Annexure-1

Required High Voltage Source Measurement (SMU) Unit

Job Description:

Aiming to procure an optimal source measurement unit for the laboratory. The primary objective is to measure the current flowing through a micro-nanofluidic channel for an applied variable voltage and plot I-V characteristics. The recorded data/plot is required for further analysis.

Required Technical Specification:

- Max Voltage: 1000 V, Resolution: mV
- Max Current: 1A, Resolution: µA
- High accuracy and low noise (RMS) (<10Hz) for source and measurement both the operation
- Lowest possible output settling time
- Maximum slew rate
- Common Mode Isolation >1 GΩ, <1 nF
- Power Supply 100 V to 240 V RMS, 50–60 Hz (automatically detected at power-up)
- Environment
    - Operating: 0°–50°C, 70% R.H. up to 35°C. Derate 3% R.H./°C, 35°–50°C.
    - Storage: –25°C to 65°C

Additional Required Services and Accessories:

- Comprehensive Built-in Connectivity (with GPIB, USB 2.0, and LXI/Ethernet)
- High-Performance Test Lead / Probe Kit
- Instrument Control Software (Simplified Programming with Ready-to-Use Instrument Drivers)
- A shielded GPIB cable
- Extended Warranty to 5 years from the date of shipment
- Control kit (specifically a 15” desktop monitor and CPU with i7 processor, 1TB memory, and 32GB RAM)

Note:

A demonstration on SMU 2470 from Keithley personal has been given. The SMU unit demonstrated was able to fulfill our requirement hence, planning to procure the unit as per the Institute procedure.