



## GURU GHASIDAS VISHWAVIDYALAYA, BILASPUR

A Central University established by the Central Universities Act, 2009 No. 25 of 2009  
Website: [www.ggu.ac.in](http://www.ggu.ac.in) Phone: 07752-260413, 260209 FAX: 07752-260154, 260148

Tender Notice No: AT1/Store/582/2012

Date: 4-2-2012

### NOTICE INVITING TENDER

Sealed tenders are invited for supply, installation & commissioning of the following equipments at Department of Pure & Applied Physics, Guru Ghasidas Vishwavidyalaya, Bilaspur from the Original Equipment Manufacturing Company or their authorized partners/agents/distributors.

Item No.	Equipment	Qty	EMD (Rs.)	Tender Fee (Rs.)
1	Nal(Tl) detector with PMT/ magnetic shielding/ pre-amp/ HV supply	Two	1,35,000/-	1000/-
2	Nuclear Instrumentation pulse processing system	Two	1,03,000/-	1000/-
3	Mask aligner and exposure system	Two	1,41,000/-	1000/-
4	Gas mixing system with four gas options with all accessories with Probostat	One	1,40,000/-	1000/-
5	Laser Raman Spectrometer	One	2,70,000/-	1000/-

Detail specification and tender document are available in university website [www.ggu.ac.in](http://www.ggu.ac.in) which may be downloaded and submitted along with tender fee & EMD mentioned against each item. Separate tenders are to be submitted for each item. Last date of submission of tender is 25-2-2012.

**Registrar (Acting)**

# गुरु घासीदास विश्वविद्यालय, बिलासपुर (छ0ग0)

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Website: [www.ggu.ac.in](http://www.ggu.ac.in) Phone: 07752-260413, 260209 FAX: 07752-260154, 260148

Tender Notice No: ATI/Store/...../2011

Date: 2-2-2-12

## Tender for Supply, installation & commissioning of equipments at Department of Pure & Applied Physics, Guru Gh



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2. The detail specifications of the above items are given at Schedule-I. Separate tenders should be submitted for each item i.e. if any vendor wants to bid for more than one item should submit separate tender for each item.
3. EMD and Tender Fee as mentioned against each item should be submitted in the form of Demand Draft in favour of "Registrar, Guru Ghasidas Vishwavidyalaya" payable at Bilaspur (C.G.) Technical Bid.
4. Completed tender along with all the documents must reach the, Dy. Registrar (Stores), Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur – 495009 (C.G.) on or before 25-2-2012 (5:30 p.m.) through Speed post/Registered post/Courier Service only. Each tender should be superscribed with a) Tender Notice No. b) Item No. c) Name of equipment.
5. Technical Bids will be opened on 27-2-2012 at 11:30 a.m. at Conference Hall, Administrative Block, Guru Ghasidas University, Bilaspur.
6. Financial Bid will be opened on 28-2-2012 at 4:30 p.m. at Conference Hall, Administrative Block, Guru Ghasidas University, Bilaspur.
7. University reserves the right to reject the tender without assigning any reason.

Registrar (Acting)

## **TERMS & CONDITIONS AND OTHER POINTS FOR CONSIDERATION**

### **1. Eligibility criteria**

- a) Vendor should be an OEM or authorized partner/ agent/ distributor of the OEM. Documentary proof in support of being a manufacturing company or authorized partner/distributor/dealer must be submitted along with the technical bid. .
  
- b) The Vendor must have supplied similar goods to reputed organization to their full satisfaction in last 3 years and furnish credentials and list of the organizations.

### **2. Two Bid System Tender**

Vendor will place the “Technical Bid” and “Financial Bid” in the separate sealed covers. Thereafter, both the envelopes should be placed in a big envelope duly sealed and superscripted a) Tender Notice No. b) Item No. c) Name of the equipment and shall be sent to Dy. Registrar (Stores), Guru Ghasidas Vishwavidyalaya, Koni, Bilaspur – 495009 (C.G.) on or before 25-2-2012 (5:30 p.m.) through speed post/Registered post/Courier.

