



**NATIONAL INSTITUTE OF ELECTRONICS**  
**Ministry of Science & Technology**  
**Government of Pakistan**  
**17, H-9, Islamabad**



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**TENDER NO. 06/2019-NIE**  
**MISC. EQUIPMENT FOR THE STRENGTHENING OF THE FACILITIES OF CQTC**  
**TESTING/ CALIBRATION LABORTORY**

| <b>S. #</b> | <b>Name of item with detailed specification</b>  | <b>Qty</b> | <b>Unit Price</b> | <b>Total Price</b> |
|-------------|--|------------|-------------------|--------------------|
| 1           | <p><b>Bench Top Precision Multimeter with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin Renowned Manufacturer</b></p> <p><b><u>Specifications:</u></b><br/>Required equipment shall have defined or better specifications as follows:</p> <ul style="list-style-type: none"><li>• Equipment Operating voltage 220-230 volts at 50Hz with necessary fuse protection etc.</li><li>• Capable to measure AC / DC Voltage &amp; Current Sources, Decade Boxes, Resistance Standards, Multiproduct Calibrators, Thermocouple Sources etc. Precision: 6.5 Digits or above.</li><li>• Voltage AC &amp; DC 0 to <math>\pm 1000</math> volts or above</li><li>• Current AC &amp; DC 0 to <math>\pm 10</math> A or above.</li><li>• Frequency &amp; period measurement range 0-300k Hz or above; Resistance Measurement: 0-1G Ohms or above; Capacitance measurement: 1nF-1F or equivalent/above; Capable to perform onsite measurements with carrying bag &amp; necessary operational &amp; calibration training on miscellaneous equipment calibration, report generation, measurement uncertainty etc. (Online/Skype OR any other mode etc.)</li><li>• Calibration certificate form an ISO 17025 accredited local/National lab of Pakistan or equivalent.</li><li>• Any Other additional/better specification/options such as temperature, thermocouples, process calibration etc. would be preferred.</li></ul> | 01         |                   |                    |
| 2.          | <p><b>Handheld Digital Multimeter with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b><u>Specifications:</u></b><br/>Required device may have defined or better specifications as mentioned below:</p>  | 01         |                   |                    |

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|   | <ul style="list-style-type: none"> <li>• Precision: 4 Digits or above.</li> <li>• Voltage AC &amp; DC 0 to <math>\pm 1000</math> volts or above</li> <li>• Current AC &amp; DC 0 to <math>\pm 10</math> A or above.</li> <li>• Frequency measurement range 0-500kHz or above</li> <li>• Resistance Measurement: 0-100M Ohms or above</li> <li>• Capacitance measurement: 1n-300<math>\mu</math> F or above</li> <li>• Includes other test options like appropriate frequency counting, diode test etc. any additional parameter will be preferred.</li> <li>• Calibration certificate from an ISO 17025 accredited lab local/Pakistani laboratory.</li> <li>• Any Other additional/better specification/options etc. would be preferred.</li> </ul>   |    |  |  |
| 3 | <p><b>Decade Resistance Box with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b><br/>The quoted device shall be able to provide the resistance range from 1<math>\Omega</math> to 10M<math>\Omega</math> adjustable with following specifications:</p> <ul style="list-style-type: none"> <li>• High accuracy of 0.1% or above/better</li> <li>• Residual Resistance &lt; 200m<math>\Omega</math> or better/above</li> <li>• Power Rating 1-10 watt per resistor or above/better specified.</li> <li>• Resolution: 1<math>\Omega</math> or above/better</li> <li>• 500V DC/AC RMS or better/above</li> <li>• The required range can be in one unit or multiple units with better or equivalent accuracies &amp; shall be separately quoted (If any).</li> <li>• Any Other additional/better specification/options etc. would be preferred.</li> <li>• Calibration certificate ISO 17025 accredited from local/Pakistani laboratory</li> </ul> <p>Any Other additional/better specification/options etc. would be preferred.</p> | 01 |  |  |
| 4 | <p><b>Decade Capacitance Box with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b><br/>Must be able to provide the capacitance range of 10pF to 100mF adjustable with following specifications or above/better:</p> <ul style="list-style-type: none"> <li>• High accuracy of 1%; Residual Capacitance &lt; 60pF; Resolution: 10pF; Should be bi-polar working</li> <li>• The required range can be in one unit or multiple units with better or equivalent accuracies &amp; shall be separately quoted (If any).</li> <li>• Calibration certificate ISO 17025 accredited from local/Pakistani laboratory.</li> </ul>  | 01 |  |  |

