**THIS DOCUMENT IS FOR REFERENCE ONLY. ONLY E-TENDERS WILL BE ACCEPTED**



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS**

**TRAINING & RESEARCH**

**CHANDIGARH - 160019**

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**e-TENDER NOTICE**

National Institute Of Technical Teachers Training & Research, Chandigarh invites Short Term tenders through e-tendering for purchase of equipment for Civil Engineering, Electronics and Communication Engineering and Mechanical Engineering Departments as per details given below:

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| --- | --- | --- |
| I | Downloading of e-tender document | Start Date: 02.12.2015 at 09.00 A.M.  End Date : 22.12.2015 at 05.00 P.M. |
| II | Date of submission of e-tender | Start Date: 02.12.2015 at 09.00 A.M.  End Date : 22.12.2015 at 05:.00 P.M. |
| III | Physical submission of EMD and eligibility documents | Start Date: 02.12.2015 at 09.00 A.M.  End Date : 22.12.2015 at 05: 00 P.M. |
| IV | Opening of Technical Bid (online) | 23:12:2015 at 11:00 AM |

**Detailed Terms and Conditions are available in e-tender document. The bid document can be downloaded from the website of Chandigarh Administration** [**http://etenders.chd.nic.in**](http://etenders.chd.nic.in)**. Only e-tenders will be accepted. Complete tender document is available for reference purposes on Institute website** [**www.nitttrchd.ac.in**](http://www.nitttrchd.ac.in)

**Director**

**INSTRUCTIONS TO BIDDERS REGARDING e-TENDERING PROCESS**

1. **No tender will be accepted in physical form.** The bidders shall have to submit their Bids online in Electronic Format under Digital Signatures. For participation in the e-tendering process, the bidders need to register themselves on http://etenders.chd.nic.in/nicgep. On registration, they will be provided with a user ID and a system generated password enabling them to submit their Bids online using Digital System Certificates (DSC).

2. Tenders without Digital Signatures will not be accepted by the electronic tendering  
system.

3. Bids will be opened online as per time schedule mentioned in *"Terms and Conditions*

*of the Tender".*

1. Before submission of on line bids, bidders must ensure that scanned copies of all the necessary documents have been uploaded with the bid.
2. Director, NITTTR, Chandigarh will not be responsible for any delay in online submission of bids due to any reason whatsoever.

6. Bidders should get ready with the scanned copies of EMD as specified in the tender documents. EMD amount in the form of a Demand Draft in favour of the Director, NITTTR, Chandigarh payable at Chandigarh should be submitted to Director National Institute of Technical Teachers Training and Research Sector-26 Chandigarh so as to reach him on or before the last date for receiving the tenders.

7. The details of EMD specified in the tender document should be same as submitted online (scanned copies). Otherwise tender will be rejected summarily.

1. The conditional bids shall not be considered and will be out rightly rejected.
2. The Financial Bid through e-tendering of only those bidders shall be opened who will  
   qualify in the technical bid and are approved by the Purchase Committee/Technical  
   Experts.

10. The tenderers are required to upload self-attested copies of the relevant documents required as per Terms & Conditions, failing which their bids may be rejected and will not be considered.

