

**DEPARTMENT OF PHYSICS, UTKAL UNIVERSITY
VANIVIHAR, BHUBANESWAR 751004**

TENDER CALL NOTICE

Sealed tenders along with STC/NAC and IT PAN No. are invited for purchase of Scientific equipments, Chemicals from reputed firms so as to reach the undersigned by 2 PM on 18.2.2017. The sealed Tenders will be opened at 2:30 PM on the same day. Tender paper with detailed list of the items can be obtained from the Physics Department, Utkal University, Bhubaneswar. The authorities reserve the right to reject any or all the Tenders without assigning any reason thereof.

For details contact: ramakanta.naik@gmail.com, phone no.9438743730.

(Prof. Swapna Mahapatra)
Head of the Department of Physics

BID PARTICULARS AND INSTRUCTIONS

EMD: Rs.1000.00 (Rupees one thousand only) in shape of Bank Draft drawn in favour of the Head of the Department of Physics, Utkal University, Payable at SBI, Utkal University Campus Branch, Bhubaneswar is applicable for (*) marked items in the list given below.

Warranty period, Delivery period and After-Sale-Service conditions, etc. are to be clearly indicated.

The rates and the conditions of the offer will remain valid for at least 3 months from the date of opening of the tender and no change or alteration of the rate will be acceptable.

Conditional offers and offers qualified by vague and indefinite expression as 'subject to immediate acceptance' 'subject to prior sale', etc. will not be considered.

Submission of Tenders

The sealed envelope must show the name of the tenderer and their address and should be super scribed as "**Tender for supply of Items for the Department of Physics, Utkal University** " on the top of the envelope.

Relevant data sheet relating to the equipments containing the model, specification etc. should be submitted along with the bid.

After Supply

In case, articles are found damaged in transit or are found not up to the specification or found short at the time of delivery, the full cost of the same will be deducted from the bill of the supplier if the supplier does not replace the stock within a week from the date of the complain.

The articles ordered must be supplied in within 6 weeks of placing of the order.

The equipment/machineries shall be delivered and installed at the Dept. of Physics, Utkal University at the cost of the tenderer.

Installation and Commissioning

- a) Installation and Testing of the Equipment, Machineries etc. should be done by the Tenderer.
- b) The tenderer is to bring their own testing and measuring instruments required for installation, testing, commissioning, which can be taken back after completion.

Documentation

Detailed technical manuals, handbooks, shall be supplied along with the consignment.

On-Site Warranty

- a) The supplied devices/equipment and components shall be covered under comprehensive on-site warranty from the date of issue of successful completion Installation.
- b) During the period of warranty, it shall be the responsibility of the tenderer to provide all essential spares and consumables, which may be required for maintenance and trouble-free operation of the devices / components at the tenderer's cost.

Financial Terms

PRICES

Price quoted should be FOR Destination inclusive of all taxes, levies, surcharges including the customs clearance, entry tax , etc and handling freight and insurance.

Sales Tax Concession

Central Sales Tax Concession is to be availed on production of the required certificates applicable to Educational Institution.

Discount

Our Institute is a pioneer Institution in the field of Teaching and Research and allied disciplines and do not run with profit. Trade discount or any other Institutional benefit arising out of Govt. Policy etc./company's own policy on each item may be indicated in the price bid.

Payments

In case of purchase in Indian Rupees, payment of 100 percent of the ordered value will be made after successful installation and commissioning of the item.

Rate Contract with DGS&D or any other Government Organisation

In case the tenderer has entered into a Rate Contract with DGS & D or any other Government Organizations such as EPM, rate contract reference number & copy of rate contract have to be submitted along with tender.

In the event of non-compliance with this provision, the tenderer is liable to be disqualified.

The HOD, Department of Physics has all the rights to accept / reject any tender without assigning any reasons thereof.

Solving Disputes

All disputes arising out of the contract shall be referred to courts under the jurisdiction of the Bhubaneswar court only.