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|    | <ul style="list-style-type: none"> <li>• Any Other additional/better specification/options etc. would be preferred.</li> </ul>  |    |  |  |
| 5  | <p><b>Function/ Waveform Generator with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b><br/>The offered equipment shall be capable to generate output frequency of (SINE: 0.001Hz -35 MHz and SQUARE: 0.001-10 MHz or above/better with following or better specifications:</p> <ul style="list-style-type: none"> <li>• Operating voltage 220 volts at 50Hz with necessary fuse protection.</li> <li>• Amplitude: <math>\pm 50\text{mV}</math> (RMS)- <math>\pm 250</math> (RMS) with DC offset of <math>\pm 150\text{V}</math> or better</li> <li>• Number of analog channels: 2 or above/better</li> <li>• Bandwidth: 35 MHz or better/better</li> <li>• Accuracy: <math>\pm 10</math> ppm of the setting value or above/better</li> <li>• Should be able to generate other waveform like Saw tooth, Triangular, Random noise with appropriate amplitude and frequency etc.</li> <li>• 10-bit digital resolution or above/better</li> <li>• Calibration certificate ISO 17025 accredited from local/Pakistani laboratory.</li> <li>• Any Other additional/better specification/options etc. would be preferred.</li> </ul> | 01 |  |  |
| 6. | <p><b>Mixed Signal and Digital Oscilloscope with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Operating voltage 220 volts at 50Hz with necessary fuse protection.</li> <li>• 4 analog channels or above/better</li> <li>• 100 MHz bandwidth or above/better</li> <li>• 10GSq/s real-time sample rate or above/better</li> <li>• Measuring capacity: <math>1\mu\text{V}</math> to 10kV or above</li> <li>• Input resistance of 10 M Ohms or above</li> <li>• Should include frequency counter up to 100 MHz or above</li> <li>• Spectrum analyzer is a plus (9 kHz – 3 GHz, bandwidth <math>\geq 1</math> GHz, f vs. t, amp. Vs. t, and <math>\phi</math> vs. t waveforms)</li> <li>• Calibration certificate ISO 17025 accredited from local/Pakistani laboratory would be preferred.</li> <li>• Any Other additional/better specification/options etc. would be preferred.</li> </ul>  | 01 |  |  |
| 7  | <p><b>AC Power Calibrator_ with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b><br/>The AC power calibrator shall be capable to calibrate/measure Single to three phase power meters, clamp</p>   | 01 |  |  |

