



नगालैण्ड विश्वविद्यालय NAGALAND UNIVERSITY

(संसद द्वारा पारित अधिनियम 1989, क्रमांक 35 के अंतर्गत स्थापित केन्द्रीय विश्वविद्यालय)
(A Central University Established by the Act of Parliament No. 35 of 1989)

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Ref. No..... SAMN/ADMN/PRJ/E-160/2018 - 555

19.06.2018
Date.....

NOTICE INVITING TENDER

Sealed rate quotation are invited from reputed manufacturers/authorized dealers/registered suppliers for supply of Instrument/Machinery for DBT sponsored project "In vitro mass propagation of high hill area banana" under the department of Horticulture, SASRD, Nagaland University, Medziphema. The lists of items with technical specifications are available at Nagaland University Website (www.nagalanduniversity.ac.in)

The last date for submission of the tender is 18.07.2018 during office hours. Incomplete tender shall be summarily rejected. The University authority reserves the right to accept and reject any tender without assigned reasons whatsoever.

Sd/-

(T. LANUSOSANG)

Pro-Vice Chancellor

Copy forwarded to:

1. The Finance Officer, Nagaland University, Lumami, for information.
2. System Administrator, Nagaland University, Lumami with a request to upload the above notice along technical specifications and terms and conditions in the NU Website.
3. Dr. C.S Maiti, Project Incharge, DBT-NER Banana project, NU, SASRD, Medziphema.
4. Notice Board.
5. Office copy.

(VEKHOI TETSEO)
Assistant Registrar

EQUIPMENTS SPECIFICATION

Sl	Item	Model	Make	Qty
1	<p>Laminar Air flow cabinet vertical Make: Relitech. Model: RT-287SS Made of MILD STEEL, painted. Work bench of stainless steel. Sides of work bench covered with transparent acrylic sheet. Front acrylic door of collapsible type. Properly balanced blowers fitted on F.H.P. motor provided on the top portion to supply sufficient air to HEPA filter provided on top of work bench horizontally to supply clean air to the work bench vertically. Pre-filters provided on the top to supply pre-filtered air to the blowers. One fluorescent tube and one U.V. Germicidal tube provided over work bench. Static pressure manometer fitted on top. Back cover fixed with screws for convenient removal for attending blowers, filters and motor when needed for maintenance. Cock for gas, air or vacuum line area fitted Working Chamber size: 3'X2'X2'.</p>	RT-287SS	Relitech	1
2	Exhaust System for Laminar Air Flow (Vertical)		Relitech	1
3	<p>Bench top-pH Meter: Table Top, Digital (pH range 0-14) resolution: pH 0.01. Accuracy -pH electrode, electrode stand, dirt cover, buffer solution.</p> <p>Product Features</p> <ul style="list-style-type: none"> □ Economical, user-friendly and accurate, the Eutech pH 700 is your ideal choice for routine applications in laboratories, production plants and schools. Large, easy-to-read display/ Ready indicator let you know when readings are stable/ Up to 5-point calibration with auto-buffer recognition/ Non-volatile memory holds up to 100 data points/ Integral electrode holder <p>Product Specification Description</p> <p>pH Range -2.00 to 16.00 pH; Resolution 0.01 pH; Accuracy ± 0.01 pH; Cal. Points Up to 5 Buffer Sets USA (1.68, 4.01, 7.00, 10.01, 12.45), NIST (1.68, 4.01, 6.86, 9.18, 12.45) ORP Range ± 2000 mV; Rel. mV Range ± 2000 mV; Resolution 0.1 mV (± 199.9 mV) / 1 mV Accuracy ± 0.2 mV (± 199.9 mV) / ± 2 mV (beyond) Temperature Range (Meter) 0.0 to 100.0 °C Resolution 0.1 °C / 0.1 °F; Accuracy: ± 0.3 °C (0 to 70 °C); Compensation ATC / MTC (0 to 100 °C) (pH only); Power Requirements 9 V DC adapter, 1.3 A (100/240 VAC, SMPS). SUPPLY INCLUDES: ECPH70042S Eutech pH 700 Meter With general purpose epoxy body gel filled pH Electrode, Auto temperature compensation Probe (PH5TEMB01P), Integral Electrode Holder & 100/240 VAC power pack, Start up calibration buffer solutions (pH 4, 7 & 10)</p>	Cyberscan pH 700	Eutech-Thermo	1

