Mahatma Gandhi University, Kerala

Tender No: 20/Qut-Tend/IIUCNN/2018-19 Dated: 22 /12/2018

NOTICE INVITING TENDER

Tender No: 20/Qut-Tend/IIUCNN/2018-19

The Registrar, Mahatma Gandhi University, Kottayam invites online bid (technical and financial bid) for Supply and Installation of the Scientific Equipment **Electrical Conductivity Measurement System** from reputed firms. The period of the tender is 180 days from the date of tender.

1	Name of the scientific equipment	**Electrical Conductivity Measurement System** 1. **Digital Multimeter** (1 number) (Detailed specifications are given below) 2. **Source Meter** (1 number) (Detailed specifications are given below) 3. **USB to GPIB interface adapter** (1 number) (Detailed specifications are given below) 4. **Shielded GPIB cable** (1 number) (Detailed specifications are given below) 5. **Low Temperature Conductivity Study Cell** (1 number) (Detailed specifications are given below)
2	Earnest money deposit (EMD)	Rs 12000/-
3	Tender submission fee	Rs.1800 /- + GST
4	Period of supply and installation	Within 60 days
5	Mode of submission of Bid	Online
6	Tender Documents	Can be downloaded from the website www.etenders.kerala.gov.in
7	Last date and Time of submission of tender by online	05.01.2019 4.00pm
9	Date and time of opening of technical bid	07.01.2019 11.00 am

General tender documents and tender schedule can be downloaded in A_4 plain size paper free of cost from the website www.etenders.kerala.gov.in. Documents to be submitted along with bid through online.

Sl.No	Through online
1	Scanned copy of valid registration certificate/dealership certificate
2	Scanned copy of duly filled e-payment form
3	Scanned copy of other certificates required, if any, for tender acceptance
4	Scanned Copy of duly filled preliminary Agreement in stamp paper of Rs.200/-
5	BOQ

SPECIAL CONDITIONS

1. Onsite training has to be arranged by the vendor. Training should include operation, software applications, analysis, handling and maintenance of system.

2. List of your customers using the instrument with the above mentioned specifications should be given.

3. Laboratory floor space, electrical power requirements, earthing, room temperature/ humidity requirements etc. should be mentioned appropriately.

4. Complete set of service and operation manuals for diagnosis, trouble shooting, maintenance and electronic circuitry (soft copies).

5. The Delivery Schedule, Payment Terms & Warranty/Guarantee etc must be clearly indicated in the technical bid. The bids shall be opened at the date and time specified. Further details can be had from the office of **The Director, International and Inter University Centre for Nanoscience and Nanotechnology (IIUCNN), Mahatma Gandhi University, Kottayam, Kerala-686560** on all working days during working hours **. Detailed enquiries can be had from Dr.** *NandakumarKalarikkal Tel:0481,2731669 (Office), 7907478110(Mobile) E-mail:<nkkalarikkal@mgu.ac.in>, <cnnmgu@gmail.com>*

TERMS AND CONDITIONS

1. The quoted price should be inclusive of all taxes/freight/installation charges, etc.
2. Customs/Excise Duty Exempted price should also be quoted
3. The quotation should have at least Three Months validity
4. Brand name of the equipments should be mentioned and Brochure to be enclosed
5. Warranty conditions, details of the nearest servicing centers, user reference, necessary supporting catalogues and demonstration should be provided.
6. The right to accept or reject quotes without assigning any reason rests entirely with the undersigned
7. If the product has a Valid DGS & D rate contract, it may be quoted
8. If the date of receipt and opening of quotation is declared a holiday, the next working day shall be the last day for the purpose.

9. At least two users should be trained by the application engineers during the time of installation.

The bidders are advised to submit their bid well in advance to avoid any kind of network issues. The undersigned reserves the right to reject any or all the tender without assigning any reason whatsoever.

