



COLLEGE OF AGRICULTURE
AMBALAVAYAL, WAYANAD - 673 593
KERALA AGRICULTURAL UNIVERSITY
Phone: 04936 260561, E-mail: coawayanad@kau.in

No: **CoA./RARS/40/2021**

Dated: 1.02.2021

TENDER NOTICE

Tender Number	No:
Tender Cost	Up to 10 Lakh(0.25 % of cost of item rounded to multiple of 100) Above 10 Lakh (0.2% of cost of item rounded to multiple of 100)
GST	(18%)
Date and time for receipt of tender	20.02.2021 at 11.00am
Last date and time for opening of tender	20.02.2021 at 11.30 am
Designation and address of officer to whom the quotation is to be addressed	The Dean College of Agriculture,Ambalavayal, Wayanad, Kerala, Pin 673593
Place of supply	Ambalavayal , Wayanad, Kerala ,Pin 673593
Superscription: “Tender for supply of Machinery Equipments,(CoA/ RARS)	

Sealed competitive tenders are invited for the supply of equipments as per following schedule to College of Agriculture , / Regional Agricultural Research Station Ambalavayal,Wayanad, Kerala.

Sl. No.	Item and Code	Specifications	Quantity
1	Hot air oven (CoA/PP/01)	450x450x450 mm, with 3 shelves, Digital Temperature Controller cum Indicator, Microprocessor based Programmable Digital Temperature Controller, Forced Air Circulation Fan, Digital Timer, Double walled construction. Inner SS & Outer M.S. powder coated. Temperature Ranges from 50 to 250°C + 1°C. Temperature controlled by Capillary type thermostat. Glass wool Insulation for the chambers and doors. Suitable to operate on single Phase, 230 volts, 50 Hz. G.I. made wire mesh shelves with adjustable runners, Nichrome made long lasting heating elements. Front opening door, Vertical model	1
2	Electrical Oven (CoA/AT/02)	Size: 30 X 30 X 30 cm. With stainless steel No. of shelves: 2. Rating: 1.0 KW. Temp ambient: + 5 to 205 degree Celsius. Heating element: Good quality and high-grade resistance wire	1
3	Autoclave (CoA/PP/02)	Vertical, Fully Automatic, 350x550mm / 53 Ltr. Fully Automatic Autoclave with microprocessor controller. Unique single lever lock for lid with single hand opening. Conformance to National & International Standards. Internal Chamber and lid along with all wetted parts fabricated from Stainless Steel. Single lever pronged closure system with Silicone Gasket External vertical panels of MS duly heat cured epoxy coated. Easy lift and closing of the lid by assisted support. Castors for ease of movement. Flexible sensor enabling in-situ control and monitoring of cycles. Pressure interlock on door. Audio & Visual alarms and cut off system for sensor open and low water level MCB for electrical safety. Independent over temperature safety cut out. Double wall construction with inner S.S 304 with electrical heating mechanism by means of ISI quality immersion heaters with working	2

		pressure 15 PSI. Hydraulically dye pressed lid from S.S. Plate with easy pedal lifting device., having pressure gauge and two Nos. safety valve, quick release coupling and handle with heater cover stand. Water level arrangement cut off buzzer system and S.S. perforated basket.	
4	Laboratory refrigerator (CoA/PP/03)	Refrigerator temperature ranges from 0° to 10°C (32° to 50°F); freezer temperature ranges from -20° to 0°C (-4° to 32°F). With two adjustable shelves, and 4 door shelves, ABS plastic interior, white enamelled steel exterior. Automatic defrost.	1
5	Laboratory Microwave oven (CoA/PP/04)	Magnetron Effect 780W Effect Range: 20-100% Temperature Range: 25-100°C Temperature Accuracy: +/- 0.5°C within 25-70°C Temperature Variation: +/- 0.4°C at 40°C Balanced effect with 100ml H ₂ O load and 100mL H ₂ O Sample Timer: 1 sec - 99min 99sec Continuous Run Timer override-works as a count up timer for an indefinite period of time Safety Switch Off At 105°C chamber temperature. Measurements (Inner): 345 x 350 x 225mm Outer Dimensions: 600 x 470 x 530mm	1
6	Precision weighing balance (CoA/PP/05)	Precision Electronic Balance (Digital) Capacity : 300 gm. Accuracy : 0.01 gm. (10mg) with government stamping certificate and wind shield and standard weight box (1mg to 200 gm.)	2
7	Digital analytical Weighing balance (RARS/SWF/05)	Readability of 0.001 - 1 mg Maximum weighing capacity of 500 g Draft shield Digital analytical Weighing balance LCD display	2
8	Laminar air flow cabinet (CoA/PP/06)	Size : 3' x 2' x 2' (90cm x 60cm x 60cm) Laminar Air Flow – Horizontal Type, with static pressure manometer, Transparent front door, Built in UV light and Gas cock and steel TOP Designed to meet the requirement as per US Federal standard 209E, Providing particle free air to meet class 100 conditions, with work zone. This complete package unit is provided to give clean air to any laboratory. Useful where any hyper critical work has to be performed within minimum contamination as they assure 99.97% removal of air bone	1