EQUIPMENTS SPECIFICATION

SI	Item	Model	Make	Qty
4	<p>AUTOCLAVE HORIZONTAL FLOOR standing 35 lit cap</p> <p>Construction: Double walled with separate steam jacket and boiler. Inner chamber and steam jacket are made of heavy gauge Stainless Steel sheet with leak proof argon arc welding. Mounted on tubular steel frame with ground leveling screwed flanges. The space between outer wall and steam jacket is filled with glass wool to minimize the heat losses.</p> <p>Steam Generator: Made of heavy gauge Stainless Steel Sheet. Fitted with flanged immersion type heaters at the back. Also fitted with Low Water Level Cutoff Device to protect the heaters from burning out dry. Fitted with Water Level Indicator, Water Inlet and Outlet Valves & low water cut-off device.</p> <p>Pressure Control: The "PIEZOSTAT" (Pressure control device) is incorporated in the unit as it economises on power consumption and reduces the frequent opening of the steam release valve and thus prevents the release of steam in the room. It cuts off the power supply to heaters when the set pressure is achieved and re-energises the heating elements when pressure falls below the set point.</p> <p>Size : 12"x20" approx 35 ltrs Rating: 4 KW</p>	RT-125	Relitech	1
5	<p>Tissue Culture Rack: Made of tubular pipe duly epoxy powder coated. Each rack of size 48" x 18" is covered with thick unbreakable Plexi Glass / Hylem Sheet. Distance between each rack is 15". Each rack is fitted with fluorescent tubes with Electronic Boosters for minimum flickering effect. Rack is fitted on Caster Wheels. 5 racks with 16 tubes, 8 bulbs, 4UV & Timer</p>	RT-305	Relitech	1
6	<p>ROTARY FLASK SHAKER: Designed for continuous shaking of solutions in Erlenmeyer Flasks from 50 to 1000ml capacity. It is compact bench type Table Top model with platform fitted with rubber discs mounted on ball bearing crank shafts to give an orbital motion to the flasks, within a diameter of approximately 50mm. The motor is coupled by means of a V-belt with pitch pulley and is mounted on a heavy and sturdy angle iron frame. Speed is - controlled from 50 -250 rpm by speed controller. To work in 220/230 volts AC supply. Complete with Digital RPM counter controller & Automatic 0-60 minute Timer.</p> <p>Platform Size : 450 x 450mm Capacity: 36 flasks of 50ml or 25 flasks of 100ml or 16 flasks of 250ml or 9 flasks of 500ml</p>	RT-475	Relitech	1

EQUIPMENTS SPECIFICATION

Sl	Item	Model	Make	Qty
7	<p>Magnetic Stirrer- Hot Plate:</p> <p>LCD display target and actual temperature, as well as set speed and actual speed can be displayed.</p> <ul style="list-style-type: none"> Temperature up to 550 °C; PT-1000 sensor included <p>Automatically identify temperature sensor PT1000 and transfer to PT1000 operation mode. Record and Display the last running parameters when switch on. • PID temperature technology precise controls heating process, rapidly reaches target temperature and enhances control accuracy. Brushless DC motor maintenance free and explosion-proofed, accurately control speed. Separate safety circuits with fixed safety temperature of 580°C, automatically stops heating once exceed secure temperature. HOT warning indicates residual hotplate temperature. LCD display would show "Hot" when hotplate temperature over 50°C warning point, even if switched off. Overload protection, motor would automatically stop in case of continuous overload. Dimension of work plate [mm]: 184 x 184 (7 inch). Work plate material: Glass ceramic</p> <p>Motor type: DC brushless. Power [W]: 1050 watt</p> <p>Max. stirring quantity[H₂O], L: 10 Lit</p> <p>Max. magnetic bar(L x Ø) [mm]: 80mm</p> <p>Speed range [rpm]: 100-1500</p> <p>Speed display: LCD</p> <p>Speed display resolution [RPM]: ± 1 rpm</p> <p>Hotplate Magnetic Stirrer, with LCD Digital display for Temperature & Speed, 7" glass ceramic hotplate, PT1000 temperature sensor included & with support stand</p>		Rivotek	1
8	<p>Analytical Balance:</p> <p>Make: Shimadzu. Model: AUW220D</p> <p>Microprocessor based single pan dual-range semi-micro five-decimal balances with the advantages of UniBloc one-piece force cell technology.</p> <p>Microprocessor digital control can be set to automatically provide the most suitable data processing for the installation environment and weighing application.</p> <p>Calibration: Automatic- Internal. Fully-automatic calibration by temperature detection: PSC</p> <p>The balance detects variations in the ambient temperature that influence accuracy and automatically performs calibration to compensate it.</p> <p>The balance automatically performs calibration at selected times, up to three times a day (e.g., before starting work, during lunch-break, or after work).</p> <p>Dual Range:82 gm with readability 0.01 mg & 82+....220 gm with readability 0.1 mg</p> <p>Repeatability: ≤0.1 mg (large range); ≤0.05 mg (small range);</p> <p>Linearity: ±0.2 mg (large range); ±0.1 mg (small range);</p> <p>Response time: 3 s (large range); 15 s (small range); Pan Dia: 80 mm; Air-shield: Included.</p>	AUW220D	Shimadzu	1

