Veer Surendra Sai University of Technology, Odisha, Burla

(Formerly Established by Government of Odisha as University College of Engineering, Burla: 1956)

Centre for Distance & Continuing Education



E-mail: deancdce@vssut.ac.in

Po. EC BURLA-768018, Odisha, India

No. VSSUT/CIVIL/

/2023

Date: 11.08.2023

TENDER CALL NOTICE

The Civil Engineering Department of Veer Surendra Sai University of Technology, Burla, invites sealed Tender from registered firm having valid GST clearances for supply of "MUFFLE FURNANCE for Civil Engineering Department (CONCRETE LAB.).

The interested firms may download the details from the University web site and submit the Tender paper to the undersigned by 4.09.2023 up to 5 PM through registered Post only. The envelope containing the Tender must be super scribed "MUFFLE FURNANCE at the left hand top corner.

For the details information, Please visit University website: www.vssut.ac.in

Sd/-**REGISTRAR**

Memo. No. VSSUT/CIVIL/

Date:

- 1. University Notice Board.
- 2. Director I &PR Department Govt. of Odisha, Bhubaneswar with a request to Publish the above advertisement in one issue of the Odisha daily edition (All Odisha Editions) of The Samaj using minimum space at I&PR approved/lowest rates on or before 12.08.2023. The bill may be sent to the Registrar, VSSUT, Burla -768018 in triplicate along with copies of the paper in which the publication is made for necessary payment.
- 3. The Dean, Faculty & Planning with a request to display the advertisement in University website.
- 4. The Comptroller of Finance for information & necessary action.
- 5. PA to VC for kind information of Vice-Chancellor, VSSUT, Burla
- 6. PA to Registrar for kind information of Registrar, VSSUT, Burla.

Sd/REGISTRAR

SPECIFICATIONS OF GOODS

Muffle Furnace: Electrically heated floor top front loading high temperature muffle furnace of maximum temperature of 1200°C using KANTHAL AI heating element with microprocessor based digital PID temperature programmer controller with thyristor power drive. This furnace is to be specially used to study the effect of high temperature on concrete material.

Quantity: 01

The technical details are as per following:

Serial No.	Parameters	Description	
1	Size	 Inside Chamber Size: 600mm (Length) x 400 mm (Width) x 400 mm (Height). Minimum load carrying capacity of the inside chamber is 120kg. This furnace is to be specially used to study the effect of high temperature on concrete material. 	
2	Furnace Structure	 Outer body MS powder coated Single door opens to 180 degree. Parallel moving with front opening insulated Insert-type door, which facing away from the Operator. It's made from high insulation with a peep hole 12 mm for viewing. Side wall of the inner chamber is packaged with high temperature wool. Furnace material should be such that there will be minimum heat leakage. At high temperature there will be spalling in concrete. Separation required for this detached material from heating element. 	
3	Max Temperature	 Specimen will be subjected to maximum temperature of 1200°C for at least 4 hour. 	
4	Temperature accuracy and uniformity	 Accuracy ± 1°C and Uniformity ± 5°C within hot zone at set temperature above 400°C for suitable placement. System to ensure better uniform temperature. 	
5	Temperature Controller:	 Microprocessor PID control Auto tuning Digital display with program function It should run with a ramp system 	

		 It should set time and temperature rise curve The system will run continuously for 8 hour per day Temperature rising rate 0.1 - 10°C per minute
6	Thermal Insulation	The thermal insulation should be such that at maximum temperature air insulation does not cross ambient +15 °C of skin temperature.
7	Heating element	KANTHAL AI(APM) heating element. Heating element should be arranged properly to maintain temperature uniformity in the chamber. Heating element should not exposed to outside.
8	Thermocouple	"K" type with high alumina refractory sheath and connecting holder.
9	Calibration Certificate	Calibration certificate should be provided during supply. After installation on-site calibration is required.
10	Control Panel	Control panel should have necessary accessories for smooth running /controlling of system provided temperature programmer controller, safety overheating controller, LED indicator lamps, FRC safety fuse AE make ammeter, safety MCB, On/Off rotary switch.
11	Warrantee	Two year against all manufacturing defects
12	Safety:	Over temperature protection by safety controller. Over current protection by SRC Fuse with MCB and TC failure by mail controller. Door safety switch for isolate power when door open. Earthling terminal will provide from safety current shocking.