The University is not responsible for non receipt of tenders within the specified date and time due to any reason including postal holidays or delays

**Envelope I (Technical Bid):** The vendor must submit the following documents in Envelope-I (Technical Bid):

- a) Detailed technical specifications and literature/manuals of the goods/services to be supplied.
- b) Technical compliance statement with deviation, if any
- c) Authorized partner/dealer/distributor certificate from the original manufacturer.
- e) Credentials and list of organizations where the vendor supplied similar items in last 3 years.
- f) Documentary proof in support of PAN , VAT/TIN No. and Service Tax No.
- h) Prescribed Tender Fee in the form of DD in favour of “Registrar, Guru Ghasidas Vishwavidyalaya” payable at Bilaspur (C.G.)
- i) Prescribed EMD in the form of Demand Draft in favour of “Registrar, Guru Ghasidas Vishwavidyalaya” payable at Bilaspur (C.G.)
- j) Duly acknowledged “Terms & Conditions and other points of Consideration” of this tender.

### **Envelope II (Price Bid):**

The vendor must submit the Price Bid information mentioning all taxes/duties FOR University campus, Bilaspur. The price should be quoted in words and in figures, without any errors, erasures or alterations. Unit price of each product and accessories should be quoted separately. Maximum educational discount for University as could be offered should also be mentioned.

### **3. Offer validity period**

The offer should hold good for a period of 120 days from the closing date of the tender. Any offer falling short of the validity period is liable for rejection.

4. **Earnest Money:**

Earnest money as prescribed of each item must be submitted in the form of Bank Draft, in favour of the Registrar, Guru Ghasidas Vishwavidyalaya, Bilaspur will be attached along with Technical Bid (Envelope-I) by each bidders. The tenders will not be entertained in absence of above EMD.

5. **Performance Guarantee:**

Performance Security for an amount of 5% of the order value may be furnished in the form of an Account payee Demand Draft, Fixed Deposit Receipt from a Commercial bank or Bank Guarantee from a Commercial bank in an acceptable form by the successful bidder. Performance Guarantee is to be furnished within 21 days after notification of the award and it should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the vendor, including warranty obligations. EMD amount may be adjusted with the Performance Guarantee.

6. **Cost:**

The Cost of the equipment should be inclusive of all taxes and statutory levies. Labour / installation charges, packing, insurance, freight etc. should be mentioned separately (inclusive of all taxes liveable on them). Price to be quoted CIF Kolkata and in case of local firms they should quote FOR Guru Ghasidas University Campus, Bilaspur. Unit price of each product and accessories should be quoted separately. Maximum educational discount for University as could be offered should also be mentioned. The University is **exempted from payment of custom and excise duty** on Scientific and technical equipment/instruments by DSIR, Govt. of India. Necessary certificate will be issued on demand.

7. **Technical inspection and Performance Evaluation:**

University reserves the right to carry out a technical inspection and performance evaluation (benchmarking) of the offers made by shortlisted vendors. The shortlisted vendors may be asked to come and give out presentation / demonstration.

8. **No commitment to accept lowest or any tender:**

University shall be under no obligation to accept the lowest or any other offer received in response to this tender notice and shall be entitled to reject any or all offers including those received late or incomplete offers without assigning any reason what so ever. University reserves the right to make any changes in the terms and conditions of the work. University will not be obliged to meet and have discussion with any vendor, and or to listen to any representations.

9. **Shortlisting of Vendors:**

University will create a shortlist technically qualifying vendors and the financial bid of only these vendors will be opened. University reserves the right to decide whether the items being quoted are as per the requirement of the University and are of standard/leading brands in the market. University reserves the right to decide which offer best suits the requirement of the university. Further, after opening financial bids of the short listed tenders, if there is a discrepancy between word and figure, the amount indicated in words will prevail.