		<p>particles as 0.3 microns in the work area. The basic elements are pre-filters, heavy duty blower assembly, HEPA filter fresh air is drawn through the pre-filter and passes to absolute heap filter having efficiency rating as high as 99.99% with cold DOP and 99.97% with hot DOP, thus retaining all airborne particle of size 0.3 micron and larger. Double filtered air blows in Laminar Flow through the work area at a velocity of 90 ft/Min +20%</p> <p>Basic materials is thick board wood front, back, top and exterior surface are covered with formica and interior surface are epoxy painted. Work top is made of mica, and side panels are made of 6mm thick acrylic transparent framed in anodized aluminium frame. Blowers are fitted with motor operates with minimum noise and vibration, to work on 220 /230V 50Hz AC supply.</p>	
9	Laminar air flow cabinet (CoA/MB/03)	<p>Should provide double filtered clean air through Pre Filters & HEPA Filters ("CLASS 100") basically constructed out of good quality Marine Plywood with exterior epoxy water and chemical proof painted with putty finish and the air flow coming in horizontal way [1/5 HP motor -1440 Rpm]. Worktable made of S.S laminated top and side panels are made of 6mm thick acrylic sheet framed in anodized Aluminium frame. Static Inclined Pressure Manometer and cork for gas, U.V.Lamp, Fluorescent lights are also provided. Air flow and Filtration: -should be double filtered air. Atmospheric air is drawn through pre-filter and is made to pass through highly effective HEPA (High Efficiency particular Air) deep pleat filter having efficiency rating as high as 99.99% with cold DOP and 99.97% with hot DOP, thus retaining all air-borne particles of size 0.3 micron and larger. Double filtered air blows in laminar flow through the worktable at designed velocity of 90 ft/min +/-20%. Noise level: - Less than 65 db at work area, and Vibration:-0.00005 cm of work table.</p> <p>Work Table S.S. Top Size of HEPA filter : 4' x 2' Outer dimension : (W x D x H) 52" x 40" x 60 1/2"</p>	1
10	Digital pH meter (CoA/PP/08)	<ul style="list-style-type: none"> • Measurement principle: Glass electrode method • pH range: 0 to 14pH • Resolution (Valid digits): 0.01pH • Accuracy : ±0.01pH • Temperature Display: 0 to 50°C 	2

		<ul style="list-style-type: none"> • Minium sample volume: 0.3ml • Flat membrane sensor • Direct Measurement for liquid semi solid: High viscous, powder,paper sample etc. • Calibration: 5 points 	
11	Digital pH meter (RARS/SWF/03) (CoA/SC/03)	3 point calibrations for pH. 7 digit 7 segment LED. pH range 0-14. Resolution 0.01pH.	2
12	Digital Refractometer (0-60%) (CoA/HT/01)	Range: Brix: 0.0 to 60.0% Resolution: 0.1% Accuracy: ±0.1% Temperature compensation: 10 to 40°C Power Supply: 006P dry battery (9V)	1
13	Digital Refractometer (45.0%-90.0%) (CoA/HT/02)	Range: Brix: 45.0 to 90.0% Resolution: 0.1% Accuracy: ±0.1% Temperature compensation: 10 to 40°C Power Supply: 006P dry battery (9V)	1
14	Tray Drier (RARS/JA/)	Capacity: 48 -196 Tray Heating Media: Steam, electric, Hot Air Generator Automatic Grade: Semi-Automatic Control: Through penal Portable: Yes Material: MS & SS material	1
15	Agricultural soil sampling tool, Tube type (CoA/AT/01)	(2.5cm dia, 40cm long with 30cm vertical slit complete with handle) Accessories: a. Extension rod 50cm long with screw type fitting b. Wrench (one pair) c. Nylon headed shock absorbing hammer	2
16	UVstabilized spectrophotometer (RARS/SWF/01)	Single Beam High quality lamp Auto setting wavelength Large sample compartment Restoration of data after a sudden power cut.	1
17	EC Meter (RARS/SWF/02)	Measuring Frequency :1000 Hz(approx) Conductivity Range :20µS/cm to 1000mS/cm in 5 ranges (1µS/cm=1µMho/cm) : 20uS,200,2000,20mS,200mS Accuracy :+/-1% F.S +/- 1 digit Resolution :0.01µS/cm Temperature Compensation :AUTO 0-100°C/MAN 0-100 °C Display :16 x 2 Alphanumeric LCD display Memory : can store up to 100 readings Power Supply : 230V a.c,50Hz Conductivity cell : provided with cell constant 1 Temperature sensor : provided for ATC	1

