



PACHHUNGA UNIVERSITY COLLEGE

(A Constituent College of Mizoram University)

NAAC Accredited A+ & 2024 NIRF Ranking 35th

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LIMITED TENDER NOTICE

Quotations are hereby invited from the reputed suppliers/vendors for the supply of a "Climate Controlled Green House" and "real-time Polymerase Chain Reaction machine" with the following specifications;

Items/Specifications	Climate-Controlled Greenhouse	Real-time PCR
Size and Structure	Size 48ft x 32ft x 14ft : 10ft (L x W x CH : SH) Structure 1. GI Pipe:- ISI standard 2. Thickness:- 2mm 3. 50 mm x 50 mm. 4. 50 mm x 25 mm. a) GI pipe \pm 2mm ISI standard class B anti-corrosive, humidity-resistant pipe as approved. For maximum Indian wind load conditions, structural trusses will provide an absolute strength wind load of 120 km/hr. b) Buffer room of size 2m x 2m for smooth functioning of Control Unit, Buffer room- located on the front side Provision of Exhaust Fan, Light, It consists of main entrance door of 6'6" x 3'6" hinge type with 6'6" x 3'6" sliding door for entry in the chamber.	Operating temperature: 18-30°C (64-86°F) Humidity: 10-75% (noncondensing) Plate size: 96 SYBR Green/or dye-based detection Main application: 1. Gene expression analysis analysis 2. microRNA detection, 3. Virus detection, 4. SNP genotyping, 5. High-resolution melt analysis (HRM)
Cladding /Glazing	6mm polycarbonate sheet GE Lexan/Ultralite make, double wall, UV stabilized, easy to clean. Partition with 6mm polycarbonate sheet Specification of PC sheet Thickness:- 6mm multiwall. Warranty:- 10 years. UV:- Protected. Sheet Structure:- 6/2 RS Approx. weight g/m ² 1300 grm K. value W/m ² K 3,5 Fixing :- Aluminum Strip	

	<p>Sealing: EPDM gasket Size:- 2" inch Weight:- 1.25 Kg / 12 feet Perforated Anti-dust Aluminum tape. Length :- 12 feet Sound insulation dB:- 18 Impact Performance : -40°C to +120°C Cladding (Polycarbonate) Fixing: The polycarbonate sheet will be fixed using aluminium profiles duly anodized & EPDM/GEEIGNET rubber gaskets inserted between the profile & sheet to avoid direct contact with steel & sheet. All joints will be using silicon sealants.</p>	
Nets	<p>Insect Net: 40x 40 UV stabilized Insect mess will be fixed over the Cooling Pad Shade net:- Green, 75 % UV, stabilized shading net with a rollable mechanism (manually operated) would be fixed on the roof of the polycarbonate house.</p>	
Control system	<p>a) 50" Slow axial flow fan – 2nos, b) PADS: 4" Thick impregnated Cellulose Pads of size 5ft Technical Specifications Celdek Cellulose Pad: 1. Celdek is made of specially impregnated cellulose and treated to provide efficient watts. 2. Paper ambient condition 25°C - 45 °C 3. Estimated cooling load: 101,520 BTUs/ Hrs. 4. Total water flow 7.56 LPM per sq. ft. of the top pad surface. Bleed is equal to 10% of the total water rate. 5. Eco friendly. 6. High saturation efficiency, 7. Self-cleaning feature 8. No setting or Shrinkage of product. 9. Low-pressure drop characteristics. 10. Impregnation makes the material stiff and self-supporting. 11. Make: - HuTek (THAILAND). c) WATER CIRCULATING SYSTEM FOR PADS: The water circulating system shall comprise all aluminium Frame, Gutter & Cover, 40mm/32mm PVC pipe for Water distribution on the cooling pad to wet the pad thoroughly. d) CONTROL HEAD FOR WATER CIRCULATING SYSTEM FOR PADS: Ball Valves, Flush Valves, Filter, Water Storage Tank of 500 ltrs., Electricity Pump set of 1.5 HP Crompton / Laxmi/ Kirloskar is sufficient to keep the pads always wet.</p>	
Control panel for greenhouse	<p>The mains ON/ OFF Switch will also provide a compact control panel facility. (L&T Make) , Light Indicator for leading light, Cooling, Humidity, Heating CONTROL PANEL : Panel with Delta PLC with sufficient I/O points to control the Cooling & Misting.</p>	

