



भारतीय  
प्रौद्योगिकी  
संस्थान  
काशी हिन्दू विश्वविद्यालय



INDIAN  
INSTITUTE OF  
TECHNOLOGY  
BANARAS HINDU UNIVERSITY

## SCHOOL OF MATERIALS SCIENCE AND TECHNOLOGY

### QUOTATION ENQUIRY

Ref: IIT (BHU)/SMST/2015-16/AKS/ENQ/

Date: January 18, 2016

(Date of tender enquiry)

Due Date: 6<sup>th</sup> February, 2016  
(Last date of quotation receiving)

To

M/S

Dear Sir,

Please submit your lowest rate for supplying the under mentioned items. Quotation in duplicate must reach us before the date marked above and should contain the following information:

1. Full specification and make of the item offered and its rate F.O.R. Varanasi/CIF New Delhi.
2. Sales tax at concessional rate as applicable to educational institution.
3. Your VAT / CST registration number, PAN & TAN numbers.
4. Conditions of supply and terms of payment.
5. If you are a manufacture of the item or if you have **proprietary right** over it, **please mention it in the quotation and provide a certificate.**
6. Please mention your agency commission in Indian Rs., if applicable (in case of imported items).
7. Please give an undertaking as per annexure-I-B.

Quotation must be sent in a **sealed envelope** with word "QUOTATION", our reference number, and due date as given above, clearly marked over it.

Sl. No.	ITEM	Approx. Qty.
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1.	<b>Impedance Analyzer with low and high temperature measurement attachments</b>	<b>01 No.</b>
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**Technical Specifications of Impedance Analyzer with low and high temperature measurement attachments:**

1.	Frequency Range	20 Hz to 10 MHz or better
2.	Frequency upgradability	System should be upgradable upto 120MHz for future applications
3.	Frequency Resolution	1mHz or better
4.	Measurement Parameters	Z , $\theta_z$ ,  Y , $\theta_y$ , Cp, Cs, Lp, Ls, Rp, Rs, D, Q, R, X, G, B, Complex Z, Complex Y or more
5.	Measurement Accuracy	$\pm 0.05$ % or better
6.	Voltage Range & Resolution	5 mVrms to 1 Vrms with 1mV resolution
7.	Current Range & Resolution	200 $\mu$ Arms to 20 mArms with 20 $\mu$ A resolution

8.	Sweep Parameters	Frequency, signal voltage, signal current, DC bias voltage, DC bias current
9.	Sweep type and Segment	Linear frequency, log frequency, OSC level (voltage, current), DC bias (voltage, current), log DC bias (voltage, current) having more than 200 segments.
10	Number of measurement points	2 to 1600 points or better
11.	Equivalent circuit model	Equivalent circuit parameters calculation with 3 & 4 components
12.	DC voltage bias Range & Resolution	0 to $\pm 40$ V & 1 mV
13.	Interface	GPIB, LAN, USB, VGA
14.	Interfacing Cables	Compatible Cables should be provided along with the setup which supports the high frequency operation.
15.	Display type	color LCD (TFT)
16.	Sample holder and Connectors	Sample holder for measurement of bulk sample at room temperature along with 4 (four) BNC cable to BNC cable connection, 4-2 terminal fixture of adequate length should be provided.
17.	Software	(i) Software for fully automatic measurement with varying temperature of the sample. (ii) All the primary and secondary parameters should be measured and recorded with respect to frequency, temperature & time. (iii) Software should display primary and secondary parameters in online graph for the property to be measured. (iv) Data transfer in ascii file for following: <ul style="list-style-type: none"> <li>• Parameter vs frequency at fix temperature.</li> <li>• Parameter vs temperature at fix frequency for several frequencies.</li> <li>• Z plot</li> </ul>
18.	Computer	Suitable PC and necessary software for operation and data acquisition, analysis
19.	Power requirement	220V AC, 50Hz
<b>Option for High Temperature measurements</b>		
20.	High Temperature Furnace with eurotherm/ other equivalent PID temperature Controller and thyristor power supply	Suitable heating Furnace with sample holder and connection cables for temperature range from room temperature to 800 Degree Centigrade or more, along with the software for fully automatic high temperature measurements.
<b>Option for Low Temperature measurement (Room temperature to Liq N<sub>2</sub> temperature or lower)</b>		
21.	Low Temperature attachment with Lakeshore/other equivalent temperature	Suitable low temperature attachment with sample holder and connection cables for measurement upto Liq N <sub>2</sub> temperature along with the software for fully automatic low temperature measurements