**TERMS AND CONDITIONS OF THE TENDER**

1. The last date and time for receipt of tenders is **22/12/2015 up to 05:00 P.M.** through e-tendering only .Tenders in any other form will not be accepted.
2. Each tender must be accompanied with Earnest Money Deposit in the shape of Demand Draft in favour of Director, NITTTR, Chandigarh payable at Chandigarh, valid for six months on any Scheduled Bank.
3. The sealed envelope of EMD should bearing the Advertisement No. should be clearly  
   superscribed as **"EMD for tender due on 22/12/2015"** should be submitted in the office of Director, NITTTR, Sector-26, Chandigarh on or before **22/12/2015 up to 05:00 P.M.**
4. If the party fails to supply the material after receiving the order, the EMD shall be forfeited.
5. The quantity of items and quantity indicated in the enclosed list are tentative. Director reserves the right to increase or decrease the quantity or delete some or all of the items depending on the needs of the institute.
6. The renderer should indicate specifically the sales tax, duties and levies chargeable against each item/package. The Institute is entitled to custom duty exemption and concessional sales tax applicable to Educational and Research organizations.
7. The rates quoted should be F.O.R., NITTTR Chandigarh. In case rates are chargeable at any other place, the packing and forwarding charges should be clearly mentioned indicating the mode of transport and insurance during transit.
8. The renderer should clearly indicate the delivery period and validity period of the offer.
9. The renderer should clearly indicate the availability of service and maintenance facilities at Chandigarh for the items quoted.
10. The above mentioned details particularly the Sales Tax, the levies and other charges, if not quoted properly, the bid can be cancelled. Conditional / doubtful bids will also be liable for cancellation.
11. Any attempt direct or indirect, to cast influence, negotiation on the part of the renderer with the officials/authority to whom he will submit the tender or the tender accepting official/authority before the finalization of tenders will render the tenderer liable for exclusion from consideration.
12. Tender(s) received without earnest money shall be rejected.
13. The requirements of the Institute in terms of category of equipment, detailed specifications and quantity are given in schedule of technical specification / requirement (As per Annexure-I). Director, NITTTR, Chandigarh reserves the right to change the quantity for any/all items without assigning any reason.
14. The Director reserves the right to reject any or all tenders without assigning any reason  
    whatsoever.
15. The tenders will be opened on the date and time indicated in the presence of renderers if any present on the occasion.
16. **The tenders not accompanied by Earnest Money or incomplete in any respect will  
    be rejected outright.**
17. No advance payment or payment against performa invoice will be made. Payment will be made after receipt, installation and testing of items, to the satisfaction of the authorized representative(s) of the Director.
18. In case, the item(s) is to be imported for supply, irrevocable letter of credit will be opened with the Bank. The Institute's Banker is State Bank of Patiala, Extension Counter, Chandigarh College of Engineering and Technology, Sector-26, Chandigarh - 160019
19. All damaged or unapproved goods shall be returned at the risk and cost of the Tendered and the incidental expenditure thereupon shall be recovered from them.
20. This institute is recognized as R&D institute and is exempted from Excise Duty. The quoted prices must be mentioned showing Excise Duty separately. Institute will provide custom duty exemption certificate in case the item(s) is imported.
21. In case the price is allowed to be quoted in currencies other than INR, the tenderer should give the conversion rate from the quoted currency to INR.
22. VAT/Sales Tax must be quoted separately.
23. Training for the operation of equipment, if any, shall be provided by the firm free of cost to the faculty / other staff of the college.
24. The Equipment / Machinery will be maintained free of charges during the warranty period.
25. Instructional materials and **e-manuals** will be uploaded by the supplier free of cost.
26. The bidder must fill the Check List from the authorized signatory only with the seal of  
    the firm. (As per Annexure II).
27. The successful renderer will have to give a performance warranty in the form of Bank Guarantee for an amount equal to 8% of the purchase order amount.
28. The renderer should quote for all the items in the package as comparison will be made package wise only.

