement of payment of any moneys, the payment whereof is intended to be hereby secured or the giving of time by the Purchaser for the payment hereof shall in no way relieve the bank of its liability under this deed.
10. The expressions "the Purchaser", "the Bank" and "the Supplier" hereinbefore used shall include their respective successors and assigns.

In witness whereof I/We of the bank have signed and sealed this guarantee on the _____ day of _____ (Month & Year) being herewith duly authorized.

For and on behalf of the _____ Bank.

Signature of Authority

Bank official Name: Designation:

Stamp/Seal of the Bank:

Signed, sealed and delivered for and on behalf of the Bank by the above named _____ in the presence of:

<p><u>Witness 1</u> Signature</p>	<p><u>Witness 2</u> Signature</p>
<p>Name</p>	<p>Name</p>
<p>Address</p>	<p>Address</p>

Declaration

We hereby undertake that there are _____ pages, serially numbered, in the submitted tender including the supporting documents. (Please number all the pages including blank page, if any).

We have submitted our principal's exclusive authorization letter which is specific for this tender No. _____ dated _____.

Signature and seal of the bidder

PRICE REASONABILITY CERTIFICATE

This is to certify that we have offered the maximum possible discount to you in our Quotation No. _____ dated _____ for (Value Rs.) _____. We would like to certify that the quoted price are the minimum and we have not quoted the same item on lesser rates than those being offered to CUTN to any other customer nor we will do so till the validity of offer or execution of purchase order, whichever is later.

Signature and seal of the bidder