

Tender Document
Procurement of Various Equipment and Instruments for
Mechanical Engineering Department

Last date of submitting Tender Document: 29/09/2021



Mechanical Engineering Department
NATIONAL INSTITUTE OF TECHNICAL TEACHERS'
TRAINING AND RESEARCH, KOLKATA
Block-FC, Sector-III, Salt Lake City,
Kolkata- 7000 106



**NATIONAL INSTITUTE OF TECHNICAL TEACHERS'
TRAINING AND RESEARCH, KOLKATA**
(An Autonomous Institution under the Ministry of Education, Govt. of India)
Block – FC, Sector – III, Salt Lake City, Kolkata – 700 106
Website: <http://www.nitttrkol.ac.in>

NOTICE INVITING TENDER

Sealed tenders are invited from manufacturers or their authorized-business partner/marketing agents/service agents/dealers for **Procurement of various equipment and instruments for Mechanical Engineering Department**. Tender Paper (TP) will be available in the Institute website from 08/09/2021 to 29/09/2021. Bidders may submit their quotation latest by 29/09/2021 along with a Demand Draft of Rs.500/- i/f/o **“Director, NITTTR, Kolkata”** payable at Kolkata in a closed envelop. The envelop should be superscribed with “Tender Document for Procurement of Various Equipment and Instruments for Mechanical Engineering Department”. Tenders will be opened at 4:00 p.m. on 29/09/2021.

Advt. No. 09/2021-22

DIRECTOR

DETAILED SPECIFICATION FOR VARIOUS MACHINES AND EQUIPMENT

Sl. No.	Name of the equipment with specification	Quantity	Max. Price (INR) Lakhs (Lahshs)
1	<p style="text-align: center;">Dynamometer for CNC Lathe</p> <p>Measurement: X Y & Z direction force measurement simultaneously. Capacity: 0 to 5KN Sensitivity: 0.1N Compatibility: Equipment must be supplied with specially designed turret for compatibility with CNC lathe machine, and necessary accessories. Software: Lathe tool software exclusively designed and developed for measuring the force X, Y & Z direction during turning operation. Software Features: Digital display of force, Graphical display of force, component no. type, date, time, data recording, printing, transfer to MS Accuracy: 0.5% of full scale Power requirement: 220 V, 1 Phase, 50 Hz (300 V A max.)</p>	1	10
2	<p style="text-align: center;">Dynamometer for Milling Machine</p> <p>Force: XYZ direction. Capacity: 0 to 5KN Sensitivity: 0.1N Accuracy: 1% of full scale. Bridge resistance: 350 Ohms Tool post diameter: 20mm/25mm Display: 3 independent for X, Y & Z force.31/2 digit LED display. Compatibility: Must be compatible with the CNC machining centre of ME Department.</p>	1	06
3	<p style="text-align: center;">Sensor for Condition Monitoring System</p> <p>Force Sensor for Tool Condition Monitoring System Sensitivity: Minimum 10 mv/lbf Range: At least 20 KN Compression Range: 60KN to 70 KN Tension Range: -2 KN to -3 KN Resonance Frequency: Greater than 50 Temperature: At least -50 degree C to 120 degree C Sealing: Yes Mounting: Stud Mounting Material: Stainless steel or harder alloys Cable: At least 7 ft. long cable</p>	1	04
4	<p style="text-align: center;">High Speed Camera</p> <p>Item description: The High Speed Camera should be able to take quality images at high frame rates for Flames, Fluid Dynamics, Machine Vision and Material Testing applications. Full Frame Performance: 2,000 FPS at 1280X1024 (Full) resolution and up-to 1,00,000 FPS at lower resolutions Sensor: 1.3 Mpixel CMOS image sensor Dynamic Range: 12-bit Monochrome Light sensitivity: ISO 10,000 mono</p>	1	20