INVITATION FOR BIDS:

Sealed Bids i.e. both Technical Bid (first sealed packet) and Price Bid (second sealed packet) sealed together in one envelop are invited by the "The Registrar, Veer Surendra Sai University of Technology, Odisha" from the manufacturers/authorized distributors/ dealers for supply of Instrument, equipment, machineries etc. of reputed make for the Civil Engineering Department, VSSUT Burla, Odisha.

The Bidders may download the Tender Documents directly from the website available at http://www.vssut.ac.in and submit the bid along with the Tender cost fee of Rs. 1000/- (Non-refundable) in the form of Demand Draft drawn in favor of "The Comptroller of Finance, Veer Surendra Sai University of Technology, Burla" payable at SBI, Burla. In case of any bid clarification, responsibility lies with the bidders to collect the same from the website and the purchaser shall have no responsibility for any delay/ omission on part of the bidder.

TIME SCHEDULE:

- a) Price of bidding document: Rs. 1000/- (Non-refundable).
- b) Date of commencement of downloading bidding document 12.08.2023 at 4 PM.
- c) Last date and time for Receipt of bids 04.09.2023 up to 5 PM.
- d) Date of opening Technical bid and Financial Bid: 5.09.2023, 4.00 PM
- e) Place Of Opening Of Tender And Address For Communication and receipt of Bid Documents:

The Registrar

Veer Surendra Sai University of Technology, Odisha

At- Burla, Po-Burla Engineering College, Dist-Sambalpur-768018,

Tel. No-0663-2430211 Fax No-0663-2430204

GENERAL TERMS AND CONDITIONS

Document Establishing Bidders Eligibility and Qualification:

The Builder shall furnish as part of the bid the following documents establishing bidder's eligibility and qualification to the purchaser's satisfaction. Non compliance of any of these conditions shall disqualify the eligibility.

Original equipment manufacturers having valid license/ certificate for the quoted items are eligible to participate in the bid.

The Bidder must have experience of supply and installation of the quoted items in different Institute of national repute.

The bidder shall quote item of reputed brand/model with all accessories in complete in all respect to perform functionality of equipment/machinery.

Document Establishing Goods Eligibility:

The instruments and equipment of offered against the schedule of requirement of instruments, equipment and machineries should be in accordance with the stipulated specification and of one reputed brand/model (N.B: variation in specification is allowed up to ±5% in case of machinery/equipments)

The documentary evidence establishing the brand and the model may be in the form of literature, pamphlets, manuals, drawing, circuit diagrams etc.

Detailed description of instruments and equipments with essential technical and performance characteristics may also be furnished.

Technical Bid:

The Following document should be submitted in Cover –A

- 1. Earnest Money Deposit
- 2. Technical details of the equipment
- 3. Copy of the manufacturing license/ import license/ Authorization Distributer/ Dealer certificates
- Copy of the authorization from the manufacturing company in case of authorized Distributer/ Dealer Along with Manufacture industry Registration and Tax Registration Certificate.
- 5. Copy of the IT PAN Card, GSTN.
- 6. The original bid Document signed & sealed by authorized person in each page as a token of acceptance of all terms and conditions of the tender with original receipt.
- 7. Any deviation in the specification of the item including standard accessories / Optional accessories in complete for functionality of machine should be marked in bold letters.

