

Nagaland University
Department of Botany, Lumami

Short Tender Notice

Ref. No.: NU/BOT/DST-FIST/2018-01 dated February 12, 2018

Tenders are invited in sealed envelope from the authorized distributors/agents/re-sellers for supply of following equipments:

Sr. No.	Equipment	Over all Specification	Quantity
1	Medium-pressure Chromatography Systems (UPLC) with 5 KVA compatible stabilizer	<p>Flow rate: 0.01–10 ml/min Pressure: 3,500 psi (23 MPa) at 10 ml/min Detection: UV detection; Standard 254 and 280 nm filters; optional 214, 365, 405, and 436 nm filters; standards 5 mm analytical flow cell; optional 2 mm preparative flow cell; Versatile Gradient Chromatography System for protein purification with a flow rate not less than 10 ml/min with a suitable piston pump meeting the following specifications:</p> <p>Pump Type: Dual Piston, Positive Displacement Solvent Pumps, with Interchangeable solvent delivery pump heads made of biocompatible material like PEEK or something better.</p> <p>Maximum Pressure Tolerance- 1,000 psi (66 bar, 6.6 MPa)</p> <p>Flow Rate - 0.5 to 40.0 ml/min in 0.01ml/min increments</p> <p>Mixer - Hi Pressure Dynamic Mixer</p> <p>Automated Sample Injection Valve- Automated Valve for portable sample injection through 100 µl to 5ml Static Loops and 25 & 90 ml Dynamic or Super Loop. The System should be compatible for Large Volume Sample loading through an optional Gradient Pump. Optional Inlet Valves should be available for multiple sample/buffer injection.</p> <p>Conductivity Monitor -0-500 µS.</p> <p>UV Detector- Single Beam, Fixed Wavelength UV Absorbance Detector specifically designed for high resolution protein chromatography. Should be rack mountable, enabling it to be positioned close to a column outlet for better resolution and decreased peak band broadening.</p>	1 each

Nhi

		<p>The Instrument should come standard with 280 and 254nm filters. 365, 405, 436 & 546 should be available optionally</p> <p>Fraction Collector -</p> <p>Non Carousel X-Y Type Automated fraction collector compatible for the system with option to collect fraction in 1.5ml tubes, 15ml tubes, 50ml tubes & 96 well plates with suitable diverter valve and fittings kit.</p> <p>Trigger for collection by Collect All, Threshold, Collection Windows, Collection Windows + Threshold.</p> <p>Software -</p> <p>The Software should control all functions of the protein purification system including instrument setup and calibration, method development, real-time monitoring and system control, chromatogram comparison, and peak analysis.</p> <p>10 Copies of Chromatogram comparison and peak analysis software should be provided along with the Instrument with all licenses and keys.</p> <p>Starter Kit - The Instrument should be supplied with a Starter Kit with components like Sample, Column, Buffers, Injection Loops and Syringe for Initial Demonstration and Application Training of the Instrument.</p> <p>Warranty - 1 year from the date of Installation</p>	
2	<p>Double Beam UV-Vis Spectrophotometer with 2KVA power supply (online UPS) and compatible branded desk-top computer (Processor i5, Hard drive: 1 TB, RAM: 4 GB, minimum).</p>	<p>Optical Design: Dual-Beam-Internal Reference Detector</p> <p>Spectral Bandwidth: 1.8 nm</p> <p>Light Source (Typical Lifetime): Xenon Flash Lamp</p> <p>Detectors: Dual Silicon Photodiodes</p> <p>Wavelength Range: 190-1100 nm</p> <p>Wavelength Accuracy: ± 1.0 nm</p> <p>Wavelength Repeatability: ± 0.5 nm</p> <p>Wavelength Slew Speed: 11,000 nm/min</p> <p>Wavelength Scan Speed: Up to 3600 nm/min</p> <p>Wavelength Data Interval for Scanning: 0.1, 0.2, 0.5, 1.0, 2.0, 5.0 nm</p> <p>Photometric Linear Range: Up to 3.5 A at 260 nm</p> <p>Photometric Display: -0.1 A; -1.5-125%T; ± 9999 C</p> <p>Photometric Accuracy: ± 0.005 A at 1.0 A</p> <p>0.010 A K₂Cr₂O₇</p> <p>Photometric Noise: < 0.00025 at 0.0A, < 0.00050 at 1.0 A, < 0.00080 at 2.0 A, RMS at 260 nm</p> <p>Photometric Drift: < 0.0005 A/hr</p> <p>Stray Light: $< 0.08\%$ T at 220, 340 nm (NaI,</p>	1