Items to be procured/executed under the grants BRNS and DST-INSPIRE available during FY 2016-17 through Tender Notice

Equipments:

1. *UV-Vis-NIR Spectrometer
2. *DPSS Laser
3. Autoclave
4. Drying Hot Air Oven
5. Optical Bench
6. Digital storage Oscilloscope
7. *LCR Meter
8. Hand Held Digital Multimeter

Chemicals

1. Substrates – heavily doped n-type and p-type Si(100), intrinsic Si (100), Silicon Substrate (polished), ITO substrate.
2. Chemicals
Selenium powder, Indium powder, Bismuth metal powder, Germanium powder, Sulfer powder, As_2Se_3 , Selenium pellets, Silver, Bi_2S_3 , Bi_2Te_3 , Bi_2Se_3 , $GeSe$, GeS , Ga_2S_3 , Ag_2S , Ag_2Se , PbS , $PbSe$, In_2Se_3

Specification Details

1. Spectrometer

Computer controlled fiber optics based UV-Vis-NIR Spectrometer system for advanced research work.

Detector

Type: Toshiba TCD1304AP CCD

Detector range: 200-1100 nm

Pixels: 3648 pixels or better

Integration Time : <10 seconds

Dynamic Range: 1300:1 for a single acquisition

Resolution: < 3nm with 50um slit

Light Source

High Power Deuterium Tungsten Halogen Source w/shutter 200-2500nm

Wavelength range: 200-2500 nm

Stability of optical output: <0.1%

Source lifetime: Min 1,000 hours

Drift of optical output: <0.2% per hour or better

Software:

Real-time spectral acquisition and analysis software.

Accessories

For Absorption studies

Fiber: 400um Premium Fiber, 2m long – 2Nos

Cuvette Holder: 1-cm path, 200-2000 nm – 1No

Cuvette : Quartz Cuvette, 1 –cm path – 2Nos

Polymethyl Methacrylate (PPMA) 1cm cuvettes - 100 Nos

For Reflection & Transmittance Studies

Reflection Probe: 400 um Reflection Probe, 2 m long – 1No & Probe holder & Spectral reference.

SMA-KIT: KIT of Interchangeable Round SMA connectors; 5um; 10um; 25um; 50um; 100um and 200um

Computer:

System configuration: Core- i3 Processor, 4GB RAM, 500GB Hard Drive, 19" LED Monitor, DVD Writer, Keyboard, Mouse & Speaker.

Warranty: 1 Year

Service Facility: Supplier should mentioned there service facility in nearby location. Response time should be 72 Hrs.

2. DPSS Laser

Wavelength (nm): 633±3

Output power (mW): >50

Transverse mode: Near TEM00

Operating mode: CW

Power stability (rms, over 4 hours): <1%,

Warm-up time (minutes) :<5

Beam divergence, full angle (mrad): <1.0

Dimensions of beam at the aperture (mm): ~3. 0

Beam height from base plate (mm): 24.8

Operating temperature (°C)

Power supply (90-264VAC or 5VDC): PSU

FDA

Modulation option: TTL/Analog 1Hz

10KHz, 1Hz-30KHz, and TTL on/off
Expected lifetime (hours): 10000
Warranty: 1 year3. Optical Bench

3. Autoclave

1. Acid Digestion Bomb 100ml Rs. 26,000/Standard Fittings.
Volume & MOC : 100 ml net filling capacity made from SS 316 solid bar stock & all wetted parts of SS 316 with PTFE Liner & Cap
Design Pressure : 100 bar
Design Temp : 180 deg.C

4. Drying Hot Air Oven

Capacity:-50 Litres

5. Optical Bench

Thick-15-20cm
Width-3feet
Length-5 feet
Leg Height- 3 feet
Mounting holes

6. Digital storage Oscilloscope

100MHz bandwidth selection, 4 input channels
1GSa/s maximum sampling rate
10M Maximum memory depth for each Channel
7" 800x480 WVGA LCD display
256 colour gradient display function to strengthen waveform performance
1Mpts FFT frequency domain signal display
Zero key function for Horizontal Time, Vertical Voltage and Triggering
Compact and Innovation Exterior Design