 (N.B. Variation in specification is allowed up to ±5% in case of Machineries/Equipments)

Price Bid:

- 1. The hard copy of price bid giving the rates for various instruments & equipments and other items should be submitted. Price Bid of the bidders who qualify in Technical Bid will only be opened.
- 2. The price of the each item shall be quoted as per the prescribed Price Schedule Format at Annexure I along with price break up of taxes admissible, Packing, Forwarding and Handling charges, Insurance charges, ET, Freight up to destination including unloading, Commissioning including testing and training with total price per Item at for VSSUT Burla. The bidders are required to submit the individual price of each instruments) and

- equipment(s) as indicated in the schedule of requirements. For imported equipments the quoted price should be in currency of the country of origin.
- 3. Tax clearance certificate up to date where applicable.
- 4. Each quoted item and all accessories should cover the Warranty/ Guarantee for 1 year From the date of Commissioning (Annexure –II)

BID CINDITIONS:

- 1. The quoted rate shall not vary with the quantum of order placed or destination point.
- A copy of the original bid conditions and the schedules should be signed by along the bidder at the bottom of each page with the office seal duly affixed and returned along with the bid. Bid schedule should be duly filled in with an index and page number for the documents, enclosures & EMD etc.
 - Paging must be done for all the documents.
- 3. Bids should be type written or Computerized and every correction/ over writing in the bid should invariably be attested with signature of the bidder with date before submission of the bids to the authorities concerned. No revision of price upward or downward will be allowed once the bid is opened. However, the purchaser shall have the right for considering the exchange rate of foreign currencies on verification of documents.

Bid Price:

- The contract shall be for the full quantity as described above. Correction, if any,
 shall be made by crossing out, initialing, dating and re-writing.
- All duties, taxes, and other levies payable on the raw materials and components,
 job contract shall be included in the total price.
- Taxes in connection with the sale shall be shown separately.
- The rates quoted by the bidders shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
- The price shall be quoted in Indian Rupees only.

Tax Clearance:

Copies of valid Tax clearance Certificates shall be furnished by the Bidders and the originals of the above certificates shall be produced to the purchaser before placement of notification of award if asked for by the Purchaser.

EMD:

All bidders are required to submit EMD not less than 2% of the quoted amount in shape of demand draft drawn in favour of "The Registrar, VSSUT, Burla" Payable at SBI, Burla only. The EMD Shall be in Indian rupees.

NOTE: Non-submission of EMD or submission of less EMD than the desired one or submission of EMD in any other form except Demand Draft shall result in rejection of Bid. The EMD deposited against other Bids cannot be adjusted or considered for this Bid. No interest is payable on EMD.

SUBMISSION OF BIDS:

Sealing and making of Bids

Bid should be submitted only through REGISTERED POST/ SPEED POST in two Bid system containing two parts as detailed below.

Sealed Cover-A: Technical Bid.

Sealed Cover-B: Price Bid.

Both the sealed envelopes should then be put in one outer cover and each cover should have the following indication:

	i)	Reference No of Bid	
ii) Due date & time for submission of the Bid	ii)	Due date & time for submission of the Bid	

iii) Name of the Firm

Note:

- A. Bids submitted without following two bid system procedures as mentioned above will be summarily rejected.
- B. Please note that prices should not be indicated in the technical bid. The Prequalification documents including EMD as required in the Bid document should invariable be accompanied with the technical Bid (Cover A). The outer envelope shall indicate the name and address of the bidders to enable the bid to be returned unopened in case it is declared "late". If the cover contain the outer envelope is not sealed and marked as required. Purchaser will assume no responsibility for the Bids misplacement or premature opening.

The above procedure shall be adopted both for the technical bid and price bid separately. Telex cable, Email or Facsimile Bids submitted by hand will not be entertained.

Deadline for Submission of Bids:

Bids must be received by the purchaser at the address specified not later than the time and date specified in the invitation of bids. In the event of the specified date for the submission of bids being declared a holiday for the purchaser, the bids will be received up to the appointed time on the next working day. The purchaser may, at its discretion, extend this deadline for submission of bids by amending the bid document, in which case all previous rights and obligations of the purchasers and bidders will remain same till the extended date.

Modification and Withdrawal of Bids:

No modification and withdrawal of Bids is allowed between the interval of time of submission and the last date and time of the bids.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the bidders on the bid form.