18	Soil auger (Screw type) (CoA/SS/01)	Agricultural soil sampling tool, screw type one metre long with handle with accessories like extension rod and wrench	1
19	Digestion chamber (Fume hood chamber) (RARS/SWF/04)	Thick wooden board fabricated, outer surface is finished with laminated mica and surface is FRP coated, designed so as to throw out all toxic/harmful vapours, thus protecting costly instruments and the person working in the lab. The working table is covered with FRP should be provided with power points and fluorescent tube light. The exhaust system consists of a dynamically balanced FRP coated impeller coupled with heavy duty motor. The front door moves vertically up and down with concealed counter balanced weight arrangement. Workable on single Phase 220/230V or three phase 415V AC 50Hz Complete with blower, gascock, sink, DOL starter LT/LK, PVC ducting up to 2 meter The exhaust system should be 1.5HP high rpm motor with centrifugal in-built blower Working space 3 Feet Fume hood should be comes with with bottom table	1
20	Sieve (CoA/SS/02)	0.2mm Sieve	1
21	Sieve set for extraction of nematodes (CoA/AE/01)	20 mesh Sieve (833 - μm aperture) 60 mesh Sieve (246 - μm aperture) 200 mesh Sieve (74 - μm aperture) 325 mesh Sieve (43 - μm aperture) Coarse Sieve (1 cm aperture)	1
22	Compound Microscopes (binocular) (CoA/PP/07)	Fully Anti-fungus treated and Sealed Binocular Microscope Illumination Halogen Lamp 6V 20W, with SMPS Power supply Board Quadruple revolving nosepiece Eyepiece 10X wide field, objectives iNEA 4X, 10X, 40X, 100X (oil/water) (spring, oil immersion), coaxial mechanical stage, aspherical condenser in rack & pinion, Plug type blue filter. Built in rotatable iris diagram Microscope Body with window in the arm to view objectives in use from rear side. Co axial Coarse & Fine focusing System with Focus tension adjustment ring Complete set in thermocole packing. Optional power cable: 5 m long	10
23	Digital binocular microscope with tablet, 1000x, PLAN, multi-plug/EU	Objectives Optical system 160 Anti-fungus treatment Yes Parfocal distance (mm) 45 Standard magnifications 40x-1000x	1