	Controller	
22.	Installation and commissioning	The instrument to be installed tested and commissioned by representative of supplier at our premises to the satisfaction of user without any cost.
23.	Training	The supplier should provide the training on site free of cost.
24.	Safety	The system should have inbuilt high safety standard as per international norms.
25.	Warranty	Please mention.
26.	Notes	- List of essential spares supplied free of cost with the instrument should be given. The complete set of documentations, manuals and software manuals should be provided both in softcopy and hard copy.
27.	Compliance statement	Point wise according to our document .
<b>Please provide the segmented quotation for interfacing Computer, low temperature and high temperature measurement attachments.</b>		

### **General Terms and Conditions**

#### **(1) Data acquisition and analysis**

Licensed windows based operating software and State-of-the-art computer control system compatible with the measurement options must be included in the basic unit. The software should be able to run the various measurement options automatically and in different modes. There must be a scope to control the external instruments by using different programmes for the experiments designed by users.

(2) **Other accessories:** Required sample holders for each type of the measurements should be included in the basic unit.

(3) Details of the standard samples/accessories to be provided by the company for testing and calibration of the instruments at the time of installation at site for the demonstration of the performance of equipment.

(4) The quotation should also indicate what kind of service/maintenance is required for the system. Whether this service has to be carried out by a company engineer or it can be carried by trained service personnel within India.

(5) Quotation should include all essential ancillary equipment and spares for its operation on turn-key basis on delivery (please provide list with details).

(6) Complete computer control of operation and measurement on Windows based platform. Give the details of software for measurement and analysis.

(7) Power requirement: 220 V, 50 Hz.

(8) Pre-installation site preparation requirements to be indicated and specified.

(9) Installation and training should be provided free of cost.

(10) Warranty period to be clearly mentioned and should begin from the date of installation.

(11) Guaranteed specifications to be demonstrated at the time of installation. Any necessary standard samples for that purpose should be brought by the Service Engineers.

(12) Quotation should include both CIF New Delhi and FOR IIT(BHU) prices.

(13) Shipment may be routed through an agent who may be appointed by the Institute.

(14) Service manuals with complete circuit diagram and PCB layout for all equipment to be provided with the instrument.

(15) Give Bankers name and address.

(16) List of similar systems installed during the last five years in India with contact person name, address, phone, fax and email Ids.

(17) The vendor to provide compliance statement with respect to each technical specification in the tender document duly supported by the manufacturer's literature. Any other claim will not be accepted and may lead to rejection of the quotation.

(18) Printed literature in support of compliance to the prescribed specifications is to be submitted.

- (19) **Compliance report** needs to be submitted as a part of the quotation.
- (20) In case during shipment period newer versions of software/hardware is available with vendor in lieu of the existing one, then improved version should be made available without any extra cost, in consultation with the institute.
- (21) Institute reserves the right to visit installations in India of similar capabilities. The details with regard to such installations should be given as a part of quotation.
- (22) Technical evaluation by the Institute may include demonstration to verify functionalities and capabilities of the system quoted.
- (23) **Payment condition: Preferably On Bill basis on installation of Instrument**
- (24) **Validity of the Quotation: Minimum 90 days.**
- (25) **Supply period of the quoted Instrument: Maximum 80 days.**
- (26) **Approximate cost of the Instrument: Rs. 14 Lakhs**
- (27) **Date of Bid opening and Time: 8<sup>th</sup> February 2016 at 4:00 P.M.**



**Akhilesh Kumar Singh, Associate Professor  
School of Materials Science and Technology  
Indian Institute of Technology (BHU) Varanasi  
Varanasi – 221005, U.P., INDIA**

## INDIAN INSTITUTE OF TECHNOLOGY (BHU) VARANASI, INDIA

<b>TO BE RETURNED</b>
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Following proforma should be filled in and duly signed by the firm and sent alongwith the quotation. (Please refer to the detailed instructions/notes before filling this proforma).