BID OPENING:

The Purchaser will open all bids, in the presence of bidder's representatives who choose to attend at **4:00PM on dated 28/8/2023 at the office of Registrar, VSSUT, Burla.**

The bidder's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of bid opening being declared a holiday for the purchaser, the bids shall be opened at the appointed time and location on the next working day.

The Bidders names, and the presence or absence of the requisite EMD and such other details as the purchaser, at its discretion, may consider appropriate will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, Which shall be returned unopened to the bidders.

Acceptance of the Bid:

Bidders submitting bids would be considered who have consider and accepted all terms
and condition no enquire, verbal or written, shall be entertained in ;respect of
acceptance of the rejection of the bid,

- Genuine equipment and instruments etc should be supplied. Bidders should indicate the source of supply i.e. name and address of the manufacture from whom the items are to be sourced.
- Supply of equipment means-installation and commissioning (expect Civil works), demonstration as well as Training at side. No separate charges will be paid on this account.

Rejection of the Bid:

- The bid document shall be out-rightly rejected under following stipulation and not correspondence will be entertained whatsoever.
- If the bidder has not furnished the required tender paper cost of EMD or EMD exemption certificate from competent authority.
- If the bidder has not submitted the price as per the specified Annexure-I.
- If the bid not supplemented with backup standard accessories and Optional accessories and cost of AMC separately for three years after completion of warranty period (In case of Major Machinery only).
- Photo copy of the up-to-date valid manufacturing licensed/ import licensed (if it is imported)/ Dealership certificate/ distributed certificate of the product along with tax registration certificate of the manufacture issued from competent authority.
- If the bidder whether manufacture or authorized distributer/dealer have not supply the required quantity for qualification as per the eligibility criteria and not submitted the performance statement at Annexure- IV with supporting documents.
- If the quoted product of the bidders not conform the technical specification with complete accessories for functional equipment/ machinery and standard of workmanship required by the purchaser.
- If the bidder not furnished technical details of the equipment and machinery with one make and model as per the Annexure- V.
- If the bidder will quote the items more then one make/model.
- If the bidder has not submitted the details catalogue, foundation drawing and schedule of supply of items, if required.
- If the bidder have not agreed to give bid validity.

 Furnishing of wrong/ambiguous information in compliance statement may lead to rejection of bid and further blacklisting of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide or fraudulent intent.

Purchaser's Right to accept any Bid and to reject any Bid:

The purchaser reserve the right to accept or reject any bid and to annul the bidding process and reject all the bids without assigning any reason thereof any time prior to award of contract, without thereby incurring any liability to the affected bidders or bidder on the grounds of such action of the purchaser. In case of bidder qualifies as per the qualifying the criteria and standards, purchase of May at his discretion relax qualification criteria for award of contact.

Evaluation and Comparison of Bids:

The comparison shall be of For Destination Price Basis Including The Price Of All Costs Wherever Applicable As Well As Duties And Taxes Or Payable On Machineries, Instruments And Equipments Incorporated Or To Be Incorporated In The Items including the warrantee/guarantee period from the date of installation.

- The purchaser's evaluation of a bid will take into account, in addition to the bid price and the price of incidental services.
- The purpose of bid evaluation is to determine substantially responsive grid with the lowest evaluated cost, but not necessarily the lowest submitted price, which should be recommended for award.
- Evaluation of bids should be made strictly in terms of provisions in the bid document to ensure compliance with the commercial and Technical accepts.
- The past performance of the supplier will be taken into account while evaluating the bids.
- Cost of the inland transportation, insurance and other cost within the purchaser's country incidental to delivery of the goods to their Final Destination.
- Alternative options of Offer shall not be allowed.
- Each bidder shall submit only one quotation with one make and model.
- The quotation would be evaluated separately for each item.
- Sales tax in connection with sales of goods shall not be taken into account in evaluation.

Supply Conditions:

Delivery of Goods:

The delivery of goods shall be made by the supplier to the Consignee in accordance to the order placed as shall be detailed in the schedule of requirements and technical specifications.

Warrantee Period (Comprehensive):

The bidder must quote for a minimum period of 2 year a comprehensive warranty from the date of completion of the satisfactory commissioning as per (annexure-II). This also includes all accessories related to instruments and equipment quoted for.