		<p>NaNO₂), <1.0% T at 198-200 nm (KCl). Display: Graphical with LCD backlight; 9.7 × 7.1 cm (3.8×2.8 in.) Keypad: Sealed Membrane with tactile response keys Printer: Compatible Connectivity: USB Type A port for USB memory device (front panel) USB Type B port for optional computer connectivity (rear panel) USB Type A port for external printer (rear panel) Dimensions: 30 W×40 D×25 H cm (11.8×15.7×9.8 in.) Weight 8.6 kg (19 lbs) Power Requirements: Selected Automatically 100-240 V; 50-60 Hz</p>	
3	<p>Real-Time PCR detection system with compatible online UPS (2KVA) and branded desktop computer (processor i5, HDD: 1 TB, RAM: 4 GB, minimum) and printer.</p>	<p>Real time PCR with block of 96 x 0.2 ml tubes or plate to Run typical 0.2ml tubes, strips, and plates. Should have 3 filtered LEDs as an excitation source with 3 filtered Photodiodes for detection. Should have a gradient capacity with Dynamic ramping. Detection of 2 different fluorescent reporters in the same tube. Should be capable of Detecting FAM/Sybr Green, and VIC, HEX, TET, CAL Fluor Gold 540 etc. Maximum Ramping speed : 5^oC per sec Should have 6 Peltier Cooling & Heating for uniform temp control Should have one channel dedicated for FRET experiments Should have a mass reduced honeycomb block to offer better average ramp rate and 10 sec of settling time. Excitation Emission range: 450- 580nm No internal reference dye should be required. True 2 Color Multiplexing with use of 2 different flourophores without the need of addition of any internal reference dye, Dynamic range of 9 orders. Open system capable of running various chemistries so that Different chemistries using TaqMan, Molecular Beacon, SYBR green etc all can be performed. Temperature range 06 100 OC with accuracy of ±0.2 OC and uniformity of ±0.4 OC within 10 sec of arrival at 90^oC Sample volume should be 1-50 ul Should have built in data analysis modules with advance features like well highlighting, QC flags and custome data view assist with quick analysis. <input type="checkbox"/> Should be capable to perform Automatic allelic discrimination by end point fluorescence or</p>	1 each

		<p>threshold cycle. Should be capable to perform Gene expression analysis by relative quantity or normalized expression.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Should have mode for Melt curve analysis and should be compatible for HRM applications. Comparison of upto 5000 Ct values from different data files should be possible <input type="checkbox"/> Should have the feature of Email notification with data file after run completion. <input type="checkbox"/> Software should have express load feature which allows entry of data after experiment. <input type="checkbox"/> Should be Licensed for Research & IVD applications. <input type="checkbox"/> System should be compliant with the MIQE Guidelines <input type="checkbox"/> System should provide an additional qbase plus software license which is RDML compliant 	
4	<p>Electrophoresis Systems comprising of the following:</p> <p>(a) <u>Electrophoresis Apparatus (SDS) (Mini-Protean Tetra Cell, 2 gel system)</u></p> <p>(b) <u>Electrophoresis Apparatus (Horizontal) (Mini Sub Cell) GT</u></p> <p>(c) <u>Electrophoresis Apparatus (Horizontal) Model: Sub Cell GT System</u></p> <p>(d) <u>Power supply Unit: Power Pac Basis (four channels)</u></p>	<p><u>For Electrophoresis Apparatus (SDS) 2 gel system</u>: 1.0 mm gel thickness, 2 gel system includes Tank, lid with power cables, electrode assembly, Mini cell buffer dam, casting stand with 2 casting frames, 5 short plates and 5 spacer plates with integrated 1.0 mm spacers, Five 10-well combs, Five gel releasers and Stain-Free Fast Cast Acrylamide Starter Kit (10%) Total buffer volume for 2 gels: 700 ml Total buffer volume for 4 gels: 1000 ml Handcast gels: Cast using spacer plates Typical Run Time: 35-45 min (at 200 v constant) Gel size (W x L): handcast: 8.3 x 7.3 Glass plate size(WxL) Short plate: 10.1x7.3 cm Spacer plate: 10.1x8.2 cm Dimension (WxLxH): 12.0x16.0x18.0 cm Weight: 1 Kg</p> <p><u>(b) For Electrophoresis Apparatus (Horizontal) Mini Horizontal Gel</u> including mini Gel Caster, 7x10 cm UV transparent Tray (optional 7x7 tray), 2 comb of 8 well and 15 well each.</p> <p><u>(c) Electrophoresis Apparatus (Horizontal)</u> including 15- and 20-well combs, 15 x 10 cm (W x L) UV-transparent tray, gel caster</p> <p><u>(d) Power supply Unit</u> Display : 3-digit LED Output range (programmable): 10-300 V, 4-400 mA, 75 W Type of output: Constant voltage or constant current with automatic crossover Output terminals: 4 pair recessed banana jacks in parallel Timer: 1 min-99 hr 59 min Pause/resume function: yes Input power (actual): 90-120 or 198-264 VAC,</p>	Item a, b, c, d: 1 each

