



KERALA AGRICULTURAL UNIVERSITY
Department of Plant Pathology
College of Agriculture, Vellayani, Trivandrum 695 522

No. NARP/SR8/3198/2014 (KSCSTE)

Date: 10.03.2017

TENDER NOTICE

Sealed competitive tenders are invited for the supply of equipments

(Specification attached).

Sl. No	Equipment	Cost of tender form (Rs.)	VAT (5%)	Total cost
1	Equipments	1500.00	75	1575.00

Tender forms can be down loaded from KAU website (www.kau.edu/tenders). On submitting the tender form, the cost of the tender form as mentioned above may be drawn by DD in favour of “Associate Director of Research, NARP(SR), College of Agriculture, Vellayani” payable at State Bank of Travancore, Vellayani, Trivandrum should be enclosed.

EMD @ 1% of the quoted amount should be as separate DD drawn at the same address along with an agreement executed in Kerala stamp paper worth Rs100/-should be enclosed with the tender. The name of the equipment for which the rate is quoted, notification number and date of opening of tender should be written on the top of the envelope. Sealed tenders addressed to **The Associate Professor and P. I. KSCSTE Project 9803, Department of Plant Pathology, College of Agriculture, Vellayani, Thiruvananthapuram 695522 Kerala** should reach this office on or before 2.00 pm on 25/03/2017 (Saturday) and will be opened at 3.00 pm on the same day in the presence of such of the tenderers or their authorized representatives. The tenders received after the stipulated date and time will not be accepted in any circumstances.

All terms and conditions prescribed for Government tenders as amended from time to time are applicable in this case also. The under signed has the right to accept or reject any or all tenders without assigning any reason thereof.

Further details can be had from the under signed during the office hours between 10.00 am and 4.00 pm (**0091-8547195426**) and also through KAU web site.

Terms and conditions:

- * All equipments and microscope should have a minimum of 2 year warranty from the date of complete installation and not from the date of delivery.

- * Items should be delivered to Department of Plant Pathology, College of Agriculture, Vellayani, Thiruvananthapuram.
- * The products should be preferably internationally branded.
- * The firms or companies quoting the price should have service personals or centers in Kerala.
- * The price quoted should be inclusive of all taxes, costs for clearance, transportations, loading and unloading etc.
- * All Taxes, duty, freight etc as applicable may be specified in the tender.
- * Rates quoted should be valid for a minimum period of 180 days from the date of opening the tender.
- * Delivery: Within **two weeks** from the date of receipt of purchase order.
- * The equipment should be delivered and installed at the Department of Plant Pathology, College of Agriculture, Vellayani at your own expenses and any packing, forwarding, freight, loading/unloading/handling or installation charges will have to be met by you.

Sd/

Associate Professor & P.I. of Project

SPECIFICATIONS OF TENDER NOTICE No. NARP / SR8)/3198/2014 (KSCSTE)

Dated: 10.03.2017

Specifications for equipments

1. GEL DOCUMENTATION SYSTEM WITH SOFTWARE and BRANDED PC:

Imaging system should have Automatic capabilities with Application driven, user selected or recalled by a protocol, Should have 100 % repeatability via recallable protocols, pre-calibrated focus for any zoom settings & sample height, and appropriate flat fielding correction automatically & consistently applied to image data for every application, Versatile system to support wide range of applications like- Fluorescent dye like syber green, syber safe, Western blotting, 2-D, 1-D, Dot Blotting, Nucleic acid detection, Qunatitation etc., Should have true 12 bit true CCD camera with resolution of 1392 X 1040 μ m, System can take max. sample size 28 X 36 cm, System should have precalibrated & optimized dynamic image flat fielding, It should universal dark hood & upgradeable to chemilumnescence, Should have motorized zoom lens- f/1.2, 12-75mm with numerical feedback value to reduce the experimental variation, Capable of Optimizing, saving, and quickly recalling the imaging acquisition settings, Reproducibly position or center the sample on the image platen by using gel alignment templates, Should have Stain Free Capability, Should come with 1 D analysis software with following features, Single mouse click from image capture to results and reports, very fast and efficient, Should have comprehensive automated quantitative analysis of proteins & DNA samples in seconds, Intuitive and well organized (efficient) selection of workflows based on applications, Should calculate precisely continuous focus curves that are consistently and automatically applied for every zoom position and sample height, No user intervention for focusing, All calculations are done at setup, once and for all image

captures, Should come with suitable **branded computer** with Intel core i5 Processor, 4 GB Ram, 1 TB HDD, DVDRW, Keyboard & Mouse, 18.5" LED Monitor, Windows 7/10 Professional 32 bit for analysis software (optional: suitable stabilizer)