Registrar

Mahatma Gandhi University, Kerala

SUPPLY & INSTALLATION OF ELECTRICAL CONDUCTIVITY MEASUREMENT SYSTEM

SPECIFICATIONS

1.SPECIFICATIONS OF DIGITAL MULTIMETER

Resolution	:	7.5 Digits
DCV Range	:	200mV to 1000V
Lowest resolution	:	10nV
Accuracy@20V, 1Year	:	24ppm of reading
ACV Range RMS	:	200mV to 750V
Lowest resolution	:	10nV
Accuracy@ 200 mV, 0.1 to 2KHz	:	24 ppm of reading
ACV frequency range	:	1Hz to 2MHz
Resistance Range	:	20Ω to 1GΩ
Lowest Resolution	:	1 μ Ω
Accuracy @ 20KΩ, 1Year	:	50ppm+4
DC Current Range	:	200μA to 2A
Lowest Resolution	:	10pA
Accuracy @ 20mA, 1Year	:	400ppm+20
AC Current Range	:	200μA to 2A
Lowest Resolution	:	10pAΩ
Frequency	**:**	**1Hz to 15MHz**
Accuracy	**:**	± (0.03% of reading)
Temperature	:	Built-in linearization for J, K, N, T, E, R, S, B Thermocouple types to ITS-90 and 100Ω platinum RTDs DIN 43 760 or IPTS- 68.
Features require crest	**:**	**DC In-circuit current measurement, built-in AC factor measurement, should have options to add scanner card inbuilt**
Input terminals	:	on both Front and rear
Connectivity	:	GPIB
IO connections	:	External Trigger input, Meter complete output, Digital IO, Trigger link In and Out, and scanner card slot.

Input power	:	180–250V, universal self-selecting.
Frequency	**:**	50Hz, 60Hz

STANDARDS

EMI/RFI	**:**	Conforms to VDE 0871B (per Vfg 1046/1984), IEC 801-2. Meets FCC part 15 Class B, CISPR-22 (EN55022).
Safety	**:**	**Should have** Conformity to IEC348, CAN/CSA-C22.2. No. 231, MIL-T-28800E1.Designed to UL1244.
Items to be supplied	:	High Performance Modular Test Leads, user's manual, Full calibration data, option slot cover.

2. SPECIFICATIONS OF SOURCE METER

Source Voltage	:	20mV - 200V Range with minimum 500nV resolution
Source Current	:	10nA to 1A Range with 500fA resolution
Max. Source Power	:	20 W, four-quadrant source or sink operation.
Measure Voltage	:	20mV to 200V Range with 10nV or better resolution
Measure Current	:	10nA to 10A Range with 10fA or better resolution
Resistance	:	2Ω to 200MΩ Range with 10μΩ or better resolution
Display	:	5" or Higher Graphical display with touch screen
Memory internal	:	2,50,000/- or higher inbuilt reading storage
Signal connection	:	Banana connectors on front and Triax connectors at rear are must
Measurement method	:	2 probe/4Probe with Guard
Connectivity	:	GPIB,LAN,USB and trigger link connectivity, Digital IO, TSP, LINK dual
Warranty	:	Minimum 1 year
Items to be supplied with instrument	:	2 nos Banana cable, USB Cable, LAN cable, Safety Interlock connector, Calibration certificate, Software.

3. SPECIFICATIONS OF USB TO GPIB INTERFACE ADAPTER

It should have one end GPIB and other end USB with status/error indicator. It should be IEEE-488.2 compatible for fast data transfer. It should support Windows® 7/Vista/XP/2000 drivers, LabVIEW® and LabWindows/CVI support, compatible with any standard GPIB instrument.

Transfer speed	:	1.5 Mbyte/s
Dimensions	:	3.2 × 2.6 × 1.1 in (81.7 × 66.1 × 27.8 mm)
Power (Current @ 5VDC)	:	500 mA

Electro Magnetic Compatibility	:	European Directive 2004/108/EEC
Operating conditions at least	:	0° to 55°C, 10% to 90% RH non-condensing
Cable length	:	Built in 2m (6.6 ft) cable

4. SPECIFICATIONS OF SHIELDED GPIB CABLE

Should be Double-shielded premium GPIB cable. Each end should have terminated with a feed through style metal housing for longest life and best performance. The mating thumb screws should be metric.

Length	:	2m (6.6 ft)

5. SPECIFICATIONS OF THE LOW TEMPERATURE CONDUCTIVITY STUDY CELL

- The low temperature conductivity study cell should be made of double walled stainless steel chamber consisting of sample holder.
- The sample holder should be capable of holding thin films, thick films and pellets.
- The cell should consist of two viewing windows.
- A PID temperature controller (range -70^{o}C to 150^{o}C) should be attached with the cell.
- There should be provision for KF-25 flange for vacuum connection.
- There should be provisions for mounting vacuum gauge and air admittance valve.
- On the top side there should be 4 BNC connectors.
- There should be copper wire connection terminals (4 Numbers) with standard O rings and mounting screws.
- It should consist of Four Probe measurement holder.

****