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|    | <p>on meters, portable analog instruments etc. with following/better specifications:</p> <ul style="list-style-type: none"> <li>• Equipment operating voltage 220vots at 50Hz with necessary fuse protection.</li> <li>• AC voltage: 10 mV to 1250 V; AC current: 0.3 mA to 62.5 A; Frequency: 40 to 1200 Hz; AC voltage: <math>\pm 350</math> ppm; AC current: <math>\pm 450</math> ppm</li> <li>• AC power: <math>\pm 450</math> ppm; AC voltage: <math>\pm 350</math> ppm; AC current: <math>\pm 450</math> ppm; AC power: <math>\pm 450</math> ppm; AC voltage, current: <math>\pm 50</math> ppm/h; AC voltage, current: <math>\pm 50</math> ppm/h</li> <li>• Calibration certificate from an ISO 17025 accredited lab local/Pakistani laboratory.</li> <li>• Any Other additional/better specification/options etc. would be preferred.</li> </ul>   |    |  |  |
| 8. | <p><b>Repair/ Maintenance of Multifunction Calibrator from any registered/ renowned supplier of Time Electronics or equivalent with following details:-</b></p> <ul style="list-style-type: none"> <li>• Equipment make/model: Time electronics/ 5025, Repair OR replacement of Terminal Relay card with specification of (DC/AC volts 0.02 to 20 volts &amp; DC/AC; current 200micro A to 20A)</li> <li>• Scope Board (Amplitude function only)</li> <li>• All the responsibilities such as pickup/return (from &amp; to NIE), insurance, customs clearance, warranty guarantee or any other related item shall be covered. Necessary operational &amp; calibration training (Online/skype etc.) would be preferred.</li> <li>• The prices of each board/function shall be separately quoted.</li> <li>• The price of repair &amp; replacement shall also be separately quoted.</li> </ul> <p>Calibration certificate from national accredited laboratory (Pakistan) ISO 17025 accredited is required.</p> | 01 |  |  |
| 9. | <p><b>DC/AC, Voltage/ Current Calibrator with standard accessories and following specifications:-</b></p> <p><b>Make: EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b><br/>The required equipment shall be capable to calibrate &amp; generate AC/DC voltage &amp; current with following/better specifications:</p> <ul style="list-style-type: none"> <li>• Equipment Operating voltage 220vots at 50Hz with necessary fuse protection.</li> <li>• DC/AC 0.02V-20V; DC/AC Current 0.02A to 20A; 0.005% (50ppm) accuracy or better</li> <li>• 1 ppm setting resolution or better</li> <li>• Programmable function may be added.</li> </ul> <p>Calibration certificate from an ISO 17025 accredited local/equivalent lab of Pakistan/abroad.</p>   | 01 |  |  |

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| 10. | <p><b>Universal Frequency Counter with standard accessories and following specifications:-</b></p> <p><b>Make: Agilent/ HP or any equivalent EU/USA origin renowned manufacturer</b></p> <p><b>Specifications:</b></p> <ul style="list-style-type: none"> <li>• Operating voltage 220-230 volts at 50Hz.</li> <li>• 2 universal channels including RF or above</li> <li>• Resolution (frequency (f), time interval (t)): 12 digits/s, 20 ps or better/above</li> <li>• Input range <math>\pm 5</math> V (<math>\pm 50</math> V) full scale ranges or better/above</li> <li>• Measurement includes f, f ratio, t, period, rise/fall time, pulse width, duty cycle, phase, totalize, peak voltage, t average, delay time interval etc.</li> <li>• Frequency range: DC to 350 MHz or better/above</li> <li>• Any better option/addition specification Or function would be preferred.</li> <li>• Calibration certificate from ISO 17025 accredited local lab of Pakistan.</li> </ul> | 01 |  |  |
| 11. | <p><b>Temperature &amp; Humidity Meter with standard accessories and following specifications:-</b></p> <p><b>Make: Any Renowned Manufacturer</b></p> <p><b>Specifications:</b></p> <p>The meter shall be able to measure the temperature &amp; humidity of the environment with the following specifications:</p> <ul style="list-style-type: none"> <li>• Resolution: 0.1 °C or above/better</li> <li>• Humidity Range: 10% - 99% (RH)</li> <li>• Temperature range: -50 to 100 °C</li> <li>• Display type: Digital</li> <li>• 1.5 V, AA type battery or mains (220volts) operated.</li> <li>• Calibration certificate from ISO 17025 accredited local lab of Pakistan.</li> </ul>  | 02 |  |  |