EQUIPMENTS SPECIFICATION

Sl	Item	Model	Make	Qty
9	Vortex mixture continuous operation, with speed range upto 2500 rpm, Adaptor 8 holes, to accomodate tube of 20mm, Universal Top plate 100mm		Rivotek	1
10	Micropipette with tips: LABOPETTE, Variable Volume, Conformity Certified with Individual Work Certificate, EM-TECHCOLOR Brand- Germany Range- 2-20 μ l with tips, grad: 0.02 μ l		Hieschman	1
a	Range: 10-100 μ l with tips, grad: 0.1 μ l		Hieschman	1
b	Range: 20-200 μ l with tips, grad: 0.2 μ l		Hieschman	1
c	Range: 100-1000 μ l with tips, grad: 1 μ l		Hieschman	1
d	Range: 500-5000 μ l with tips, grad: 10 μ l		Hieschman	1
11.	Water Distillation Unit: Distillation Unit, Single Stage, with Quartz Boiler, Borosilicate Condenser & Built-in Quartz Heater, Vertical Panel Mounted, Output capacity: 5 lit; Cooling water requirement: 65 lit/hour approximately; Load: 4 Kw. Complete with Auto Cut-Off System with Audio Alarm for low water level		Riviera	1
12	Hot Air Oven: A double walled unit with outer body made of Mild Steel Sheet treated for degreasing & rust proofing duly powder coated and inner chamber made of Stainless Steel Sheet (304 Grade) and adjustable Stainless Steel Wire Mesh shelves. Space between inner chamber and outer wall is filled with high grade mineral wool for minimal heat loss. The Double Walled Door has synthetic rubber / fibre gasket. Unit has ventilation slides on two sides to control inner air/ vapor circulation. Fitted with beaded heating elements placed in ribs, at bottom and sides for uniform heat distribution. To work on 220/230 volts AC supply. Unit is fitted with Digital Temperature Indicator-cum-Controller (with display for SV and PV) for temperature control from +5° C ambient to 250° C, $\pm 1^{\circ}$ C at 100° C & Circulating fan. Working Chamber size No of Shelves . 18" x 18" x 18" (90 lit) 2 nos	RT-150	Relitech	1