7. LCR Meter

Type-1

Test Frequency	- 20Hz to 1MHz
Test Frequency Accuracy	- $\pm 0.005\%$
Basic Accuracy	- $\pm 0.1\%$
Test Speed -	- Fast : 150mS / MED : 450mS, SLOW : 600mS
Test Signal Level	- 10.00mV to 2.00V
DC BIAS - internal	- $\pm 2.5V$
Display range	
R, X, IZI	- 0.1mOhm to 100M.Ohm
Rdc	- 0.01mOhm to 100 M.Ohm
G, B, Y	- 10nS - 1000S
L	- 0.1nH - 100kH
C	- 0.01pF - 1F
D	- 0.00001 - 9.99999
Q	- 0.1 - 9999.9

θd	- -179.999* - 179.999*
Measurement parameters	- Z, θ , L, C, Rac, Q, D, Y, G, X, B, Rdc
Test Mode	
Combinations	- C+R, C+D, C+Q, L+R, L+Q, L+D, X+R, X+D, X+Q, C+G, B+G, B+D, B+Q, B+R, L+G
Special features	- Multi Step Mode, Graph Mode, 1-256 times
Average, Pass/Fail Function with alarm,	
Polar Form	-Z + Phase Angle, Y + Phase Angle
LCD Display	-320x240 LCD display , 6 digit measurement resolution
Interface	- RS-232, GPIB
Accessories	- Test Fixture, power cord, PC Software, DC BIAS BOX $\pm 200V$ (DC to 2MHz)

Type-2

Precision LCR Meter (Bench model)

Test Frequency	- 10Hz to 300KHz (continuously variable)
Test Frequency Accuracy	- $\pm 0.01\%$
Test Frequency Resolution	- 1Hz
Basic Accuracy	- 0.05%
Test Speed	- Fast : 25mS / MED : 10mS, SLOW : 333mS
Test Signal Level	- 10.00mV to 2.00V, 100.0uA to 20mA
DC BIAS-internal	- $\pm 2.5V$
Display range	
R, X, IZI	- 0.00001 Ohm to 99.9999M.Ohm
G, B, Y	- 0.01nS - 999.999S
L	- 0.00001uH - 9999.99H
C	- 0.00001pF - 9999.99mF
D	- 0.00001 - 9.99999
Q	- 0.00001 - 99999.9
θd	- -179.999* - 179.999*
θr	- -3.14159 - 3.14159
DCR	- 0.00001Ohm - 99.9999M.Ohm
$\Delta\%$	- -99999% - 99999%
Test Mode	
Combinations	- Cs-Rs, Cs-D, Cp-Rp, Cp-D, Lp-Rp, Lp-Q, Ls-Rs, Ls-Q, Rs-Q, Rp-Q, R-X, DCR, Z- θr , Z- θd , Z-D, Z-Q, Auto LCZ
Monitor Parameters (2 selectable)	- Z, D, Q, Vac, Iac, Δ , $\Delta\%$, θr , θd , R, X, G, Y, B
Memory INT measured Data	- 10,000 data (,csv)
Special features	- Auto LCZ function, Auto Level Control, Average, Trigger (INT/MAN/EXT/BUS), Delay, Screen Capture
Display	-3.5"; Color TFT LCD
Interface	- USB(host), RS-232, Handler
Accessories	- Test Fixture, power cord, PC Software, DC BIAS BOX $\pm 45V$ (DC to 300KHz

8. Hand Held Digital Multimeter

Display	-3½ digit, 6,000 counts, auto/manual range
Dc Voltage	-60mV - 1000V (0.1%)
AC Voltage	-60mV to 750V
DC Amp	-600µA to 10A in 6 ranges
AC Amp	-600µA to 10A in 6 ranges
Resistance	-600 Ω to 60M.Ω
Capacitance	-60nF to 4000µF in 6 ranges
Frequency	-10Hz to 10MHz
Sp.Features	-Analog Bar Graph, True RMS, Continuity, diode test, Duty Cycle, Data Hold, Peak Hold, RS-232C interface. Back Light, Auto Power Off facility,
Accessory	-9V, battery, spare fuse, test leads, manual, PC Software.