



# PANJAB UNIVERSITY

DEPARTMENT OF BOTANY  
CHANDIGARH - 160 014

(Estd. Under the Panjab University Act VIII of 1947 – enacted by the Govt. of India)

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Ref. 1374-1378/HN/Bot  
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**UNDER REGISTERED POST**

Dear Sir,

Please quote your lowest rates in DUPLICATE, for the item(s) give below as per the specifications. Your quotation should reach the undersigned **on or before 27.10.2020**.

## **TECHNICAL SPECIFICATIONS FOR PLANT GROWTH CHAMBER AND QUALITY CONTROL REQUIREMENTS ON TURNKEY BASIS:**

- Plant Growth Chamber having size of 768 Cu.ft. divided in two zone 512 Cu.ft. and 256 Cu.ft.
- Temperature Range (In 512 Cu.ft.) : 4°C to 50°C±2°C.
- Relative Humidity : Upto 60% to 85% ± 5%.
- Light : Luminous Flux ranging from 350 to 400 μE/M per sq.m2/Sec.
- 60mm Puff insulated structure with 60mm thick flooring covered with 1.2mm Aluminium chequered Sheet.
- Cam lock arrangement for leak proof cabinet ( Technical details must be provided ).
- Chamber Should be constructed on a concrete plate form of 14' x 10' size and 10" height further provide with a Rain Shed made of Galvanised tubular structure and Bare Galvalume Sheet as cladding materials ( details must be given )
- Cooling system having 24000 BTU Cooling capacity @ 4°C room & 50°C amb. Using three phase commercial refrigeration system with HP/LP cut off and SS evaporating units and allied accessories with CFC Free refrigerant should be provided ( Technical Details of refrigeration system must be provided)
- Luminous Flux ranging from 350 to 400 μE/M per sq.m2/Sec area  
With Ceiling suspended Adjustable Light Bank and 2 Nos. of Tissue Culture Growth Rack fitted with Photosynthetically Active Radiation Lamps ( T8 SMD type LED Lamp in combination with Grow Lamps ) having 2'6" Shelf to shelf distance ( Total 2 Illuminating Shelves ) complete Powder coated MS frame. Plant Growth Chamber should also be provided with Grow Lamps for better plant growth.
- Ultra Sonic Vapour Humidifier ( RH upto 85%) Ultrasonic Frequency : - 1700±40 KHz, Ceramic Disc size : Φ 20mm. Titanium Coated. Mist Generation > 900 ml/Hr. Stainless Steel enclosure with automatic water feeding arrangements and fiber filter.
- Dehumidifier for lowering of Humidity level with microprocessor controls.
- Microprocessor Photosynthesis control Panel for TEMPERATURE, HUMIDITY ( Day & Night Separate ) and LIGHT duly fixed in Buffer Room Area ( Technical Details must be provided )
- Galvanised Benching arrangement ( Height 2'6" ) covering maximum Floor area capable to withstand a load of 500 Kgs.
- Modulated Damper Arrangement with Filter for Fresh Air / Co<sub>2</sub> Controlling operated electronically as per required program
- High quality ISI approved fittings with copper multi strand twisted FR Grade cable and rigid Stds of safety with proper M.C.B . (Make L&T/Havells ) with Standard LED Light Illumination in Both chamber duly fitted in IP65 enclosures.

Quotation is required from reputed companies who have successfully constructed Plant Growth Chambers / Tissue Culture Labs /High Tech Containment Facility/similar facilities.

Warranty: **Warranty should be minimum of two years against** i) all spare parts ii) electronic & electrical instruments iii) manufacturing defects.

Tenderer must provide a trouble free after sales service within 24-48 Hrs. after the intimation of complaint. Tenderer must be ISO 9001 certified and CE certified. Documentary proof must be attached with the tender.

Tenderer must provide a Solvency Certificate not less than 20 Lakhs from any Nationalized Bank. User reserves the rights to reject or accept any/ all tender without assigning any reason thereof.

The detailed specification needs to be given for each section in Technical Bid with complete elaboration of technical requirements with all commercial terms and conditions failing which tender will be rejected.

Tender are liable to be rejected if they are not in line with technical specifications of the tender notice.

The rates quoted should be **FOR Department of Botany, Panjab University, Chandigarh.** **SPECIAL DISCOUNT** for educational institutions/ University, Teaching Departments may be mentioned. The **technical, financial bids and EMD be enclosed in separate sealed envelopes duly marked and placed together in a duly sealed envelope giving our reference and due date of quotation.** The **EMD 2%** of the total cost of the equipment and **DD/ Traveler cheque** should be made in the name of The **Registrar, Panjab University, Chandigarh.** The quotations should reach to **Prof. Harsh Nayyar, Principal Investigator, Department of Botany, Panjab University, Chandigarh-160 014** by due date.

Thanking you,

Yours sincerely,



(Harsh Nayyar)  
Principal Investigator