**ANNEXURE - I**

**(SPECIFICATIONS AND ALLIED TECHNICAL DETAILS OF MACHINERY/EQUIPMENT/SERVICES AND SCHEDULE OF REQUIREMENT)**

**MECHANICAL ENGINEERING**

**MECHANICAL ENGINEERNIG DEPARTMENT**

SI NO:01

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| Name of equipment | Quantity Required | Detailed Specifications |
| **Tubular Furnace** | 01 | **Furnace Structure :**Box Type Double Walled M. S. Body and M. S. Angle’s structure with proper stiffeners and neat powder coated  **Chamber Size :** I.D: 80mm x Length: minimum 500 mm with uniform temperature length: minimum 200 mm  **Power :** Less than 5 KW Single Phase  **Insulation :** A-29 Grade & back up by mechanically pressed zirconia blend ceramic fiber.  **Max. Temperature :** 1500°C (N2 or other inert gas must be filled inside the tube to resist deformation)  **Continuous work temperature :** Minimum 1400°C  **Temperature controller :** PID automatic control and auto-tune function. 8 programmable segments for precise control. Built in protection for over-heated and broken thermal couple.  **Hot zone length :** Minimum 200mm  **Temperature Accuracy :** +/- 10 °C  **Heating Element :** Advanced Powder Metallurgical  **Warranty :** 1 Year including heating elements  **Standard package :** Alumina foam block for tube furnace, Vacuum flanges and Fused quartz tubing.  **Installation, Commissioning and Training**   1. The delivery will be considered complete only after successful commissioning of the instrument 2. The pre-installation requirements will be communicated to NITTTR CHD well in advance of the installation 3. The Installation, commissioning and training for minimum 2 days will be done only by well-trained factory engineers at site 4. The supplier will provide training to at least two candidates at the installation site to make them familiar with smooth operation of the instrument   **Computer**   1. PC interface with data acquisition, program storage and processing analysis facility. 2. Minimum Configuration: intel core i7 processor, 8GB RAM, 1TB Hard Disk, 24” Display with other essential peripherals and operating system   **Accessories should be provided:**  1. 1 pair of glove 2. 1 crucible tong  3. 2pcs tube insulation plugs 4. Furnace Handle Hook  Furnace should be capable of operating in normal air, under vacuum or with controlled inert atmosphere of Argon, Nitrogen.  Operation and service manual in English (electronic and hard copy) should be provided with the equipment. |

SI NO:02

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| Name of equipment | Quantity Required | Detailed Specifications |
| **100 kN Fatigue Testing Machine** | 01 | **A. Machine Details:**  1. Load capacity: ± 100 kN  2. Max. Dynamic load: 100kN (± 50 kN)  3. Max. Static load: ± 60 kN  4. Max. Load amplitude: ± 50 kN  5. Frequency range of operation: covering a range upto 100 Hz in 5 frequency steps.  6. Suitable mounting table with slots for mounting devices or components.  7. Static and Dynamic accuracy should be ± 5% or better.  8. Operating Temperature: 10 to 100oC  9**.** Safety aspects: Overload, over current protection, upper and lower limit of the set load protection, automatic switching off the machine after completion of test or encounter emergency. Safety measures to be followed during operation should be furnished. Machine should comply with appropriate EMI/EMC standards and certificate to be provided.  10. Machine should allow crack detection with a sensitivity of 0.01 Hz.  11. The machine should offer automatic compensation of mass inertia.  12. Should be provided with Servo drive for fast and exact mean load control.  13. The machine should have high guidance accuracy to avoid lateral oscillations and ensuring high degree of centricity.  14. Should be provided with suitable displacement measurement gauges and attachment parts (Details to be provided).  15. The machine to be calibrated with load cell as per international practice for static and dynamic loads and details to be provided (Calibration certificate to be provided).  **B. Test requirements:**  1. Machine should be capable of carrying out fatigue tests on round and flat samples for generation of S/N curves as per ASTM / DIN standards.  2. Machine should be capable of carrying out 3 point bending tests on metallic samples as per relevant ASTM / DIN standards (Suitable 3-point bending devices to be provided).  3. Machine should be capable of carrying out precracking of specimens as per relevant ASTM / DIN standards.  4. Machine should be capable of carrying out fatigue crack growth studies as per relevant ASTM / DIN standards.  **C. GRIPS:**  Relevant grips / attachments for cyclic load testing of the following samples should be provided. **(Quotation to be provided for individual grips separately).**  **1) Grips for Round samples:** 6 to 25 mm diameter or better for loads upto  a) 50 kN ( ± 25kN)  b) 100 kN (±50kN)  **2) Grips for Three point bending samples** for loads upto  a) 20kN (0/-20 kN) &  b) 100 kN (0/-100 kN)  **D. Software:**  Software should perform all control functions and should be capable of carrying out various tests  as per the relevant standards. Facilities such as real time graphical display, storage and play back of the test results, post processing, report generation and compatibility with Microsoft office products.  Software capable of carrying out the following studies should be provided with backup:  - A software for statistical analysis of the fatigue data should be provided (Details of software to be provided).  - Woehler diagrams and graphical S/N-curves with test points (online-display, plots, data export function) as per ASTM / DIN standard.  - Fatigue crack growth s/w according to ASTM / DIN Standard. The software should support standard types of fracture mechanic specimens and several methods of crack length measuring techniques.  - Controlling of the machine to run the test via the stress intensity down to ΔK-Threshold.  - Precracking of notched specimens software according to ASTM / DIN Standard using the frequency drop detection method.  - Block loading program for applying loads of varying amplitudes.  - The software should operate under **Latest Windows environment**.  - The Test data should be exported to ACSII, MS-EXCEL etc.  - **Latest PC with following specifications: I**ntel core i7 processor, 8 GB RAM, 01 Tb Hard Disk, 24” Display with other essential peripherals**,** printer & scannerto be provided with details All catalogues related to Software / Hardware to be provided.  **E. Controller:**  Should be latest state of art Intelligent DIGITAL signal processing controller with integrated process computer for online measuring, data processing, controlling servo amplifiers for static and dynamic drive with at least 4 channels for measurement & control.  **F. Power requirements:**  a) Should be designed for use with 220 V ± 10% (3 phase) with a mains frequency of 50 ± 1% Hz.  b) **Suitable UPS (reputed make)** with backup power of upto 30 mts to be quoted with details. |

