



परिशिष्ट 'क'

DEPARTMENT OF PHYSICS
UNIVERSITY OF PUNE

Ref. No./Quot./ *Phy / Dept. Gen. / CAS / NBC / 31*Date: *23/08/2014*Name of the Administration
Branch/Department:

Quotations are invited for the supply of following goods/carrying out the work, so as to reach this office on or before

01/09/2014.

Sr. No.	Description of Material/Item/work	Approximate Quantity	Rate Per unit	Amount (Rs.)	Remarks
---------	-----------------------------------	----------------------	---------------	--------------	---------

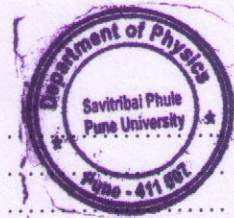
"Semiconductor Parameter - 1no - - -
Measurement Analyser"

For detail Specification
Kindly see the attached sheet.

1. Octroi Exemption Certificate will be issue for the goods supplied from the places outside Pune Municipal Corporation Limits.
2. Excise duty/Exemption Certificate/Sale Tax form will be issued if applicable.

Note : For other terms and conditions see overleaf.

Done
[Signature]
Head, Department of Physics
Administrative Branch
University of Pune
Pune - 411 007.



Signature
(Supplier)
(With Stamp)

Head
Department of Physics
Savitribai Phule Pune university
Pune - 411 007

SEMICONDUCTOR PARAMETER MEASUREMENT ANALYSER

The system should have minimum:

- a) Three Medium Power Source and Measure modules.
- b) Two preamp modules for low current measurements upto 1pA with 100 aA resolution.
- c) One in-built CV module.
- d) One Test fixture for testing of packaged devices CMOS; BJT etc. with tri-axial connectors should be offered.
- e) One Dual Channel Pulse IV with switch for simultaneous switching between IV-CV- Pulse IV to be included as option.
- f) All relevant cables should be provided.
- g) The system should be compatible with **IEEE 1650-2005** standard.

The system should have expansion capability for future upgrade. The system should have capability to connect to standard probe stations. Vendor to offer three year warranty.

The detail specifications are as given below:

Sr	HARDWARE	SPECIFICATIONS
1.	Type of SMU (mid Power)	2.2W
2.	No of SMU Slots	Expandable upto 9
3.	Voltage Range: Measure & Source	200 mV to 200 V
4.	Voltage Resolution: Measure / Source	1 uV to 200 uV / 5 uV to 5 mV
5.	Current Range: Measure & Source	1 pA to 100 mA
6.	Current Resolution: Measure / Source	100 aA to 100 nA / 1.5 fA to 5 uA
7.	Maximum Voltage	200 V
8.	Maximum Current: Measure & Source	Medium Power: 100 mA
9.	Min. Current: Range	100 nA & 1pA with Pre-amp module
10.	Built-in C-V Measurement : Range: Frequency Range: DC Voltage Bias: Measurement Parameters:	1pF to 1uF 1KHz to 10MHz variable. + / - 30V / 1mV resolution. Cp-G; Cp-D; Cs-Rs; Cs-D; R-jX; Z-theta
11.	Built-in Pulse I-V (desired): Channels: Frequency Range: Source Measure Pulse Width Programmable: Source Measure	Should have provision for performing IV; CV and Pulsed IV without changing DUT connections. Dual Independent Channels Low Voltage: High Voltage: 1Hz – 50 MHz 1Hz – 10 MHz 1Hz – 8 MHz 1Hz – 3 MHz 10ns to (period-10ns) 50ns to (period-10ns) 60ns to (Period-10ns) 140ns to (period-10ns)



	Pulse Voltage Range:50 Ohms/1MOhms Pulse Voltage Resolution:50 Ohms/1MOhms Period Range: Source Measure Timing Resolution Current Measurement:	+/-5V / 10V 250uV / 500uV 20 ns to 1s 120 ns to 1s 10 ns 100 nA to 200 mA	+/-20 V / 40V 750uV / 1.5mV 100 ns to 1s 280 ns to 1s 10 ns 100 uA to 800 mA
13	Hardware / Architecture	In-Built PC platform with windows-OS, having LAN; GPIB; USB; RS232; parallel port; HDD,CD-RW; Should provide libraries / projects for measurement of device parameters for Semiconductors, FET's, CMOS; MEMS; BJT's; Solar Cell etc.	
14	Display	Built in 12.5" TFT display.	
15	POWER REQUIREMENT	230V AC, +/- 10%; 50 Hz.	

Done