10. **Warranty**

The vendor shall provide comprehensive on-site Warranty for the system/equipment supplied against the work order for a period of 2 years from the date of installation and commissioning of the system/equipment. This would cover the hardware, hardware components, system software, equipment and accessories supplied by the vendor at the place of installation.

11. **Delivery period:**

For imported goods the complete delivery, installation & commissioning of both the systems should be made within 12 weeks from the date of issue of order. For indigenous goods it is 8 weeks.

12. **Resolution of disputes:**

University and the vendor shall make every effort to resolve amicably, by direct informal negotiations, any disagreement or dispute arising between them under or in connection with the contract. If after thirty days from the commencement of such informal negotiations, University and the vendor have been unable to resolve amicably a resolution by formal arbitration the Vice-Chancellor of University shall appoint a sole Arbitrator of the dispute who will not be related to the vendor and whose decision shall be final and binding.

13. **Jurisdiction**

All disputes will be subject to Bilaspur jurisdiction only.

14. **Custom Clearing:**

After arrival of the goods at Kolkata Airport/Seaport, Indian agent or Indian subsidiary of the principal firm is solely responsible for getting the material clearance from customs. University will provide all custom documents for custom clearance on the demand of agent. Transportation from Kolkata to Guru Ghasidas University campus is also the responsibility of authorized agent. All charges/ expenses incurred in this process will be reimbursed to firm after submitting the bill along with documentary proof in original. Please note that the freight forwarder or clearing agent should be approved from IATA . **NO DEMURRAGE / WHARFAGE CHARGES WILL BE PAYABLE BY THE UNIVERSITY UNDER ANY CIRCUMSTANCES.** NO ADVANCE PAYMENT WILL BE PAYABLE FOR CUSTOM CLERANCE/ FREIGHT / INSURANCE ETC

15. The vendor should adhere with all seriousness to the time schedule provided by the University. The **Liquidated Damage** will be applicable at the rate of **0.5%** per week. The purchaser has the right to cancel the purchase order when LD accumulates to 10 %.

16. The categories of items and quantity indicated in the Tender Document are tentative. University reserves the right to increase or decrease the quantity or delete some or all of items depending on the needs of the University without assigning any reasons.

17. The tenders will be opened on due date and time indicated in presence of the tenderers, if any present on the occasion, if the date of the opening is declared holiday the tenders will be opened on next working day.

18. For imported goods, the payment will be made through Letter of Credit. No advance payment will be made. Payment will be made after the receipt, inspection and installation/testing of the goods.

19. University reserves the rights of accepting in full or part/not accepting the tenders without assigning any reason.
  
20. Any addition/deletion/modification of this tender made before the due date of the tender will be displayed in university website only.

(Signature of the authorized representative of the bidder)

Registrar (Acting)