SI NO:03

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| Name of equipment | Quantity Required | Detailed Specifications |
| **PIEZO-ELECTRIC 6- COMPONENT DYNAMOMETER AND ACCESSORIES** | 01 | **Universal Dynamometer for Turning, Milling, Grinding and Drilling Application.**   1. **DYNAMOMETER:**   Piezo-electric Quartz based Dynamometer for measuring 3 component Force and 3 component Torque  Range : Fx,Fy : -5 to 5 KN  Fz : -5 to 5 KN  : Mx,My : 400 Nm  : Mz : 600 Nm  Sensitivity : Fx, Fy : 7.5 PC/N  Fz :-3.7 PC/N  Cross Talk : ≤± 2%  Linearity : (All Range) ≤± 1% FSO  Operating Temperature:0-70 ◦ C  Degree of Protection: IP67 with Connecting Cable   1. **CONNECTING CABLE**: Connecting Cable with both end Connector, Length- 5 Meter Length 2. **TOOL HOLDER**: Tool holder – Lathe Tools up to 26 x 26 mm Shank Cross section 3. **MULTICHANNEL CHARGE AMPLIFIER:**   8- Channel Version for multi component Force – Torque measurement  6- component analog summing calculator suitable for Data Acquisition software for acquiring and displaying Force and Torque  Measuring Range : ± 200 PC to 200000 PC  Frequency Range >0-45KHz  Filters : Low pass and High Pass Filters  PC Control Via RS 232 C Interface  Output Voltage : +/- 10 V  Output Interference : <10 mVPP   1. **Data Acquisition Hardware and Software for Desktop/Laptop version of PC**   Windows based Operation  Configuration and control measuring instruments through USB 2.0 Port.  Useful signal evaluation and calculation function  Simultaneous recording up to 8 channel measuring Channel  Software should be ideal for acquisition and evaluation of physical measure and facility for graphical, Calculation function and documentation of the measurement.  Resolution: 16 Bit  Sampling Frequency: 125 KS/s with 8 Measuring Channels  Trigger Function  Remote control of Charge Amplifier. |