	<p>Lenses: AF Zoom-Nikkor 24-85mm 02.8-41) IF</p> <p>Recording memory: 16 GB (Minimum)</p> <p>Software: The camera should have dedicated software that can be used for camera control and fast image download through high speed Gigabit Ethernet interface. Software having extra features for image processing and analysis would be preferred.</p> <p>Other support: The camera should support MATLAB for advanced image analysis.</p> <p>OS: Compatible with Windows 10 or higher (64 bit)</p> <p>Weight: Maximum up-to 2 Kg</p> <p>Operating Temperature: 0 - 40 degree C</p> <p>Humidity: 85% or less (non-condensing)</p> <p>Power: AC, 230V (with supplied adapter)</p> <p>Supplier profile: The supplier should be well know and reliable with minimum 2 prior supplies in India of the same or similar product. The supplier should have a service centre in India.</p> <p>Tripod: Professional medium weight Tripod</p> <p>Lamp / Mirror: High power LED lamp and Mirror for Shadowgraph application</p> <p>PC: Laptop for software with HD large screen for better visualization of images</p>		
5	<p style="text-align: center;">Welding Simulators</p> <p>Supported welding process facility: GMAW, FCAW, SMAW AND GTAW should be there.</p> <p>Welding coupons: V-butt 6'' pipe, overlapped plate, Tangled plate, V-butt plate and T-angled 6'' pipe to plate should be there.</p> <p>Welding position(ANSI/AWS A3.0M/ A3.0: 2010): 1F, 2F, 3F, 4F, 1G, 2G,3G, 4G, 5G, 6G</p> <p>Orientation selection: Flat, horizontal, vertical, 450, overhead and pipe should be there.</p> <p>Other Features:</p> <p>Voltage selection facility should be there.</p> <p>Intensity (Amperage) selection facility should be there.</p> <p>Polarity selection facility should be there.</p> <p>Shielding gas selection facility should be there.</p> <p>Wire speed selection facility should be there(in GMAW & GTAW)</p> <p>Current (AC/DC) selection facility should be there.</p> <p>Coupon material (carbon steel) selection facility should be there.</p> <p>Electrode stick diameter selection facility should be there.</p> <p>Filler Rod selection facility should be there.</p> <p>Analysis module selection facility should be there.</p> <p>Help mode for student facility should be there.</p> <p>Vision Technology: Augmented Reality.</p> <p>Power supply: 100-240V</p> <p>Dimension (without accessories): 420 x 238 x 440 mm</p> <p>Weight (without helmet): Not more than 13 kg.</p> <p>Weight (with helmet): Not more than 14 kg.</p> <p>Accessories: Augmented Reality Helmet and cables should be there.</p> <p>Processor: Intel Core i7 ultimate generation</p>	3	30

<p>Chipset: Intel H110 Express chipset.</p> <p>RAM: Minimum 4 GB DDr4-2133</p> <p>Graphic card: NVIDIA GM206 Maxwell architecture GPU Ge force GTX 950.</p> <p>Hard Disk: Solid State 120GB SSD</p> <p>Audio: high definition audio.</p> <p>Display Size: 9.7''</p> <p>Display Resolution: HD LCD 1024 X 768 X GA</p> <p>Port for External Display / Projector: VGA should be there.</p> <p>AR Vision Module Resolution: HD LCD 5.6'', VGA Display input up to 1280 X 800, Ultra-low video distortion 24 bit true color.</p> <p>Camera Resolution: 752 x 480 a 60 fps should be there.</p> <p>Operating Temperature: 0-45°C</p> <p>Humidity: 10-80%, Remote maintenance and up gradation facilities should be there.</p> <p>Regulation: CE & FCC</p> <p>Certifications: ISO 9001 Quality Management system, ISO 14001 Environmental Management system.</p>		
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Terms & Conditions:

1. The bidder(s) should either preferably be manufacturer of base machine / equipment / tool or an authorized business partner / marketing agent / service agent (second preference) of the OEM. In case of authorized business partner / marketing agent / service agent, authorization certificate should be attached along with the tender. tenderer(s) must quote including all components integral to a specific item. The brands / models / specifications mentioned are indicative. Equivalent higher configuration products may also be quoted whenever suitable. **It is expected that the tenderer(s) should quote product of renowned company with global presence and acceptance.**
2. Add-on items also need to be integrated with the system and comprehensive warranty for three (3) years is to be provided by the manufacturers of different add-on items along with the base machine. The tenderer(s)/ (integrator) should provide necessary supporting documents to authenticate their claim. Warranty will start from the date of installation and commissioning.
3. The quoted system should be as per the specification and should be 100% compatible with the existing system available in the institute. Prospective tenderer(s) may visit National Institute of Technical Teachers' Training and Research (NITTTR), Kolkata with prior appointment for this purpose. The Institute at its discretion may upgrade / modify the specification if required.
4. The rate quoted must be F.O.B. NITTTR, KOLKATA (Till NITTTR Kolkata) inclusive of packing, forwarding etc. GST, insurance, if any must be indicated separately. Educational discount, if any should be indicated clearly. For imported items, Custom duty shall be indicated separately.

4.1 As a research institute NITTTR, Kolkata is subject to GST at a rate not more than 5% as National Institute of Technical Teachers' Training & Research, Kolkata (West Bengal) is registered with the Department of Scientific and Industrial Research (DSIR) for purposes of availing Customs Duty exemptions in terms of Notfn. No. 51196-

Customs dt.23.07.1996, Notfn. No. 2812003- Customs dt. 01.03.2003, Notfn. No. 4312017- Cusroms dt. 30.06.20t7 &.Notfn. No.4712017- Integrated Tax (Rate) dt. 14.11.2017,Notfn. No. 10/2018-Integrated Tax (Rate) dt.25.01.2018 and Notfn. No. 4512017- Central Tax (Rate) dr. 14.11.2017, Notfn. fro. 4512017- Union Territory Tax (Rate) dt. 14.11.2017 & Notfn. No. 9/2018- Central Tax (Rate) dt. 25.01.2018, Notfn. No.912018- Union Territory Tax (Rate) dt. 25.01.2018, as amended from time to time for research purposes only.

4.2 All legal disputes shall be under the jurisdiction of the Kolkata Courts in the state of West Bengal.

4.3 Director, NITTTTR, Kolkata reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever and decision of the Director, NITTTTR, Kolkata in the matter shall be final and binding.

NB: Only relevant information (s) need to be submitted/complied with along with quotation(s)

5.0 The items can also be quoted separately even by different vendors.

6.0 Earnest Money Deposit (EMD):

6.1 “EMD at the rate of 4% of the estimated price” in the form of Crossed Account payee demand draft or fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank drawn in favor of Director, NATIONAL INSTITUTE OF TECHNICAL TEACHERS’ TRAINING AND RESEARCH, KOLKATA on any scheduled bank at Kolkata shall be submitted along with the tender.

6.2 Tender without earnest money deposit shall be **OUTRIGHTLY REJECTED**. A model format of bank guarantee for furnishing EMD is enclosed in Annexure-A.

6.3 Forfeiture of EMD: EMD of a tenderer(s) will be forfeited if the tenderer(s) withdraws or amends its tender or impairs or derogates from the tender in any respect within the period of validity of its tender. Further, if the successful tenderer(s) fails to furnish the required performance security within the specified period, its EMD will be forfeited.

6.4 Refund of EMD: EMD furnished by all unsuccessful tenderer(s) shall be returned to them without any interest whatsoever, at the earliest after expiry of the final tender validity period but not later than 30 days after conclusion of the contract. EMD of the successful tenderer(s) shall be returned, without any interest whatsoever, after receipt of performance security from it as called for in the contract.

6.5 No EMD is required from bidders who are registered with (i) Central Purchase Organization (ii) NSIC, (iii) the concerned Ministry or Department, and (iv) similar other Organization as applicable.

