



# NETAJI NAGAR COLLEGE FOR WOMEN

(Reaccredited by NAAC with Grade B')

170/13/1, N.S.C Bose Road

Regent Estate, Kolkata-700092

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Ref. No. NNCW/DST-SERB-EEQ/11

Date. 30/04/2024

## Tender/Quotation Notice

### Subject: Notification Inviting Quotations for Procurement of the Equipment

Quotations are invited for purchasing the following **Equipment under ANRF/SERB sponsored project (FILE NO. EEQ/2023/000316) under Dr. Pradip Thakur (PI)**. Interested authorized vendors are requested to submit their quotations on or before **15/05/2024 (at 3.00 pm)** in a sealed envelope addressed to **"Dr. Pradip Thakur, Department of Physics, Netaji Nagar College for Women, 170/13/1 N. S. C Bose Road, Kolkata-700092"**.

### Descriptions:

Equipment name	Descriptions/Specifications	Warranty/Remarks
1. LCR Meter/ Impedance Analyzer with Temperature control system	<p>The Instrument should have following basic features:</p> <ul style="list-style-type: none"><li>• Measurement of Parameters : Z Impedance, Y Admittance, <math>\theta</math> Phase angle, <math>R_s</math>(ESR) Series-equivalent resistance = ESR, <math>R_p</math> Parallel-equivalent resistance, <math>R_{dc}</math> DC resistance, X Reactance, G Conductance, B Susceptance, <math>C_s</math> Series-equivalent static capacitance, <math>C_p</math> Parallel-equivalent static capacitance, <math>L_s</math> Series-equivalent inductance, <math>L_p</math> Parallel-equivalent inductance, <math>D(\tan\delta)</math> Loss coefficient = <math>\tan \delta</math> (<math>\delta = \delta</math>), Q Q factor (<math>Q = 1/D</math>).</li><li>• Save / Recall feature for saving Instrument setups.</li><li>• Different kind of Test Fixture like 2/4 Terminal, SMD Test Fixture etc. should be available and compatible.</li><li>• Instrument should have inbuilt DC Bias.</li></ul> <p><b><u>Specifications:-</u></b></p> <p>Following are measurement ranges of parameters.</p> <ul style="list-style-type: none"><li>➤ Test Frequency : 5 Hz to 5 MHz</li><li>➤ Frequency Resolution : 10 mHz</li><li>➤ R , X : 100 m<math>\Omega</math> to 100 M<math>\Omega</math>.</li><li>➤ C : 0.010 pF to 39.0 F</li><li>➤ L : 0.16 nH to 7.9 mH</li><li>➤ Voltage Signal Level : 5 mVrms to 5 Vrms</li></ul>	<p>One or Three year standard warranty</p> <p>OEM Should have their own service center in India and NABL accredited calibration laboratory for after sales support in India.</p>

- Current Signal Level : 10  $\mu$ Arms to 50 mArms
- Basic Accuracy : Z :  $\pm 0.08\%$ rdg.  $\theta$ :  $\pm 0.05^\circ$
- Z measurement Range : 100 m $\Omega$  to 100 M $\Omega$
- Sweep Time Interval : 100  $\mu$ s to 10,000 s
- DC Bias : 0 to + 2.5 V
- Sweep Parameters : Frequency, Signal Voltage/Current , DC bias voltage/current.
- No. of Measurement Points : 801
- Cable Length Measurement : 0m, 1m, 2m.
- Interface : LAN, USB (2.0), GPIB, RS232-C
- Data Storage : 32,000 Measurement can be stored internally.
- Mode : Impedance Analyzer / LCR Meter
- Display : 5.7-inch color TFT, display or better
- Power Supply : 90 to 264 V AC, 50/60 Hz, 150 VA max
- Accessories : 4 Terminal Probe, Power Cord, User Manual

**High Temperature Furnace & Sample Holder:**

1. **Temperature Range : Room Temperature - 1000° C**
2. **Temperature Accuracy :  $\pm 3\%$**
3. **Sample Holder : Bulk Sample Holder for Pellet & Thin Film**
4. **Interface : RS232 / USB**
5. **Accessories : Single User Software License for Operating Furnace using LCR Meter / Impedance Analyzer, 4 Nos. 1 Meter BNC-BNC Cable. Interface Cable. Power Cord.**

Last Date of submission of the quotation: 15/05/2024 (at 3.00 pm)

**Note:**

1. Authority has the right to cancel any notification inviting quotations for procurement of the equipment under unavoidable circumstances.
2. Authority/ Principal Investigator of this project have the right to reject any quotation if it fails to fulfil general norms.
3. The authority reserves the right to accept/reject any quotation without showing any reason thereof.
4. The payment will be done after successful installation of instrument.
5. The decisions of the Authority will be final in this regards.

Pradip Thakur  
Dr. Pradip Thakur (PI) 30/4/24

Dr. Pradip Thakur  
Principal Investigator  
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*Prakash*  
30.04.24  
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