(CoA/MB/01)	<p>Type N-PLAN 4x/0.10, W.D. 15.2 mm 10x/0.25, W.D. 5.5 mm 40x/0.65, W.D. 0.45 mm 100x/1.25 (Oil and Water), W.D. 0.13 mm Transmitted illumination Life time:>65000 Accessories Dust cover Yes Immersion oil (10ml) Yes Tension adjustment tool Yes User Manual Digital version (downloadable) Calibration slide Yes Touch pen Yes USB cable (m) 0.5 Product wt: 7.4 kg</p> <p>Camera specifications PC Camera resolution (MP) 3.1 Camera resolution (n° of pixels: W x H) 2048x1536 USB Signal output USB 2.0 Color / Monochrome Color Sensor Size 1/2.5" Sensor Technology CMOS Image Format 4/3 Pixel Size (mm) 2.2x2.2 Frame rate full resolution (fps) 8@1280x1024 Frame rate other resolution (fps) 30@640x480 Sensitivity 0.53 V/lux-second Signal/Noise Ratio (DB) 40.5 Dynamic range (DB) 66.5 ADC conversion 12 Bit Exposure time ... - 1.5 sec IR filter range (nm) 680 Operating system: windows 10 Software: Proview</p> <p>Tablet specifications Operating system Windows 10 (64Bit) CPU Gemini-Lake, N4100 CPU speed 1.10 GHz Graphic card Intel® HD Graphics 600 RAM Ram 6 GB LPDDR3 Display size LED 10.1” IPS Multi Touch Screen Display resolution 1920x1200 Storage Hdd 128 GB Network WiFi (2.4G / 5G) - Bluetooth 5.0 Input ports USB-C (1 USB2.0 for battery charge, 1 USB3.0) - Micro SD card reader Output ports Microphone - Headphone - Micro HDMI Battery Type Lithium-ion Battery capacity 6500 mAh</p>	
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		<p>Power consumption 24.05W Power supply 12V 2A EU Dimensions (mm) 261 x 167 X 9 Weight (Kg) 0.53 Language Multilanguage Tablet specifications OTG cable (micro USB-C to USB-A) Yes USB cable USB-B to USB-A (0.5m) Yes Touch pen Yes</p>	
24	Millipore Vacuum / Pressure pump (CoA/MB/02)	<p>Powder coated die cast Aluminum body and pump head; Neoprene Diaphragm with Teflon cover, Internal Pump Head Surfaces should be Teflon coated and Leaf Valves are of High-grade Stainless Steel. The power source is 1/3 HP, 220V / 50 Hz Motor, 3-pronged (grounded) cord and plug. 1/8" BSP inlet and outlet hose connectors</p>	1
25	Smart classroom (CoA/SS/01)	<p>Setting up of smart classroom with desktop system having touch screen monitor, short throw interactive projector, white board, motorized projection screen and web cam.</p> <p>Short Throw Interactive Projector Specifications: Technology: 3LCD Projector, Brightness: White 3400 ANSI Lumens or above, Colour: 3400 ANSI Lumens or above, Contrast Ratio: 16000 :1 or above, Resolution: WXGA (1280x800) or above, Speakers: Inbuilt 16W or above, Interactivity Size: 96" Interactivity within 4 feet throw, Input Terminals: VGA x 2, Composite (RCA) x 1, S-Video x 1, HDMI x 1, Audio In & Out, USB Type A & B, Wired LAN (RJ 45), Mic, Input Devices - Interactive Pen, Remote Control.</p> <p>Other required Features: Multi PC Projection, PC Free Interactivity, 3 in 1 USB Display, Teaching Software with features such as Internet Browser, Adaptive Toolbar, Gestures, Magic pen, Recognition features, Screen shade, Page recording, Reset page, Irregular shape fill, Customize toolbar, Export files, Administrator toolkit, Resource gallery & free exchange website for content</p> <p>Special Board Specifications: Size 84" Diagonal, with surface coating passed through various stages of treatment, under 800° C temperature fused on steel with ceramic green matt paint, Thickness of the sheet should be more than 0.50mm, Surface should be totally scratch proof of pencil used and rust proof. It should be abrasion resistance, shock proof, chemical resistance, fire, water etc.,</p>	2

		<p>Surface should be non-pores and attract magnets Premium range chalk boards.</p> <p>Installation of Projector:</p> <p>Wall mount suitable for the projector. Powder coated steel and/ or aluminum. High quality dual covered VGA & HDMI cable of minimum length 10 meters, and 3- core 3- pin high quality power cable minimum of 10 Meters with case & capping.</p> <p>Minimum required specifications for Desktop system, Touch Screen Monitor and Web cam:</p> <p>i5 10th Gen 8Gb RAM 512Gb SSD Intel UHD Graphics 610 with shared graphics memory, Windows 10 Home, MS Office Home and Student License.</p> <p>24" – touchscreen - LED-backlit LCD monitor, native resolution: 1920 x 1080 at 60 Hz, HDMI, VGA, DisplayPort, Anti-glare, 3H Hard Coating</p> <p>Web Cam: Full HD video recording (1920 x 1080 pixels), Pan, tilt, and zoom controls, Built-in dual stereo mics with automatic noise reduction.</p> <p>Motorized projection screen of size 8 feet width and 6 feet height with remote control.</p> <p><i>Prices of any other specific accessories required for installation / setting of smart classrooms should be included in the quote. The price quoted should include installation charges as well</i></p>	
26	Desktop (CoA/ST/01)	<p>Intel® 6th generation Core™ i5-6500 Quad Core 3.20-3.60 GHz, 4GB RAM, 500 GB HDD, 18" LED monitor with resolution of 1600 x 900 or better, Internal or external Webcam, USB Optical Mouse & USB keyboard, 802.11ac 2.4/5 GHz wireless adapter, Minimum 6 USB external out (4 USB 2.0 and 2 USB 3.0), HDMI port and port for monitor, Mic & Headphone in and out ports, CD/DVD drives, Vertical chassis with Original Microsoft Windows OS, Antivirus software and Office programs. All items should be mentioned with proper specifications and warranty.</p> <p><i>Prices of any other specific accessories required for installation / setting should be included in the quote.</i></p>	30
27	UPS (CoA/ST/02)	<p>10KVA, Digital display, Easy UPS bypass, High over-load handling capacity, should support backup for 30 computers.</p>	1
28	Printer	<p>Type - Laser, Connectivity - USB, POWER</p>	1

