



राष्ट्रीय प्रौद्योगिकी संस्थान - आंध्रप्रदेश  
NATIONAL INSTITUTE OF TECHNOLOGY ANDHRA PRADESH  
Near National Highway No. 16, Kadakatla, Tadepalligudem – 534101  
West Godavari District, Andhra Pradesh

Ref. No.: NIT-AP/MED/ML/2021-22/84

Date: 12.01.2022

Dear Sir,

**Sub: Supply of Measurements Lab Equipment's at NIT Andhra Pradesh –Quotation invited – Regarding.**

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Please send your lowest quotation to supply the item(s) as attached in Annexure-1. The quotation is to be sent in a sealed envelope by to the following address:

C/o Tender box  
Central Stores and Purchase Sections,  
NATIONAL INSTITUTE OF TECHNOLOGY, ANDHRA PRADESH,  
Near National Highway No. 16, Kadakatla,  
TADEPALLIGUDEM – 534101  
West Godavari District, Andhra Pradesh.

The quotation has to be sent by Post (Ordinary / Register / Speed Post) or drop in a drop box physically. (Any other mode will not be accepted)

The envelope must be superscribed as "**QUOTATION**" at the center of the envelope and the above **reference number at left top** along with the name of the tender on the envelope. Quotations without the above superscribed **will not be accepted**.

The last date to receive the sealed quotation is **03.02.2022**

## Annexure-1

S. No	Name of the Items	Quantity
1.	<p><b>Experimental setup for calibration of strain gauge pressure sensor with Bourdon gauge.</b></p> <p><u>Measurement of pressure using strain gauge model: Range 100 Kg/cm<sup>2</sup></u></p> <p><b>Pressure sensor with digital pressure Indicator provided with manually operated hydraulic pump and standard Bourdon pressure gauge.</b></p> <ol style="list-style-type: none"> <li>A Strain Gauge Pressure Transducer Range-10 Kg/cm</li> <li>A Digital Pressure Indicator calibrated to read pressure upto 100.0 Kg/cm.</li> <li>A Pressure Source consisting of a Hydraulic Pump &amp; a dial gauge to indicate pressure.</li> <li>The strain Gauge Pressure Sensor is mounted in parallel with the dial Gauge in the Pump.</li> <li>A Graph of pressure applied by the pump as indicated in the dial gauge &amp; corresponding Digital Indicator can be drawn.</li> </ol>	01
2.	<p><b>Experimental setup for determination of the mass flow rate of air using hot wire anemometer and pitot tube.</b></p> <p><u>With hotwire anemometer and velocity generation source:</u></p> <ol style="list-style-type: none"> <li>A source for the generation of air velocity in a circular tube of 9-inch dia.</li> <li>The fan is provided with a variac to vary the speed of the fan and hence the air flow.</li> <li>Hotwire Anemometer meter to read velocity directly.</li> <li>Pitot static tube with U tube Manometer.</li> <li>A plot of velocity is indicated by U tube manometer reading and the velocity meter reading can be drawn.</li> </ol>	01
3.	<p><b>Experimental setup for comparison of the temperature reading recorded by thermocouples, RTD, thermometers.</b></p> <p><b>Specifications:</b></p> <ol style="list-style-type: none"> <li>A small source of controllable Temperature upto 100°C with a glass Thermometer to indicate the temperature of the source.</li> <li>A Thermocouple having stainless steel sheathing to 200°C</li> <li>RTD (PT-100) Resistance Temperature Detector 0°C to 200°C.</li> <li>Thermister 0° C to 100° C Temperature Sensor.</li> <li>Semi-Conductor Temperature Transducer 0° C to 100° C.</li> <li>Digital Temperature Indicator to read upto 0° C to 100° C &amp; provided with suitable connection to use with above sensors.</li> </ol>	01
4.	<p><b>IR thermal transducer for recording high temperatures during welding, machining, casting and etc.</b></p> <p><b>Specifications:</b></p> <p>Object Temperature Range: Upto 1200°C or more.</p> <p>IR Resolution: 384 x 288 or more</p> <p>Focus: Continuous, one-shot laser distance meter (LDM), manual</p> <p>Field of View (FOV): 24°x18° (17mm lens), 42° x 32° (10 mm lens), 14°x10° (29mm lens)</p> <p>Laser Distance Measurement : on-screen</p> <p>Spotmeter: minimum 3 in live mode.</p> <p>Image Modes: Infrared, visual, MSX ® , Picture-in-Picture</p> <p>Thermal Sensitivity (NETD): &lt; 0.03°C @ 30°C (86°F)</p> <p>Spectral Range: 7.5 - 14.0 μm</p> <p>Image Frequency: 30 Hz</p> <p>Contents: Infrared camera with lens, battery (2ea), battery charger, front protection, straps (hand, wrist), hard transport case, lanyards, lens caps, lens cleaning cloth, power supplies, 8GB SD card, Torx wrench, and cables.</p>	01