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**TERM & CONDITIONS:**

1. Price to be quoted in Pak Rupees on (FOR) free home delivery basis.
2. As the equipment/ items to be procured are based on high tech technology therefore for competitive bidding single stage-two envelopes bidding procedure shall be adopted.
  - (i). the bid shall be comprised a single package containing two separate envelopes, containing separately **“TECHNICAL PROPOSAL”** and **“FINANCIAL PROPOSAL”**.
  - (ii). the envelope shall be marked as **“TECHNICAL PROPOSAL”** and **“FINANCIAL PROPOSAL”** in the **bold, properly sealed and with legible letters** to avoid any confusion.
  - (iii). initially the envelope marked with **“TECHNICAL PROPOSAL”** shall be opened.
  - (iv). the envelope marked with **“FINANCIAL PROPOSAL”** shall be retained in the custody of NIE without being opened.
  - (v). upon evaluation of technical proposals, NIE shall publically open the financial proposal of the technically accepted bids only. The financial proposal of the bids found technically rejected shall be returned un-opened to the respective firms.
3. The bids of the firm operating from their residential address and P.O. Box number will not be considered.
4. Tender number must be specified on the left corner of the bidding envelope.
5. The rates should be valid for at least **“90”** days from the date of tender opening.
6. The offered equipment/ items must be brand new of the original manufacturer and covered under normal warranty/guarantee with necessary back-up support.
7. The bid must be supported with necessary catalogue/ brochure indicating make, model detailed specification and country of origin of the offered equipment.
8. The scope of supplies includes supply of equipment, installation, testing and commissioning of equipment and if necessary training to NIE Personnel's.

9. The financial bid should reflect at sight the following costs separately for fair comparison purpose.
  - i. Unit Price of equipment.
  - ii. GST, if applicable.
10. Conditional/ ambiguous bids will not be entertained.
11. Earnest money @ 2% of quoted prices (Refundable) must be accompanied with tender in shape of a crossed bank draft/ pay order in favour of the Director General NIE.
12. E/M of the successful bidder will be refunded upon submission of prescribe performance/ bank guarantee to NIE and the same shall be released after satisfactory completion of warranty/ guarantee period of the supplied goods.
13. The successful bidder shall provide 5% performance/ bank Guarantee of the total order value of the order to NIE for satisfactory execution of the supply order.
14. The bid found to be lowest evaluated bid shall be accepted only either overall whole tender/items base or each item wise.
15. The estimated delivery/ completion period of supplies/ work must be specified in the quotation.
16. In case of any delay in supplies of ordered items, the successful bidder shall bound to inform NIE to prior to "15" days of the ending of last date of delivery, so that necessary approval regarding extension in delivery period may be obtained from Director General NIE otherwise at the time of payment to firm a penalty @ 2% per month of the total order value will be charged from the successful bidder without any notice.
17. Tender of all items may be awarded either to a single party or can be divided among different parties depending upon their professional capabilities and competitiveness in prices individually.
- 18. No advance payment will be made.**
19. NTN and GST number must be mentioned on the quotation along with providing copy of its documentary evidence, failing which bid will not be considered.
20. Payment will be made on submission of the prescribed bill in duplicate through crossed cheque OR through Inland L/C after satisfactory completion of supply order and our acceptance thereof, which includes installation, testing, commissioning of the equipment and training etc. The bill presented on the letterhead of the firm will not be accepted for payment purpose.
21. As per Government Policy payment to the firm is subject to the registration of firm name in **Active Tax Payer List of FBR**, otherwise payment will be stopped till the appearance of vendor name in ATL of FBR.
22. Income Tax/ Sales Tax etc. will be deducted from bill as per Govt. Rules.

23. Last date for receipt of the tender in the Procurement Section of NIE is **March 25, 2019 up to 11:00 hours**. Technical proposals of the received firms shall be opened on the same day at **11:30 hours** in the presence of those who wish to be present. Tenders received late will not be considered in any case.
24. The Director General NIE reserves the right to accept or reject any or all tenders in part or whole, or change the quantity of tendered items as per provision of PPRA Rules.

**SUHAIL AHMED SHAMI**  
**Dy. Director Procurement**  
**NIE, Islamabad**  
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