

DESHBANDHU COLLEGE

(University of Delhi)

Kalkaji, New Delhi-110019

Dated: 01/07/2017

TENDER NOTICE FOR THE PURCHASE OF LAB EQUIPMENTS OF PHYSICS DEPARTMENT

Sealed tenders are invited in two bid system (Technical and financial) to supply the laboratory equipments/apparatus for Physics Department (List enclosed). The prescribed tender form may be downloaded from the Deshbandhu College website www.deshbandhucollege.ac.in starting from 01.07.2017.

The Technical and financial bids must be sent in separate sealed envelopes and duly marked on the top as technical bid/financial bid.

The tender should reach the Principal, Deshbandhu College, Kalkaji, New Delhi-110019 latest by 10/07/2017 on or before 4:00 PM. The tender documents in a sealed envelope should be marked "LAB EQUIPMENTS OF PHYSICS DEPARTMENT".

S. No.	Activity	Date and Time
1	Start date and time for downloading of tender document	01/07/2017
2	Last date and time for submitting sealed tender at Deshbandhu college	10/07/2017 (4:00 PM)
3	Opening of technical bids in presence of bidders at Deshbandhu college	11/07/2017 (12:00 Noon)
4	Opening of financial bids of bidders who have qualified in technical bids	13/07/2017 (11:30 AM)

**REQUEST FOR PROPOSAL FOR SUPPLYING LABORATORY
EQUIPMENTS FOR PHYSICS DEPARTMENT, DESHBANDHU
COLLEGE**

TECHNICAL BID

(To be kept separately in a sealed cover super scribing 'Technical Bid' on the top)

S. No.	Description	Particulars
1	Name of the bidder/ firm/company	
2	Address	
3	Name of the authorized representative	
4	Designation/Capacity(Proprietor/Director/ Official)	
5	Contact Number	
6	Email	
7	Details of statutory licences obtained(if any)	
8	Details of PAN/TIN/GST Registration No.	

Date: _____

Place: _____

Signature of the Bidder _____

Name _____

Designation _____

Address _____

Seal

**REQUEST FOR PROPOSAL FOR SUPPLYING LABORATORY
EQUIPMENTS FOR PHYSICS DEPARTMENT, DESHBANDHU
COLLEGE**

FINANCIAL BID

(To be kept separately in a sealed cover super scribing 'Financial Bid' on the top)

S. No.	Description	Particulars
1	Name of the bidder/ firm/company	
2	Address	
3	Name of the authorized representative	
4	Designation/Capacity(Proprietor/Director/ Official)	
5	Contact Number	
6	Email	
7	Details of statutory licences obtained(if any)	
8	Details of PAN/TIN/GST Registration No.	

Date: _____

Place: _____

Signature of the Bidder _____

Name _____

Designation _____

Address _____

Seal

DEPARTMENT OF PHYSICS, DESHBANDHU COLLEGE
For Technical and Financial Bids
SOLID STATE LAB

S. No.	Name of the experiment	Equipment name	Specifications
1.	Measurement of susceptibility of paramagnetic solution (Quinck`s Tube Method)	1. Electromagnet 2. Power Supply for Electromagnet 3. Quinck`s Tube 4. Paramagnetic Solution	Electromagnet- 1. Field Intensity: 6-10 KGauss 2. Coil Resistance: <10 Ohms 3. Current range: 0-6 Amp. Gauss Meter: Display: Digital Unit: Gauss and Tesla Resolution: 0.0001 Tesla Range: ± 3.5000 Tesla Accuracy: 0.001% Power: 220-230 Volts, 50 Hz Power Supply- 1. Display: Digital 2. Current Range: 0-6 Amps 3. Load Regulation: 0.05-0.10% 4. Line Regulation: 0.1% 5. Protection: Over load /Short circuit protection needed 6. Power Requirements: Mains 220-230 volts, 50 Hz 7. Reversing switch needed to change current direction
2.	To measure the Magnetic susceptibility of Solids.	1. Electromagnet 2. Power Supply for Electromagnet 3. Paramagnetic sample (Rod shaped) 4. Digital Weighing Balance to be mountable on electromagnet	1. For Electromagnet and Power Supply same as above 2. Digital Weighing Balance: Least Count 0.0001 grams Gauss Meter: Display: Digital Unit: Gauss and Tesla Resolution: 0.0001 Tesla Range: ± 3.5000 Tesla Accuracy: 0.001% Power: 220-230 Volts, 50 Hz

DEPARTMENT OF PHYSICS, DESHBANDHU COLLEGE
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3.	To determine the Coupling Coefficient of a Piezoelectric crystal.	<ol style="list-style-type: none"> 1. Piezoelectric crystal 2. Resistance box 3. Inductance box 4. Capacitance box 5. Ac voltmeter 6. Ac current meter 7. Frequency source 	<ol style="list-style-type: none"> 1. Piezoelectric crystal (5 nos. of standard value) mounted inside the box and connections brought out the terminal 2. Resistance box (10-100 ohm) 3. Inductance box (10-100 mH) 4. Capacitance box (1nF-10 nF) 5. AC voltmeter (0-10V, LC = 0.1 V) 6. AC current meter (0 to 5 mA, LC=0.05 mA) 7. Frequency source (1 Hz- 2 MHz)
4.	To measure the Dielectric Constant of a dielectric Materials with frequency.	<ol style="list-style-type: none"> 1. LCR meter with multiple frequencies 2. Specimen (Ceramics such as BaTiO₃) 3. Specimen holding electrodes 	<p>LCR meter</p> <ol style="list-style-type: none"> 1. Measuring Frequencies Points: >20 in the range from 50 Hz -200 Khz 2. Probe Voltage: 10 mV-2 Vrms (Resolution 10 mV) 3. Test Parameters: Capacitance (0.00001 pF -9.999999 F) and Dielectric loss (Range: 0.00001 -9.999999) 4. Storage/Interface: USB device
5.	To determine the complex dielectric constant and plasma frequency of metal using Surface Plasmon resonance (SPR) technique.	SPR	<ol style="list-style-type: none"> 1. Excitation wavelength: 685 nm, power = 5 mW 2. Angular resolution: 0.01° 3. Power resolution: 0.01 mW 4. Sensors: Gold coated substrate 5. Power requirements: 230 V, 50 Hz
6.	To determine the refractive index of a dielectric using SPR technique.		
7.	To study the PE Hysteresis loop of a Ferroelectric Crystal.	Complete setup	<ol style="list-style-type: none"> 1. Sample type: Ceramic
8.	To determine the Hall coefficient of a semiconductor sample.	<ol style="list-style-type: none"> 1. Electromagnet 2. Power Supply for Electromagnet 3. Gauss Meter 4. Constant Current Source for Semiconductor samples 	<ol style="list-style-type: none"> 1. For Electromagnet and Power Supply same as above mentioned in point 1. 2. Gauss Meter: Display: Digital Unit: Gauss and Tesla Resolution: 0.0001 Tesla Range: ± 3.5000 Tesla Accuracy: 0.001%

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			<p>Power: 220-230 Volts, 50 Hz</p> <p>3. Constant Current Source Voltmeter</p> <p>Display: Digital</p> <p>Range: 0.1-100 mA and $\pm 0.1-10000$ mV</p> <p>Power: 220-230 Volts, 50 Hz</p> <p>Protection: Short circuit protection for sensor input and output</p> <p>Transducer: Composite Hall Probe for n and p type semiconductors with standard four pin connection</p> <p>Specimen: Ge single crystal</p> <p>Resistivity: <30 Ohm-cm</p>
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