## Detailed specification of the equipment

Item No	Name of instruments with specification	Quantity
1.	<p><b>Nal(Tl) detector with PMT/magnetic shielding/pre-amp/HV supply</b></p> <p>Specification: size: 2"x2" with in-built 2" PMT and magnetic shield and base. Resolution better than 9% FWHM for 662 keV gamma rays.</p> <p><b>High Voltage power supply for PMT</b></p> <p>Specification: High voltage power supply for photomultiplier tube with both negative &amp; positive voltage output; upto 2kV 1mA current capability: Overload and short circuit protected. Ripple &amp; noise &lt; 4 mV peak to peak; Output stability &lt; 0.02% /hr; regulation better than 0.05% in output voltage.</p> <p><b>Pre-Amp for scintillation detector:</b></p> <p>Specification: suitable for scintillation detector. FET input and diode protected and to provide 50micro-second tail pulse. Maximum output voltage +5V into 50 ohm; Accessory: preamplifier power cable</p> <p><b>n-type HPGe co-axial detector with Pre-Amp, Cryostat, high voltage bias supply/30Liter Dewar (vertical/horizontal)</b></p> <p>Specification: n-type coaxial HPGe detector with matched FET, pre-amplifier with bias, signal, and power cable, horizontal/vertical LN2 cryostat with 30 Liter Dewar, Efficiency ~ 30% or better, FWHM ~ 1.8 keV at 1.33 MeV.</p> <p><b>High voltage supply unit suitable for HPGe detector</b></p> <p>Specification: biasing (~ 0 to 5kV) Positive and negative bias voltage polarity, rated output current ~ 0-100microA, voltage stability ~ +/- 0.1%/h, noise and ripple ~ &lt;10mV peak to peak.</p>	02
2.	<p><b>Nuclear Instrumentation pulse processing system</b> comprising NIM based Timing filter amplifier (TFA), CDF, Spectroscopic Amplifier, Single Channel Analyzer, Mult Channel Analyzer, FanIn-FanOut (FIFO), Delay Units, Coincidence logic unit, Coincidence analyzer, Delay &amp; gate generator, Pulser, TAC (Time to Amplitude Converter), Counter &amp; timer, NIM BIN power supply (12 slots), Cables and connectors (SHV-SHV, BNC-SHV, BNC-BNC, LEMO-LEMO, LEMO-BNC, BNC Tee, LEMO Tee, BNC terminator, Lemo Terminator, SHV terminator).</p> <p>Specifications:</p> <p><b>Timing Filter Amplifier (TFA)</b></p> <p>Wide gain range 2 - 200. Rise time &lt; 10 ns; integration/differentiation option; pole/zero cancellation; short circuit protection; non-linearity &lt; 0.1%</p>	02

Item No	Name of instruments with specification	Quantity
	<p><b>Constant Fraction Discriminator (CFD)</b></p> <p>Dynamic range &gt; 100:1 ; walk less than 100 ps for a 1 ns rise time pulse; high counting rate capability ( &gt; 100MHz), positive and negative outputs. width adjustable to 500 ns.</p> <p><b>Single Channel Analyser</b></p> <p>Input +10 V maximum; lower level and upper level discriminator; nonlinearity &lt; 0.5% of full scale. Discriminator stability &lt; 0.01%/per deg C, Logic output for SCA, LLD and ULD</p> <p><b>Spectroscopic Amplifier (for PMT and HPGe detector)</b></p> <p>Semi-Gaussian pulse shaping; shaping times 0.5 - 12 microsec; pole-zero cancellation. gain stability better than 0.05%, Integral nonlinearity &lt; 0.05%. gain range in the order of 1-1000. pile-up rejection,</p> <p><b>Fan-In/Fan-Out (FIFO)</b></p> <p>unity gain linear/logic Fan-in/Fan-out channels (both inverted and non-inverted). Must have at least four output channels. Input impedance 50 ohm; bandwidth - DC to 200 MHz. noise &lt; 1mV RMS,</p> <p><b>Nanosec Delay Box</b></p> <p>Accepts positive/negative pulse and provides delay times &gt; 32 ns. delay accuracy &lt; 250 ps. input impedance 50 ohm</p> <p><b>Coincidence Logic Unit</b></p> <p>General purpose logic module for AND, fan-in (OR), VETO, fan-out, Gating. fast negative NIM-to-TTL conversion, pulse lengthening upto microsec or more.</p> <p><b>Fast Coincidence / Coincidence Analyzer)</b></p> <p>Pulse pair resolution &lt; ~ 100 nanosecond on any single input; for coincidence events, &lt;1 microsecond on the coincidence output, Resolving time adjustable ~10 nanosecond to ~ 100 nanosecond, coincidence and anti-coincidence options,</p> <p><b>Gate &amp; Delay Generator</b></p> <p>Specification: delay times between ns to micro-second with adjustable pulse width upto 1 micro-second or more. time delay stability &lt; 0.2%. Delay nonlinearity &lt; 5%</p> <p><b>Pulser</b></p> <p>Specification: pulse rise time &lt; 20 nano-second rise time. Mains frequency operation. Stability &lt; 0.5%, non-linearity &lt; 0.5%. Switch selectable attenuator. Direct and attenuated output.</p> <p><b>Time-to-Amplitude Converter (TAC)</b></p>	