EQUIPMENTS SPECIFICATION

13	<p>Horizontal Electrophoresis Apparatus, Gel tray provided with stable silicone gaskets.</p> <p>Color-coded sealed platinum electrodes.</p> <p>Safety cover with attached retractable sheathed power chords such that the cover moves in a slotted area on the gel box preventing accidental electric shocks during the gel run.</p> <p>Non-slip silicone plugs for excellent grip and stability on work surfaces.</p> <p>Power supply leads with color code (Red and Black) for easy determination of Anode and Cathode, respectively.</p> <p>Mini Horizontal Gel Box 9 x 11 cm gel, Rapid cast gel tray; with two combs slots. Includes two combs, 10 & 14 tooth, width 1.5 mm</p>	Relitech/Himedia	1
14	<p>Electrophoresis Power Supply- DIGITAL UNIT 4 output terminals</p> <p>Output :</p> <ol style="list-style-type: none"> 1) Constant voltage - 0 to 230V DC 2) Constant current - 0 to 400 mA 	Relitech/Himedia	1
15	<p>REFRIGERATED UNIVERSAL CENTRIFUGE: Digital, microprocessor based. Maximum Speed 16000 rpm. Filled with Micro Processor based LCD panel for 0-59 minute countdown timer. Digital RPM display and programmable speed controller. Stand by temperature from -200C to Room Temperature is controlled by Microprocessor based digital temperature controller cum indicator.</p> <p>Working temperature from -8C. The unit shall be supplied complete with Angle rotor 12x1.5/2ml with adopter 0.5/0.2ml. Max. 16000rpm, Angle rotor 8 x 15ml. Made of spl. alloy withstand cooling & high speed, Max. 7000rpm & Angle rotor 4 x 50ml. Made of spl. alloy withstand cooling & high speed, Max. 7000 rpm</p>	Relitech	1
16	<p>Thermal Cycler: Primer 96- Single Aluminium alloy block of 96 wells compatible for 0.2ml PCR tubes with 8" TFT color touch - screen with graphical display provides easy use for setting up and monitoring.</p> <p>Gradient temperature is from range 30-100°C. Integrated Tm calculator software.</p> <p>Automatic restart after power failure.</p> <p>Heating rate : 5°C/sec ; Cooling rate : 4°C/sec. Control Accuracy : $\pm 0.1^\circ\text{C}$ (30 - 99.9°C)</p>	Primer 96 Himedia	1
17	<p>Gel Documentation System: The E-Gel® Imager System is your personal imaging system for documenting and analyzing agarose gels and E-Gel® cassettes. Each E-Gel® Imager system includes a sleek and compact camera hood and one or more interchangeable bases along with two powerful software programs. There are three bases to choose from: a UV Light Base, a Blue Light Base and an E-Gel® Adaptor Base. In any of the three configurations the E-Gel® Imager system provides a small and light imaging solution that utilizes a scientific grade camera. Plus, the E-Gel® Imager is designed to work with both E-Gel® iBase™ power system and the new E-Gel® Go! Base to allow for real time documentation of electrophoresis runs using E-Gel® cassettes.</p> <ul style="list-style-type: none"> • Capture sharp, rich images with the integrated scientific grade camera; • Choose the best configuration for any stain with interchangeable bases; • Capture gel images in real time, even during a run • Analyze your gel images using the powerful Gel Quant Express software; Powerful Yet Compact Scientific Grade 	Thermo Scientific	1

EQUIPMENTS SPECIFICATION

<p>Camera. The E-Gel® Imager Camera Hood is the powerhouse at the core of the E-Gel® Imager system featuring a high resolution, scientific grade camera. You'll capture robust gel images with maximum dynamic range and sensitivity. Never lose any important bands with the E-Gel® Imager system.</p> <p>Three interchangeable bases provide excellent flexibility to use multiple gel stains. The UV Light Base is best for ethidium bromide and the Blue Light Base can be used for many SYBR® dyes like SYBR® Safe dye. The E-Gel® Adaptor Base has been designed to provide power to either the E-Gel® iBase™ power system coupled to the E-Gel® Safe Imager kit, or the E-Gel® Go! Base with its integrated blue light transilluminator so E-Gel® cassettes can be run right inside the E-Gel® Imager. This allows real time image capture while samples are running on the gel. Superb Image Capture and Analysis Software .There are two powerful software tools included with the E-Gel® Imager system, GelCapture and Gel Quant Express. GelCapture allows you to adjust sensitivity and exposure settings to capture the perfect image of your gel. Once you have that perfect image basic manipulations like inversion or pixel coloration can be performed. The Gel Quant Express software allows quantitation and analysis via 1D gel analysis or using the express mode. GelCapture can be downloaded and utilized on any PC, while Gel Quant Express requires a USB dongle for operation. Additional USB dongles can be purchased to use Gel Quant Express on more than one PC simultaneously. Minimum System Requirements for GelCapture and Gel Quant Express:</p> <ul style="list-style-type: none">• Processor – Intel® Core™2 Duo 1.8GHz;• Memory – 1Gb Ram• OS – Windows® XP Professional SP3 (English version) or Windows® 7 Professional (English version) – must have administrator permissions for installation.• Monitor – 1024 x 786 minimum resolution;• USB – USB 2.0 port for software dongle. <p>These are the minimum system specifications tested for use of the hardware and software.</p>			
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Note: Supplier or dealers should agree on the following terms that i. to conduct extensive training to the technical persons/ SRF under this project after proper installation of all the equipments with free of cost ii. Installation work should be completed within one month of issuing supply order. iii. Payment will be done only after fully satisfaction of the completion of work.