		50/60 Hz, autoswitching Dimensions (W x L x H): 21 x 24.5 x 6.5 cm Safety Features: No leak detection, load change detection, ground leak detection, arc detection, overload/short circuit detection, overvoltage protection	
5	Electroporator (Total Gene Pulser)	Complete system for transfection of both eukaryotic and prokaryotic cells, 100/240 V, 50/60 Hz, electroporator, exponential and square wave delivery includes main unit, CE and PC modules, shocking chamber, 15 sterile electroporation cuvettes (5 each of 0.1, 0.2, and 0.4 cm electrode gap), cuvette rack Voltage: 10-3,000 V Capacitance: 10-500 V: 25-3,275 μ F in 25 μ F increments; 500-3,000 V: 10, 25, 50 μ F Resistance (parallel): 50-1,000 Ω in 50 Ω increments, plus infinity Sample resistance: 20 Ω minimum at 10-2,500 V; 600 Ω minimum at 2,500-3,000 V Square-wave timing: 10-500 V: 0.05-10 ms in 0.05 ms increments, 10-100 ms pulse in 1 ms increments, 1-10 pulses, 0.1-10 sec interval; 500-3,000 V: 0.05-5 ms in 0.05 ms increments, 1-2 pulses, 5 sec minimum interval Electroporation of all cell types, prokaryotic and eukaryotic, ShockPod chamber for one hand operation, user method storage: yes; Storage and recall of pulse parameters and results for previous experiments: yes	1
6	Upright Ultra Deep Freezer -86 Degree centigrade with compatible voltage stabilizer	Temperature range: -40°C to -86°C, 1°C increment Max Capacity: 32,000 vials (10x10) or 25920 vials (9x9)/ 486L Interior Dimensions(W*D*H): 590*630*1310(mm) Exterior Dimensions(W*D*H): 945*900*1980(mm) SS movable shelves/inner door: 3/4; max no of 2" racks: 16; max no of boxes: 320 Power Supply(V/Hz): 220/60; power: 1000 W; Net/Gross Weight(approx): 290/310(kg) Microprocessor control accurate and automatically by the sense of the ambient temperature and voltage LED digital display to clearly show the system status. Self-testing S/W and multi-alarm, audible and visible for High and low temperature, power failure, sensor failure, High and low voltage, overheated condenser, high and low ambient temperature. Pressure (vacuum) equalizing for easier door opening, insulated inner door and sealing together with heat retardant to keep the cabinet from	1 each

		frosting. Double compressors cascade refrigeration efficient and reliable; high end EMB condenser fan; noise level < 49 db (A), lockable castors, pull down time: less than 6 hrs, Vacuum insulation panel material: sealed vacuum between insulation layers of PUF Safety: safe door lock to prevent unauthorized opening , multiple protection like password program protection, Automatic start-up delay-compressor self protection program, voltage buck-boost, compatible voltage stabilizer 5KVA	
7	Flat Bed Scanner (A3 Scanner for <u>DIGITAL HERBARIUM</u>) with Compatible online UPS (2 KVA) and compatible branded PC (7th Generation i7 processor, > 4 GB RAM, 2 TB HDD)	Type A3 flatbed colour image scanner Scanning method fixed document and moving carriage Optical sensor 4-line colour CCD Light source white LED optical Resolution 600 dpi x 600 dpi Output resolution 150 dpi-4800 dpi (1 dpi increments), 7200 dpi and 9600 dpi max Document size A3 (11.7" x 17")	1 each

Interested authorized Distributors/Suppliers/Dealers/Re-sellers may submit the tender documents (including all supporting documents) to **the Head, Department of Botany & Coordinator, DST-FIST programme, Nagaland University, Lumami-798627, Nagaland** on or before February 27, 2018. Documents received after the due date will be rejected. Department shall not be responsible for any postal delay. There is no binding on the Department/University to select the lowest quoted rate if specification and quality are not met.


 (Talijungla)

Head, Department of Botany