2. HORIZONTAL ELECTROPHORESIS SYSTEM (MINI and WIDE MINI TYPES) WITH POWER SUPPLY:

Mini type: Horizontal electrophoresis system should be able to run the gel size of 7x10cm with safety lid with sample throughput of 8-30, System should include UV transparent gel tray with integrated fluorescent ruler, System should include tape free gel casting module for leak free operations, System should include casting gates to allow hassle free casting of gels directly in the electrophoresis cells, System should include two 1.5mm 8- & 15-well fixed height combs, System should have the option for adjustable height combs with comb holders, migration rate of Bromophenol Blue dye should be similar to 4.5cm/hr (at 75 V), System should have a lock-in design to run precast ready agarose gels. **Wide Mini type:** horizontal electrophoresis system should be able to run the gel size of 15x10cm with safety lid with sample throughput of 10-60, System should include UV transparent gel tray with integrated fluorescent ruler, System should include tape free gel casting module for leak free operations, System should include casting gates to allow hassle free casting of gels directly in the electrophoresis cells, System should include two 1.5mm 15- & 20-well fixed height combs, System should have the option for adjustable height combs with comb holders, Migration rate of Bromophenol Blue dye should be similar to 4.5cm/hr (at 75 V), System should have a lock-in design to run precast ready agarose gels.

Power Supply for Horizontal Electrophoresis, Output range (programmable): 10–300 V, fully adjustable in 1 V steps 4–400 mA, fully adjustable in 1 mA steps 75 W maximum, Type of output: Constant voltage, constant current with automatic crossover, Output terminals: 4 pair recessed banana jacks floating in parallel, Timer: 1–999 min, fully adjustable, Pause/resume run function: YES, Display: LED Operating conditions: 0–40°C; 0–95% humidity in the absence of condensation, Safety compliance: EN–61010 EMI: Conforms to CE Standards for Emissions and Immunity class A, tested only at 230 V; TÜV EMC certification, Safety features: No-load detection, sudden load change detection, overload/short circuit protection, input line protection, auto power-up after power failure, Input protection: Fuse on both hot and neutral Input power (actual): 90–120 or 198–264 VAC, 50 or 60 Hz, autoswitching.

3. VERTICAL ELECTROPHORESIS UNIT WITH POWER SUPPLY: Number of gels - 2 Gels [Can be upgraded to 4-Gel], Precast gels (Ready Gel precast gels) & Handcast gels, Gel size (W x L) -Precast: 8.6 x 6.8 cm Handcast: 8.3 x 7.3 cm, Total buffer volume for 2 gels -700 ml, Total buffer volume for 4 gels 1,000 ml, Typical run times for SDS-PAGE -35–45 min (at 200 V constant), Should come with sample loading guide, casting module with side-by-side casting stand, Stain Free SDS PAGE Kit & Broad range Protein Marker, Should be a modular system, with **Mini Format Western Transfer Apparatus:** System should provide rapid, high quality western transfer, Must accommodate at least two mini gels of size at least 10 * 7.5 cm, Transfer time for both gels must be supported in a time frame of One hour, Overnight transfer must also be taken care, Preferably with a cooling unit to take care of heat generated, The unit should be mountable on a Magnetic Stirrer and should also be cold room compatible, Buffer

requirement should not exceed 450 ml – 500ml per run, Modularity of same tank to run PAGE gels must be available, Should be available either as a stand alone apparatus or as a module compatible with mini SDS Page Gel running apparatus, Transfer cassettes & electrodes should be color coded to ensure proper orientation of the gel during transfers, The apparatus should come complete with Gel Holder cassettes , foam pads, modular electrode assemblies, cooling unit within Tank , lower buffer tank and lid with power cables,

4. Vertical Laminar Air Flow System: Classification: Class 100; Main Filter :Minipleat HEPA , particle retention size: up to 0.3 micron , Efficiency: 99.999%; Prefilter: Particle retention size: up to 10 micron; Work table : SS304; Cabinet : In GI with PU coating; UV light : UV lamp of suitable length; Illumination: FL lamp of suitable length; Switches : on/off for blower UV/,FL ; Pressure gauge: Inclined liquid column manometer; Pet cock : SS petcock for air/gas; Working Size: 120 x 60 x 60 cm (optional: suitable stabilizer)

5. Horizontal Rotating Shaker: Double tier orbital shaker, micro controller based programme, amplitude preferably 50 mm, maintenance free brushless motor, SS universal platform, speed range - preferably 30 - 200 rpm with timer setting and LED display, auto restart. Preferable Outer Dimensions (W x D x H) - Minimum 730 x 670 x 700 mm, Penta Drive mechanism is required for quiet operation, Tray must be with adhesive matting (sticky stuff) to hold different volume flasks without clamps, Load capacity : Max. 50 kg, Shaker should have low stress & no vibration which provides long lasting capacity, Power supply: 230V 50 Hz., User Friendly control with timer, Splash Proof operating panel, Must have protection against Liquid Spillage. (Optional: suitable stabilizer (1), SS flask holders for 100 ml (10 nos.), 250 ml (50 nos.) and 500 ml (10 nos.).

**Sd/
Associate Professor & P.I. of the Project**