5.	<b>Surface Roughness Measuring Instrument.</b> <b>Specifications:</b> <b>(Mitutoyo Surftest SJ-310 or equivalent or with higher specifications)</b> Drive Unit: Retractable type (178-235) Detector: 0.75mN type (178-296) Display Unit: Standard type with printer Detector: Conical taper angle: 60° Stylus Tip Radius: 2µm Detector measuring force: 0.75mN	01
6.	<b>Tool Makers microscope for measurement of cutting tool angles.</b> <b>Specifications:</b> <b>(Mitutoyo TM-505B Toolmaker's Measuring Microscope or equivalent)</b> a) Optical tube: Monocular type (Vertical tilt angle: 60°), 90° broken cross-hair reticle (176-126), Erect image, Diopter adjustable. b) Eyepiece protractor: Graduation: 1°, Protractor range: 360°, Minimum reading by vernier: 6'. c) Eyepiece (176-116): Magnification: 10X, 15X, 20X, Field number: 13. d) Objective (176-138): Magnification: 2X, 5X, 10X. e) Total magnification: 30X f) Transmitted illumination: 3W LED, GIF (green) filter, Stepless intensity adjustment. g) Reflected illumination: 3W LED, Stepless intensity adjustment, Adjustable position.	01
7.	<b>Experimental setup for torque measurement and do regression analysis.</b> <b>Specifications:</b> a) A Strain Gauge Torque Transducer of Reaction type. Range-10 Kgm. b) A Digital Torque Indicator calibrated to use with above sensor and to indicate 10.0 Kgm. c) A Provision to mount one end of the torque Transducer rigidly and the other end provided with a fulcrum arm of 1 meter length. d) A set of weights in steps of 1Kg upto 10Kg to load the Torque sensor upto 10Kgm. e) A plot of Actual Torque applied to indicate Torque can be drawn.	01

While sending your lowest quotation – please specify the following:

1. Sales Tax : Inclusive  
VAT/CST/GST : Indicate prevailing tax on percentage basis.
2. Excise Duty :
3. Rates  
a) F.O.R. Destination/  
b) Estimated Packing, Forwarding and Freight Charges in case of Ex-works only, may be mentioned on percentage basis.
4. Insurance : Inclusive/ indicate on percentage basis, in case payable by the Institute.
5. Preferred terms of payment (institute rules permit to pay on Receipt of materials in good condition):
6. Recommended mode of transport :
7. Discount offered, if any :
8. Validity of the offer :
9. Warranty Period :
10. The final vendor will be selected based on the total consolidated price of all items requested in enquiry which includes, GST, Packing, transportation, etc. as applicable.
11. In view of the above clause (10), the vendor should quote all the items in their quotation or else, the quotation shall be treated as unresponsive/invalid unconditionally. Partial order shall not be placed at any case.

12. Indicate whether any AMC support is given after completion of warranty Period. If so, the AMC charges may be mentioned on percentage basis
13. Firm schedule of delivery :
14. Detailed drawings / catalogues / Leaflets / literature / samples may be furnished wherever feasible / required
15. Please indicate clearly whether the rates quoted herein are the same as applicable to DGS & D / Government Department / Other Public Sector Undertakings.
16. The supplier shall invariably furnish the **Certificate of Clearance of VAT / CST/ GST Registration number along with the quotations.**
17. Please mention the Quotation number and name of the item/s (in brief) on your envelope when submitting your quotation to the Institute
18. Please note that the Director reserves the right to modify or alter the specifications and also to reject any or all the Quotations without assigning any reasons thereto.
19. The suppliers / firms are informed not to call on us without prior appointment.
20. The Institute is not responsible for delays / loss in postal transit or due to any other reasons.
21. Performance Security should be for an amount of **5 %**. Of the contract as specified in the bid documents. Performance Security may be furnished in the form of an Account payee Demand Draft, Fixed Deposit Receipt form a Commercial bank or online payment in an acceptable from safeguarding the purchaser's interest in all respects.
22. Performance Security should remain valid for a period of sixty days beyond the date of completion of all contractual obligation including warranty obligations.
23. Any Violation in the terms and conditions, the bidder will be made ineligible for the contract.
24. **Presently our Institute doesn't have DSIR certificate so no concession in GST. Normal rate of GST will be applicable.**



Yours faithfully,

Head of the Department

अधिष्ठाता/ Associate Dean  
 केंद्रीय भण्डार & खरीद भाग  
 Central Stores & Purchases Section  
 राष्ट्रीय प्रौद्योगिकी संस्थान  
 आंध्रप्रदेश / Andhra Pradesh  
 ताडेपल्लिगुडेम / Tadapalligudem