

NATIONAL INSTITUTE OF TECHNOLOGY  
KURUKSHETRA-136119

No. Phy/2018/PRO/CSIR/01/5307

Dated: 22/10/18

M/s Institute website

**Sub: INVITATION OF QUOTATIONS FOR I-V CHARACTERISATION SETUP ALONG WITH POTENTIOSTAT GALVANOSAT & EIS MODE AND ACCESSORIES.**

1. You are invited to submit your most competitive quotation for the following goods:

Sr.No.	Brief Description & Specifications of Goods	Quantity
1.	I-V Characterisation Setup Along With Potentiostat Galvanosat & Eis Mode And Accessories (Detailed Specifications are attached)	01 Nos.

2. Necessary literature of the goods may please be sent to facilitate to take decision.

3. Payment will be made Online through RTGS/NEFT within 30 days after receipt of material in good condition and according to specifications and installation of the same. The Bank detail for making online payment may be indicated in the quotation.

4. The supplier shall deposit Earnest Money along with the Quotation amounting to Rs. 18000 /- in shape of Accounts Payee Demand Draft/Fixed Deposit Receipt/Bankers Cheque or Bank Guarantee from any scheduled commercial Bank in favour of the Director, National Institute of Technology, Kurukshetra. The Quotations without Earnest Money shall be rejected, the EMD will remain valid for a period of 45 days beyond the final validity period of quotation.

5. Performance Security @ 5% of the total value of the equipment must be furnished in shape of Demand Draft/Fixed Deposit Receipt or Bank Guarantee from any scheduled Commercial Bank in favour of the Director, NIT Kurukshetra valid upto 60 days after the date of completion of warranty by the successful bidder.

6. The items must be supplied within delivery period or delivery period extended by the Institute on the request of the supplier on genuine grounds otherwise the penalty for delayed period @ 0.5% of the amount shall be charged for every week or part thereof and the maximum 10%. The request for extension of delivery period (if any) must be made before the last date of supply as per P.O.

7. The goods are required exclusively for Research Purpose. The Duties are not payable by the Institute.

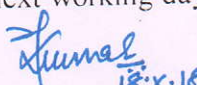
8. The quotation should remain valid for a period not less than 90 days from the date of submission.

9. The firm must have got GST No. printed on their quotation

10. The right of accepting or rejecting any quotation and to cancel the bidding process and reject all quotations without assigning any reason is reserved with the Institute.

11. The supplier must attach copies of two latest purchase orders (preferably from IITs/NITs) indicating the price for the same equipment.

12. The due date for receipt of quotation is 05.11.2018 and will be opened on next working day. Please quote on the top of the envelope our Ref. No. and due date of opening.

  
Prof-Incharge (Stores)

### **Specifications I-V Characterization setup along with Accessories:**

- Should be fully computer controlled with complete digital data acquisition
- Should work in POTENTIOSTAT, GALVANOSTAT & EIS mode.
- Should work in floating grounded mode when used in field / grounded cells/microbial fuelcell/ auto clave etc...

### **Hardware specifications-Electrochemical system:**

- Compliance Voltage: 0 to 20V or more,
- voltage Accuracy :0.1% & resolution @ 75uV or better
- Current compliance: 100nA or less to 800mA or more, — minimum 5 ranges should be provided- Accuracy @ 0.1% of the range or better.
- Current resolution @ 1nA or better
- EIS Freq Range: few uHZ to 1MHz , AC sine wave range: few mv to 2V
- Electrometer input impedance: 100 GOhms or more
- Electrometer Frequency bandwidth: 1Mhz or better
- Future Up gradation to 50V & 100Amp must be possible.
- Minimum 2 additional voltage recording input ( ADC ) for 0-10V range. Input received in this channel should be scalable and interpretable to control the software measurement protocols. (e-g: recording optical sensor info, Ph, Pressure sensor , LED light source info etc..)
- Minimum one number of DAC ( 0-10V) to control the external devices from main system.

### **Software requirements:**

- Voltammetry techniques- CV, Multiple CV, SWV, Staircase Voltammetry
- Pulse: DPV, Normal Pulse, RNPV, Chronoamperometry , Chronopotentiometry
- Corrosion: Potentiostatic/Galvanostatic-Galvanodynamic, LPR, Tafel, ECN, CPT
- Energy: charge/discharge Constant potential, Constant current, Constant power, Constant resistance/load, Calculation efficiency of cycle.
- EIS: freq sweep – Log / linear, Sweep DC bias with freq
- Software options should present to present the polarisation value against the externally acquired value
- Software Fuelcell / Batteries / Super capacitor studies.
- Complete analysis software **for CV & EIS studies.**

System software should be able to control and acquire the data from external / third party make instruments.

### **Cell kit and Accessories:**

- Oxygen free voltammetry cell kit, with purge tube, volume not less than 20mL – with cap and electrode holder with at least 5 nos cell vials.
- Compatible Ag/AgCl Ref electrode/Pt counter electrode