6.6 EMD in the form of DD should be in a separate envelop superscripting “EMD”.

7.0 Each bidder shall submit only one tender.

8.0 Validity of Tender: Tender shall remain valid for a period not less than 6 months after the deadline date specified for submission.

9.0 Delivery Period: Delivery period shall be 45 days from the date of issuing purchase order.

10.0 Evaluation of Tender: NITTTR, KOLKATA will evaluate and compare the tenders determined to be substantially responsive i.e., which are

- 10.1 Properly signed.
- 10.2 Conform to the technical specifications, terms and conditions.
- 10.3 The tender would be evaluated separately for each item.

11.0 Submission of Documents: The Bid should contain the following:

- Printed copy of the brochure/leaflet containing, Make, Model No. and Specifications.
- Copy of current GST Return along with acknowledgement thereof.
- Copy of last Income Tax Assessment order and acknowledgement of Income Tax Return for current year.
- Copy of PAN Card.
- Copy of Valid Trade license.
- Copy of GST Registration Certificate.
- Copy of up-to-date custom duty clearance certificate, if applicable.
- Copy of valid registration certificate from State/Central Government.
- Copy of valid registration certificate of SSI Unit, if any.
- The tenderer(s) may furnish a list of clients serviced during the last three (3) years along with satisfactory completion certificates.
- Copy of latest audited statement of accounts.
- In case of foreign manufacturer, Authorization Certificate.

12.0 Bid Price: While furnishing the quoted price, the bidder (s) may note the following:

- 12.1 The contract shall be for each item of equipment / instrument / software as mentioned in the schedule of goods/services. Corrections, if any in quoted price, shall be made by crossing out, initialing, dating and rewriting.
- 12.2 All duties, taxes and other levies payable by the vendor under the contract.
- 12.3 **All duties, taxes and other levies payable by the vendor** under the contract shall be included in the total price and Taxes should be quoted separately.
- 12.4 The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account, except revision of taxes and duties.
- 12.5 The rate quoted must be both in words and figures.
- 12.6 The quantity against each item mentioned in the tender may vary according to the actual requirement at the time of placing Purchase Order.
The rates quoted by the bidder should be in Indian Rupees.
Late Bids: In the case of advertised tender enquiry, late bids (i.e. bids received after the specified date and time for receipt of bids) should not be considered.

13.0 Award of Contract: The NITTTR, KOLKATA will award the contract to the bidder whose tender has been determined to be substantially responsive in terms of technical specifications, terms & conditions and price quoted.

- 13.1 Notwithstanding the above, NITTTR, KOLKATA reserves the right to accept or reject any bidder(s) and to cancel the bidding process and reject all bids at any time prior to the award of contract.