Item No	Name of instruments with specification	Quantity
	<p>Specification:time range 50 nano-second to 1 milli-second. Differential nonlinearity &lt; 2%. Integral nonlinearity &lt; 0.2%. Time resolution &lt; 0.1% of full scale</p> <p><b>Counter/Time</b></p> <p>Greater than 100 MHz count rate capability. Time base stability &lt; 0.01%</p> <p><b>NIM BIN/power supply</b></p> <p>NIM standard power supply 12 slot</p> <p>with +/-6 volt total 10A</p> <p>+/- 12V total 4A</p> <p>+/- 24V total 2A(dc);</p> <p>operating from AC main (220V); regulation &lt; 0.1%; stability &lt; 0.1%</p> <p>noise and ripple &lt; 5mV peak to peak; overload protection; over-voltage protection</p> <p><b>Cables</b> (price per feet or meter and also please quote prices for 1, 2, 3, 4, 5Ft lengths) and connectors</p> <p>(a) SHV-SHV female cable RG-59</p> <p>(b) SHV-SHV male cable RG-59</p> <p>(c) BNC-SHV cable RG-59</p> <p>(d) BNC-BNC (male) cable RG-58</p> <p>(e) LEMO-LEMO (both male)cable RG-174</p> <p>(f) LEMO-LEMO (both female) cable RG-174</p> <p>(g) LEMO-BNC cable RG-174</p> <p>(h) LEMO (male) – BNC(female) adapter</p> <p>(i) BNC TEE connector tee connector</p> <p>(j) BNC terminator 50 ohm</p> <p>(k) BNC connector (female to female)</p> <p>(l) SHV connector (male to male)</p> <p>(m) SHV TEE</p> <p>(n) LEMO TEE</p>	

Item No	Name of instruments with specification	Quantity
	(o) LEMO terminator 50 ohm (p) LEMO-BNC adapter (LEMO male/BNC female, LEMO female/BNC male)	
3.	<p><b>Mask aligner and exposure system</b></p> <p>Manual Control System</p> <p>Sample Size : Upto 6" wafer</p> <p>Mask holder size: upto 7" x 7"</p> <p>UV Lamp: 350W (life time ~600 hours)</p> <p>Dual CCD zoom microscope and LCD (19 inch) Monitor</p> <p>Stationary Alignment Tooling Module with X,Y,Z and Theta motion</p> <p>Wedge Error Compensation (Air bearing type)</p> <p>Specifications need:</p> <p>Light Source</p> <p>UV light source: 350 nm to 450 nm</p> <p>365nm Intensity:15-25 mW/cm<sup>2</sup></p> <p>Max. Beam Size: 6.25"x6.25"</p> <p>Beam Uniformity: ± 3%</p> <p>Microscope</p> <p>Dual CCD Zoom microscope with 19" LCD monitor</p> <p>Magnification: 80x – 480x (Monitor)</p> <p>Stage and controller module</p>	02

Item No	Name of instruments with specification	Quantity
	<p>-Exposure Timer: 0.01 sec to 999.9 sec</p> <p>-Stage movement: X,Y,Z and Theta</p> <p>X, Y: 10 mm,</p> <p>Theta: <math>\pm 5^{\circ}</math></p> <p>Z Motion Travel: 10 mm</p> <p>-Contact Mode: Soft, Vacuum, Hard and Proximity</p> <p>Vacuum &amp; Hard contact force is adjustable</p> <p>-Alignment Accuracy: <math>&lt;\pm 1.0</math> micron</p> <p>-Vac./Pneumatic Controls: Substrate, Mask, Contact, Chuck lock</p> <p>Resolution</p> <p>Vacuum contact 0.8um</p> <p>Hard contact 2um</p> <p>Soft contact 2um</p> <p>20uM Proximity 3um</p> <p>Vibration Isolation table</p> <p>-Isolation size: 1000 x 1000 x 750mm</p> <p>-Type Vibration Isolation system</p> <p>Top plate: Steel</p> <p>Top skin: SUS 304 H/L</p> <p>Leveling:3-point self leveling</p> <p>Natural Frequency:</p> <p>Vertical: 1.2 ~ 1.5 Hz</p> <p>Horizontal: 1.5 ~ 1.8 Hz</p>	