Payment Terms:

No advance payment will be made by the purchaser to the supplier for performance of the contract. 100% of the contract price shall be paid within 30 days after satisfactory supply, installation, demonstration, commissioning and training and stock entry of bills of the goods within due date of delivery.

Transportation:

The supplier shall be required to meet all transport and storage expenses until commissioning of the instruments/ equipment covered in the contract.

Taxes and Duties:

The supplier shall entirely responsible for payment of all taxes, duties etc. Incurred until delivery of the contract goods to the consignee subject to recovery afterwards in the bill as claimed in the bid offer. Income tax as applicable shall be deducted at source.

Period of Validity of Bids:

- The bid rates should keep open/ valid for a period of 180 days from the date of Bids are opened.
- A bid valid for a shorter period that is less than 180 days shall be rejected, as non-responsive.
- In absence of any indication of the date of validity in the Bid, It will be presumed that the offer will remain valid for the minimum period that is 180 days as prescribed above.

Penalty against Non-supply:

In case of non-supply of stores within the due date that is within the date of delivery the EMD deposited by the bidder shall be forfeited.

Annual Maintenance Contract:

The cost of annual maintenance contract for next 3 years after warranty period shall be

submitted as per the Annexure at I (b). The after sales service during and after the warranty/

guarantee period should be available from the companies own engineers.

Jurisdiction of the Court:

The purchaser and the supplier shall agree that the competent court at Sambalpur shall have

the jurisdiction to try and decide anything between the parties and they may approach the

competent court at Sambalpur if required at any time.

Terms & Condition

i) The supplier must supply all items at a time part supply will not be acceptable. Any loss or

damage during the transit will be solely borne by the supplier.

ii) GST will be quoted separately for all times.

iii) Each Tender shall submit only one Tender along with catalogue of the item.

IV) The purchase committee will evaluate and compare the quotations determined to be

substantially responsive, i.e. which are properly signed and conform to the terms and

conditions and specifications.

v) The Registrar reserves the right to accept or to reject any quotation and to cancel the

quotation process and reject all quotations at any time prior to the award of contract without

citing any reason thereof.

v) 100% Payment shall be made in Indian Rupees after successful delivery and installation of the

items as per specifications and quantity.

vi) Sealed Tender is to be submitted/delivered at the address mentioned below.

The Registrar, Veer Surendra Sai University of Technology, Burla

P.O.-Engineering College Burla.

Dist. Sambalpur-768018,Odisha

vii) Any dispute arising out of the deal shall be subjected to the jurisdiction of the court at

Sambalpur in the state Odisha.

Sd/-

REGISTRAR

SECTION-III: FORMS AND ANNEXURES ANNEXURE-I (a)

PRICE SCHEDULE (ITEM WISE)

Name of the Firm:_	

SI. No.	Name of the Instrument Make: Model No: Country of origin	
01	(A1) Base Price/Unit	
02	(A2) All Taxes	
03	(A3) Freight Charge (if any)	
04	(A4) Any Other (If any, mention Details)	
05	(A) Total=A1+A2+A3+A4 in INR	
06	IN WORDS	

Note- (I) price bid Performa should be provided individually for all equipments.

(ii) Taxes like GST, freight and other taxes/ charges, if any applicable must be explicitly mentioned in this price bid. Any type of correction/addition in price schedules shall not be permissible. Taxes mentioned elsewhere except this price bid will not be taken into consideration.