- 13.2 The bidder whose bid is accepted will be notified of the award of contract by the NITTTR, KOLKATA prior to expiration of the tenderer(s) validity period. The accepted terms of the offer shall be incorporated in the purchase order.
- 14.0 Performance Security:**
- 14.1 Performance security at the rate of 6% of the contract value in the form of account payee demand draft, fixed deposit receipt from commercial bank or Bank guarantee from a commercial bank in favour of Director, NITTTR, Kolkata shall be submitted within 21 days after the notification of the award of contract. Performance security should remain valid for a period of sixty days beyond the date of completion of all contractual obligations of the vendor, including warranty obligations. A model format of Bank guarantee for providing performance security is enclosed at Annexure –B
- 14.2 Forfeiture of Performance Security: Performance security is to be forfeited and credited to the Institute Account in the event of a breach of contract by the vendor, in terms of the relevant contract.
- 14.3 Refund of Performance security: Performance security should be refunded to the vendor without any interest, whatsoever, after it duly performs and completes the contract in all respect and beyond 60 days of completion of all such obligations under the contract.
- 15.0 Liquidated Damages (LD) Clause for late delivery and late installation:**
- 15.1 If the supplier fails to deliver any or all the goods or to perform services like installation, erection, testing, commissioning, or other allied works on or before specified time period mentioned in the purchase order or extended date of completion time granted by institute if any, he shall without prejudice to any other right or remedy available under the law to the institute on account of such breach, the vendor will pay as agreed compensation the amount calculated at the rate stipulated below:
- 15.1.1 LD Clause for delay of delivery, installation, testing, commissioning, or other allied works will be as follows:- 0.5% of delivered price of delayed goods (or services) for each week or part thereof subject to maximum 10% of contract value.
- 15.1.2 The same rate of penalty shall be applicable for late installation of the equipment also.
- 16.0 Payment:** Payment will be made immediately after delivery & satisfactory commissioning of the goods / services and training of personnel. Payment in settlement of the bills will be subject to the deductions of income tax/GST at applicable rates under TDS.
- 17.0 Normal Commercial Warranty/ Guarantee:** Normal commercial warranty/ guarantee of three years shall be applicable to the supplied goods/ services and this should be specified clearly by the bidder.
- 18.0 Live Demonstration:** Live demonstration of the item(s) should be arranged by the vendors at their cost, if asked by the Institute.
- 19.0** Points which are not explicitly covered under “**terms and conditions**” above shall be covered by General Financial Rule 2017, Government of India, Ministry of Finance, Department of Expenditure. A copy of the same is available in the office of

the Department of Mechanical Engineering for perusal of the tenderer(s). Tenderer(s) are advised to go through the manual before submission of their tenders. A soft copy of the manual can also be downloaded from <http://finmin.nic.in>

- 20.0 Demonstration / Service / Repair** will be given by the trained engineer from manufacture only.
- 21.0** The non-transferable tender document excluding standard agreement form can be obtained from the Office of the Accountant as per above users on payment of **500/- (Rupees Five Hundred only)** in cash or Demand Draft in favour of the Director, NITTTR, Kolkata. **The users of downloaded tender document shall have to pay the cost of tender document i.e. 500/- by way of Demand Draft in favour of the Director, NITTTR, Kolkata payable at Kolkata while submitting their tender. Otherwise the Tender will not be accepted.**
- 22.0** The Competent Authority may cancel the whole tender process without assigning any reason.

You are requested to provide your offer as per schedule provided in Notice Inviting Tender in sealed envelope super-scribing **“Tender Advt. No. 09/2021-22”**

ANNEXURE - A

MODEL BANK GUARANTEE FORMAT FOR FURNISHING EMD

Whereas
..... (herein after called the “tenderer(s)”) has submitted their offer dated
for the supply of
..... (herein after called the “tender”) against the purchaser's tender enquiry No.
KNOW ALL MEN by these presents that WE of
..... having our registered office at
..... are bound unto
having at office at are (herein after called the “Purchaser”) in the sum of
..... for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this
..... day of 2021/22.

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer(s) withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- (2) If the tenderer(s) having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
 - a) If the tenderer(s) fails to furnish the Performance Security for the due performance of the contract.
 - b) Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)
Name and designation of the officer
Seal, name & address of the Bank and address of the Branch

ANNEXURE - B
MODEL BANK GUARANTEE FORMAT FOR PERFORMANCE SECURITY

To
The Director,
NITTTR, Kolkata

WHEREAS
(name and address of the supplier) (herein after called "the supplier") has undertaken, in pursuance of contract no. dated to supply (description of goods and services) (herein after called "the contract").

AND WHEREAS it has been stipulated by you in the said contract that the supplier shall furnish you with a bank guarantee by a scheduled commercial recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the contract;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby, affirm that we are guarantors and responsible to you, on Behalf of the supplier, up to a total of (amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until the day of..... 2021/22.

(Signature of the authorized officer of the Bank)
Name and designation of the officer
Seal, name & address of the Bank and address of the Branch