Item No	Name of instruments with specification	Quantity
4.	<p><b>Gas mixing system with four gas options with all accessories with Probostat</b></p> <p>Single Zone vertical Tube Furnace with adjustable stand  Heated Length: 300mm  Furnace Bore: 45mm  Maximum Temperature: 1200 deg.C  Max Cont. Temperature: 1150 deg.C  Heating Elements: Via resistance wire elements wound onto a ceramic worktube which is an integral part of the furnace  Insulation: Low thermal mass insulation used throughout for maximum thermal efficiency and stability  Steel work: Outer case manufactured from zinc coated steel finished with epoxy powder paint. An outer mesh cover allows natural air cooling for maximum operator safety and comfort</p> <p>Temperature controller</p> <p>Temperature Sensors: Type 'N' thermocouple  Power Control: Solide state relays  Power supply: 240 volts single phase  Energy Rating: 1.7 Kw (nominal)  Location of controls: In the Control box remote from furnace on 2 meters of connecting cable</p> <p>Full rotameter based gas mixer.  Up to 4 input gases (Swagelok quick-connects, 2-12 bar).  Selection of 2 input gases for mixing.  1 mixture routable to 2 outlets.  Mixer and outlets at near-atmospheric pressure.  Reduction valves and mineral oil column pressure controls.  10 Sho-rate flowmeters with needle valves.  Flow range on outlets: 1-50 mln/min.  Wetting stage: Programmable Peltier-cooled bubblers.  Drying stage: SGE moisture trap.  Tubing, materials: 1/8 inch Cu tubing and brass components.  Illuminated plexiglass/metal construction, 19 inch rack, wheels.  For ProboStat or other measurement/annealing systems.  Gases: example: O2, air, N2, Ar, CO, CO2, 5%H2 in Ar ("Harmix").  Flowmeter reading conversion, mixing, and equilibria: custom software.</p>	01

Item No	Name of instruments with specification	Quantity
	<p>Alumina sample supp. tube ass., 20x 15 mm, disk</p> <p>Spring load part, alumina, long bar incl. 2.3mm holes in both ends and Pt/alumina locking parts</p> <p>Spring load part, steel spring set (10)</p> <p>Gas tube, outer bent, silica, 4 mm OD</p> <p>TCC/D-S Pt/Pt10Rh thermocouple assembly for disk setups</p> <p>GP2N20 general purpose electrode net (20mmØ) with contact pairs of Pt</p> <p>H2N20 electrode "hand" contact outer 2-wire assembly of Pt/alumina with 20 mmØ Pt net</p> <p>Pt net, 20mmØ</p> <p>Feedthrough repair kit incl. 3 feedthrough assemblies.</p>	
5.	<p><b>Laser Raman Spectrometer</b></p> <p>Diode Green Laser 50, 100 mW, HeNe Laser: 15, 20, 30mW</p> <p>Imaging Spectrograph: 300/500mm Focal Length, flat field: 27mm(W)X 14mm(H), resolution: 0.7/0.5 cm<sup>-1</sup>/pixel</p> <p>Cooled CCD camera: Front/back illuminated 1024 ~ 2048 x 100 ~ 512 pixels CCD, minimum operating temperature ~ -80C with TE cooling</p> <p>Optical Microscope: line illumination optics to reduce laser damage in sample, motorized XY stage, Z auto focus motor, piezo XY stage and laser protection cover</p> <p>Cooling/Heating stage: temperature range: -196C ~ 600C</p>	01