1. Validity of the offer : .....
2. Approximate Delivery Period : .....
3. (a) Whether rates have been quoted F.O.R. site and covers packing forwarding and insurance charges. : YES / NO
- (b) If not, please mention the same : .....
4. (a) Whether the prices are inclusive of Sales Tax and other taxes. : YES / NO
- (b) If not, kindly specify the amount / rate : .....
5. If the Sales Tax is charged extra, declaration for charging Sales Tax correctly attached. : YES / NO
6. (a) Whether supply will be made directly or through any Local / Regional / Authorized Dealer / Stockist : Directly/Stockist/Authorized Dealer
- (b) If through a Stockist / Dealer: -
  - (i) Name and full address of the Party : .....
  - (ii) Whether the order to be placed with the : Prindpal / Stockist / Dealer
  - (iii) Who will raise the bill : Prindpal / Stockist / Dealer
  - (iv) Cheques will be drawn in favour of : Prindpal / Stockist / Dealer
  - (v) Whether any Delivery, Packing and Forwarding : YES / NO

Charges will be payable to local Stockist/Dealer: (Please specify the amount/percentage etc, if any)

7. Our terms of payment (Please indicate your preference by a (✓) mark). Please note that no other payment terms are likely to be accepted.

**(a) For Local Firms or if the bills are raised by the Local Dealers.**

- (i) 100% Payment on bill basis : .....

**OR**

- (ii) 100% payment against Proforma Invoice after receipt of materials in good condition, installation and satisfactory report.

**(Only under exceptional cases)**

**(b) If the bills are raised by outstation Firms**

- (i) 100% Payment on bill basis : .....

**OR**

(ii) 100% payment against Proforma Invoice after receipt of materials in good condition, installation and satisfactory report : .....

**OR**

(iii) D.G.S. & D. Terms of Payment for D.G.S. & D Rate Contract items : .....

**OR**

(iv) 75% against Proforma Invoice (at site) or documents through Bank and 25% after receipt of materials in good condition, installation and satisfactory report. : .....

**OR**

(v) 90% payment against Proforma Invoice (at site) or documents through bank and 10% after receipt of materials in good condition, installation and satisfactory report (Only under special Circumstances). : .....

**8.** Whether any Excise Duty is payable on the items. : YES / NO  
If yes, indicate the amount / percentage. : .....%

**9.** Whether any installation charges are payable extra. : YES / NO  
If yes, amount to be specified. : .....

**10.** Whether any discount for educational institution offered on the printed price list of the manufacturer. : YES / NO  
Please mention the amount / percentage. : .....

**11.** Whether the product is on DGS &D/D.I. Rate contract. : YES / NO  
If yes, please enclose a photocopy of the same. : YES / NO

**12.** Whether the product bears I.S.I. Mark. : YES / NO  
If yes, please mention the I.S.I. License no. : .....

**13.** (a) Whether the firm is Sales Tax payer. : YES / NO  
If yes, please mention the Sales Tax Numbers. : .....

(b) Whether the Local Dealer(s) is / are Sales Tax payer(s) : YES / NO  
If yes, please mention the Sales Tax numbers of each : .....

**14.** Whether printed / authenticated price list of the Firm's Products and Catalogue etc. enclosed. : YES / NO

Signature of the Authorised Official with Seal

TO BE RETURNED WITH QUOTATION

## **UNDERTAKING**

### ***WE HEREBY UNDERTAKE THE FOLLOWING:***

1. We will not sell the product (s) to other institutions, bodies and also in the market on the rates less than those quoted by us to the Institute.
2. The goods on which Sales Tax has been charged are not exempted for payment of Sales Tax under C.S.T. Act or U.P.S.T. Act or the rules made there under and the amount mentioned on account of Sales Tax on goods is not more than what is payable under the provisions of the relevant Act or Rules made there under.
3. The rate of Excise Duty mentioned in the quotation is in accordance with the provisions of the rules and the same is payable to the Excise Authorities in respect of the stores.
4. The goods / Stores / articles offered shall be of the best quality and workmanship and their supply will be strictly in accordance with the technical specifications and particulars as detailed in the quotation.
5. The information furnished by us in the quotation is true and correct to the best of our knowledge and belief.
6. We have read and understood the rules, regulations, terms and conditions and agree to abide by them.

***Authorised Signatory***  
**(Seal)**