	<p>Panel with Delta HMI for user interface and control. *Both automatic and manual operations can be handled through the HMI.*</p> <p>The panel should have appropriate power supplies, circuit breakers, and wiring to operate safely.</p> <p>The panel should have appropriate temperature sensors and control algorithms to maintain the desired temperature in the controlled environment.</p> <p>Alarm generation on HMI</p>	
Misting System	<p>The pipe connection of the PVC pipe is 6kg/sq.m. with an ISI mark with necessary fittings.</p> <p>Nozzles Foggers, filtration types of equipment. It should create 85 -90% humidity inside the chamber.</p> <p>Humidity Inside Chamber 85% accuracy $\pm 3 - 5 \%$</p> <p>Motor:- 1 HP monoblock pump (Crompton Greaves ISI Make) :- 1no.</p> <p>Tank: - 500 ltr (ISI Make)Sintax Double layer</p> <p>Lighting: 5 nos.</p> <p>LED lamps for Buffer Room 1nos.</p> <p>LED lamps for Room 4nos.9)</p>	
Foundation	<p>Foundation Brick wall: Brick wall of 1.5' height below soil surface & 1.5' height above the ground surface. The brick wall above the ground surface will be duly plastered with two coats of exterior cement paints 1) Plinth protection: 1.5' wide 4" thick on four sides of the Green House.</p> <p>All wires will be of copper and desired load (Make- Polycab /Finolex). No looping of electrical wires will be done for proper load distribution. All the electrical operations have independent cables from the control panel.</p>	
Terms and Conditions:	<ol style="list-style-type: none"> 1. The bidder should be responsible for making proper arrangements for installing the greenhouse and making it functional once it arrives at PUC, Aizawl. 2. The system should be equipped with all accessories for proper & effective functioning (such as power supply cords, drip irrigation, fertilization, etc.) Any upgrades to the system accessories and software within one year from installation should be provided free of cost. 3. <u>Provided with the connectivity issue in North-East India</u>, The bidder should offer an <u>unconditional two-year warranty</u>. A copy of the manufacturer's warranty (not agents) will be included when handing it over. 4. At least 20 extra sets of light bulbs should be included. 5. A server to store the day-to-day parameters of the chambers should be quoted by the bidder and included in the final price. 6. A branded light meter should be provided to check the intensity of light. 	<ol style="list-style-type: none"> 1. The bidder should be responsible for making proper arrangements for installing the instrument and making it functional once it arrives at PUC, Aizawl. 2. The system should be equipped with all accessories necessary for proper and effective functioning

	<p>7. The supplier should provide a high-performance branded vacuum cleaner (2000 watts capacity) to clean the greenhouse.</p> <p>8. Payment (in full) will be made by cheque <u>only after equipment installation.</u></p> <p>9. GST must be included (18%GST Included, against DSIR Certificate copy and order).</p> <p>10. Supply 4-6 weeks after receiving the order.</p>	<p>(such as power supply cords, stabilizer, and computer with CPU, etc.).</p> <p>3. Any upgrades to the system accessories and software within one year of installation should be provided free of cost.</p> <p>4. <u>Provided with the connectivity issue in North-East India, the bidder should offer an unconditional two-year warranty.</u></p> <p>5. When handing it over, a copy of the manufacturer's warranty (not agents') will be included.</p> <p>6. A computer system (monitor CPU) must be provided with the machine to observe real-time data.</p> <p>7. The supplier should provide at least 100 plastic ware items compatible with the machine, free of cost, and at least two sets of master MX</p>
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		packs and cDNA synthesis kit. 8. Payment (in full) will be made by cheque only after equipment installation. 9. GST must be included 10. Supply 4-6 weeks after receiving the order.
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The quotation must be emailed to prashantbotbhu@gmail.com or addressed to **Dr Prashant Kumar Singh (PI-DBT Project), Department of Biotechnology, Pachhunga University College, Mizoram University, Aizawl-796001.**

The undersigned will receive the quotation by email or post on or before **25-05-2025** at the latest, and it will be opened on the same date at **03:00 PM** in the Department of Biotechnology, Pachhunga University College, Aizawl-796001.


Principal

(Head of The Institution)

Principal
Pachhunga University College
Aizawl : Mizoram



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