

Guru Nanak Dev University Amritsar  
Department of Chemistry

Sealed tender with 2 % earnest money is invited through registered post for the purchase of Potentiostat Galvanostat. Last date is 10.01.10. For terms and conditions see [www.gndu.ac.in](http://www.gndu.ac.in) or contact at [vanmanan@yahoo.co.in](mailto:vanmanan@yahoo.co.in)  
Dr. Vandana Bhalla

**Specifications for Electrochemical Workstation Module:**

The electrochemical workstation (Potentiostat/Galvanostat) should be modular in design. It should be field upgradeable with different modules if required in future. It should have following hardware specifications or better:

◇ Compliance Voltage	: $\pm 12\text{V} / \pm 30\text{V}$
◇ Current	: $\pm 650\text{mA} / \pm 1\text{A} / \pm 2\text{A}$
◇ Gain bandwidth	: 1 MHz
◇ Bandwidth of Electrometer	: $> 4\text{ MHz}$
◇ Input Impedance	: $1\text{T}\Omega // 8\text{ pF}$
◇ Differential Input Voltage	: $\pm 10\text{V}$ extendable upto $\pm 30\text{ Volts}$
◇ Current Ranges	: $\pm 10\text{nA}$ to 1A in seven ranges
◇ Resolution of Applied Potential	: $30\mu\text{V}$
◇ Resolution of current	: 30 fAmp
◇ Input Bias Current	: $< 1\text{ pA}$
◇ Rise /fall Time	: $< 250\text{ nSec}$
◇ IR compensation	: Current Interrupt, positive feedback
◇ Digital I/O Lines	: 48
◇ Number of Probe Inputs	: 4
◇ D/A Converter	: Three Channel, 16 bit

**Electrochemical Software:**

The basic software should be provided with the Potentiostat/Galvanostat should be comprehensive, fully windows based versatile & capable of supporting a wide variety of electrochemical techniques. The entire system should be windows based & capable of operation of all accessories. The software should support following basic electrochemical measurements:

- ◇ Cyclic Voltammetry
- ◇ Tafel Plots
- ◇ Sampled DC Voltammetry
- ◇ Differential Pulse Voltammetry, Differential Normal Pulse Voltammetry
- ◇ Square Wave Voltammetry with frequencies upto 1500 Hz
- ◇ Unique AC 1<sup>st</sup> & 2<sup>nd</sup> Harmonic Voltammetry with frequencies upto 150 Hz
- ◇ Linear Sweep Voltammetry with scan rates upto 200 V/Sec
- ◇ Electrochemical methods, such as Chrono-Amperometry, Chrono-Coulometry & Chrono-Potentiometry, with sampling rates upto 60,000 samples/sec.

Electrochemical Cell: Cell for electrochemical experiments with working volume up to 50 ml or lower with Ag/AgCl ref. electrode, Pt wire counter electrode and 2 mm dia. Pt disc working electrode, Purge tube, stand rod, base plate and lid for the cell.

A suitable computer for system control & data acquisition should be offered with the system. It should have following minimum specs: Pentium Duo core processor operating at 3.0 MHz or better, 2 GB SDRAM, 160 GB HDD, 52 x CDD, 4 USB Ports, 17" Colour Monitor, 101 Keys Keyboard, Optical mouse, High Resolution HP Laser Printer.

### Terms and conditions

1. Please send technical and financial bids separately.
2. The rates should include basic prices with taxes shown separately and total cost and F.O.R. GNDU, Amritsar along with payment terms and conditions.
3. Earnest money @ 2% of the amount quoted through demand Draft favouring 'Registrar, GNDU, Amritsar' must be sent with the offer.
4. Dealership certificate along with the price list of the principal firm and proprietary Certificate be also attached with the offer.
5. The rates should be valid for three months.
6. In case rates go down during this period, the benefit will have to be passed on to the university.
7. Detailed literature should also be attached with the offer.
8. Tenders must be submitted in sealed envelope and sent to Dr. Vandana Bhalla, Department of Chemistry, Guru Nanak Dev University Amritsar-143005.