ANNEXURE-I (b)

PRICE SCHEDULE ITEM WISE -B PRICE SCHEDULE FOR ANNUAL MAINTENANCE CONTRACT AFTER COMPLETION OF THE WARRANTY PERIOD

Sl. No.	brief description of goods total annual	quantity numbers	in				annual maintenance contract cost 3 year that is 3*(4a+4b+4c)
1	2	3			4		5
				1 st year	2 nd year	3 rd year	
				(a)	(b)	(c)	
				_			

Note:

- 1. the cost of annual maintenance contract which include preventive maintenance including testing and calibration as per technical/service/operational and manual/ labour and spares after satisfactory completion of the warranty period may be quoted for next three years on yearly basis for complete equipment and turnkey (if any).
- 2. The cost of AMC may be quoted along with taxes applicable on the date of bid opening. The taxes to be paid extra should be specifically stated. in absence of any such stipulation the price will be taken inclusive of all taxes and no claim for the same will be entertained later.
- 3. Cost of AMC will not be added for ranking/evaluation purpose. However the cost of AMC for lowest evaluated bidder it subject to negotiation.
- 4. The payment of AMC will be made as per the payment terms of the bid document.
- 5. The uptime warranty and downtime penalty shall be as per the bid document.
- 6. All software updates should be provided free of cost during AMC period.
- 7. The stipulations in technical specification will supersede above provisions.
- 8. The supplier shall keep sufficient stock of spares require during annual comprehensive maintenance contract period. In case the spares are required to be imported, it would be the responsibility of the supplier to import and get them costume cleared and pay all necessary duties.

Place:	
Date:	

Signature of Bidder Business Address Seal of the Bidder

ANNEXURE-II

WARRANTY MAINTENANCE CONTACT AGREEMENT

This Agreement made theday of, 20 between the "the Registrar, Veer
Surendra Sai University of Technology, Burla" (here in after "the purchaser") of the one part and M/s
(Hereinafter called "the supplier") of the other part: whereas the purchaser invited bids for
certain goods & ancillary services viz, supply and commissioning of the instruments and
equipment at Burla including comprehensive warranty maintenance services and has accepted
a bid by the supplier for the instruments and equipments specified below at the consignee site
including comprehensive warranty maintenance services for a period of 2 year from the date of
installation and commissioning of the instruments and equipment as per award of contract
No

Name of the Equipment & Machineries QTY

(To be filled as per details of goods in the award of contract)

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

- 1. Maintenance services shall consist of Preventive and Corrective maintenance of equipment specified above & will include repair and replacement of parts of cost.
- 2. Preventive maintenance, monthly once, Which includes:
 - 2.1 Check-up to ensure that device connection is proper, cabling is at proper condition etc.
 - 2.2 Cleaning of the above instruments & equipments and checking the system performance.
- 3. The supplier is to furnish the tentative schedule of the preventive maintenance of warranty maintenance contract (WWC) to be carried out.
- 4. The parts replaced must be new parts or equivalent in performance to new parts.
- 5. The supplier will also provide the same maintenance service in case of the movement of equipment from the place of original installation to a different place or location, if the equipment is shifted by the purchaser to another place or location at the cost and rist of the purchaser.
- 6. Any compliant informed through telephone must be acknowledged with a complaint No. by the supplier which will be noted by consignee. All further contact with the supplier on such compliant will be initiated through that compliant No. Once reflection is done that where complaints are to be noted along with Complaints are to be noted along with Compliant No.
- 7. The maintenance shall normally be done at the earliest.
- 8. The service Engineer of the supplier will be allowed to handle the respective plant and machineries only in presence of the officer in charge at the consignee site.
- 9. The supplier should ensure that maintenance job is not hampered/ delayed due to paucity of spares/inadequate manpower etc.
- 10. The supplier should submit the services call report, to the consignee for each and every service call without fail.
- 11. The supplier evaluation data format for the WMC of consignee systems may be filled up for necessary action.

12. All formats after filled up should be signed at the end of each page by the supplied	12. All formats	after filled up	should be signed	d at the end of	each page by	the supplie
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13.	After completion	of the work/r	epair/maintenance,	the purchaser	shall issue a	certificate
	of completion to	the supplier to	o that effect.			

Signature:	Signature:
For the Purchaser:	For the Purchaser:
Name:	Name:
Designation Address:	Designation Address:
Telephone No.:	Telephone No.:

ANNEXURE-III

MANUFACTURES	AUTHORISATION FORIVI
No/	Date/
То	
The Registrar,	
VSSUT Odisha	
Burla, Sambalpur.	
Dear Sir,Bid No	
We	who are established and
retable manufactures of	having factories at
	uthorize M/s oid and sign the contract with you against the
	r than M/s are
invitation for bid.	t in regard to this business against this specific
We hereby extend our full guaranty and wa the goods and services by the above firm aga	rranty as per general conditions of contract for ainst this bid.
	Yours faithfully, (Signature for and on behalf of Manufactures)

Note: This letter of authority should be on the letterhead of the manufacturer and should be signed by a person, competent and having the power of attorney to bind the manufacturer. It should be included original by the Bidders in its bid.

• This Para should be deleted for simple items where manufacturers sell the product through different stockiest.

ANNEXURE-IV DETAILS OF THE BIDDDERS

Bid Reference No.

Name and address of the Bidder:

- 1) Name of the bidder
 - A) Full postal address
 - B) Full address of the premises
 - C) Telephonic address
 - D) Telephonic number
 - E) Fax number
 - F) E-mail:
 - G) PAN No.
 - H) TIN No.
 - I) GSTN
- 2) Total annual turn-over (value in Rupees)
- 3) Quality control arrangement details
- 4) Test certificate held
 - a) Type test
 - b) BIS/ISO certification
 - c) Any other
- 5) Details of staff
 - a) Technical
 - b) Skilled
 - c) Unskilled
- 6) Branch Office/ Contact Person/ Lialsoning Office in Odisha.
 - a) Address
 - b) Telephone No.
 - c) E-mail
 - d) Fax

ANNEXURE-V

Technical details of the Machineries & Equipments to be supplied by the bidder

Bid Sl. No. Of the item	Tender specification	Bidders Specification with make and model no (Enclose manufactures catalogue/brochure for each item)	

SECTION-VI:

SCHEDULE OF REQUIRMENTS AND TECHNICAL SPECIFICATIONS SPECIFICATIONS OF GOODS

Muffle Furnace: Electrically heated floor top front loading high temperature muffle furnace of maximum temperature of 1200°C using KANTHAL AI(APM) heating element with microprocessor based digital PID temperature programmer controller with thyristor power drive. This furnace is to be specially used to study the effect of high temperature on concrete material.

Quantity: 01

The technical details are as per following:

Serial No.	Parameters	Description
1	Size	 Inside Chamber Size: 600mm (Length) x 400 mm (Width) x 400 mm (Height). Minimum load carrying capacity of the inside chamber is 120kg. This furnace is to be specially used to study the effect of high temperature on concrete material.
2	Furnace Structure	 Outer body MS powder coated Single door opens to 180 degree. Parallel moving with front opening insulated Insert-type door, which facing away from the Operator. It's made from high insulation with a peep hole 12 mm for viewing. Side wall of the inner chamber is packaged with high temperature wool. Furnace material should be such that there will be minimum heat leakage. At high temperature there will be spalling in concrete. Separation required for this detached material from heating element.
3	Max Temperature	 Specimen will be subjected to maximum temperature of 1200°C for at least 4 hour.
4	Temperature accuracy and	 Accuracy ± 1°C and Uniformity ± 5°C within hot zone at set temperature above 400°C for suitable placement. System to ensure better uniform temperature.

	uniformity	
5	Temperature Controller:	 Microprocessor PID control Auto tuning Digital display with program function It should run with a ramp system It should set time and temperature rise curve The system will run continuously for 8 hour per day Temperature rising rate 0.1 - 10°C per minute
6	Thermal Insulation	The thermal insulation should be such that at maximum temperature air insulation does not cross ambient +15 °C of skin temperature.
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8	Thermocouple	"K" type with high alumina refractory sheath and connecting holder.
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10	Control Panel	Control panel should have necessary accessories for smooth running /controlling of system provided temperature programmer controller, safety overheating controller, LED indicator lamps, FRC safety fuse AE make ammeter, safety MCB, On/Off rotary switch.
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12	Safety:	Over temperature protection by safety controller. Over current protection by SRC Fuse with MCB and TC failure by mail controller. Door safety switch for isolate power when door open. Earthling terminal will provide from safety current shocking.