	(CoA/ST/03)	SOURCE: 220 - 240 V AC 50/60 Hz, Pages Per Minute - 30 ppm, Page Size Supported - A4, Letter, A5, A5(Long Edge), A6, Executive, Legal, Folio, Mexico Legal, India Legal ; Duplex Print - Auto, Memory Storage Capacity 8 MB, Print Resolution Monochrome 600 dpi × 600 dpi, HQ1200 (2400dpi × 600 dpi) quality Pixels	
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Terms and conditions

1. Tender form

- The tender form may be downloaded from the following link in the internet www.kau.in/tenders
2. The cost of tender form. GST and EMD will be accepted by way of separate DDs in favour of Dean, College of Agriculture, Ambalavayal , Pin – 673593
 3. **Earnest Money Deposit:** An EMD(1% of the amount quoted) should be remitted by separate DD drawn in favour of Dean, College of Agriculture, Ambalavayal Pin – 673593
 4. The tender should be accompanied by an agreement in Kerala stamp paper worth Rs. 200/- (Rupees Two hundred only) in the format that can be downloaded from the website www.kau.in/tenders
 5. The sealed cover containing the tender documents should be superscribed as “Tender for supply of Machinery and Equipment” at CoA/RARS, Ambalavayal”. **The cover should contain the DDs for tender cost, GST, EMD and the Agreement as mentioned above**
 6. The successful tenders should execute and agreement in Kerala Stamp paper worth Rs. 200/- (Rupees Two hundred only) and furnish a security deposit of 5% of cost of the rate quoted in the form of term deposit/bank guarantee/demand draft drawn in favour of Dean, College of Agriculture, Ambalavayal,Wayanad, Kerala, Pin – 673593, payable at the State Bank of India, Kolagappara (IFSC: SBIN0070615), When directed from this office.
 7. The rate quoted, tax and other charges if any should be separately stated.
 8. The Dean has the right to accept or reject any or all of the offers without assigning any reason.
 9. The successful Tender shall initiate the work/supply the item within one week of award and should finish the supply within one month.
 10. If any hartal/strike/any unexpected holiday occurs on the date of opening of tender, the tender will be opened at the same time on the next working day
 11. All the rules and regulation applicable to Government tender will be applicable to this tender also.
 12. Period of firmness of the quoted prices should be clearly stated in the offer.
 13. Firms which are exempted from payment of EMD should furnish copy of the currently valid certificates from store purchase Department , Govt. of Kerala

Special Conditions:

1. Tender insisting payment in advance either full or part for releasing the documents through bank are liable for rejection.
2. Leaflets/brochures containing specification/ technical features on the different models of the items quoted should be attached with the tender.
3. In the case of electrically operated equipment, the circuit diagram will have to be supplied.
4. Payment will be made after satisfactory installation and demonstration of the equipment.
5. Operation manual and guarantee cards of the equipment's wherever required should be supplied along with equipment.
6. The supplier should attach the client list for the equipment's along with their performance certificate, spare parts availability and services facilities at or nearest to the station.
7. Details of warranty offered should be clearly stated in the tender details of maintenance service contract offered after expiry of normal warrantee and after-sales service facilities available should be indicated.
8. Evidence of exclusive/authorised distributorship from foreign principals should be provided along with the offers for overseas products.
9. The under signed reserves the authority to accept or reject any or all of the offers for any particular item without assigning any reason whatsoever.
10. Complete deduction or reduction in number of any equipment listed, if necessary, at the time of purchase without assigning any reason will be at the discretion of the Dean, CoA Ambalavayal.
11. The decision of the under signed in finalizing the tender shall be final and binding.

*Enquiries if any may be mailed to coawayanad@kau.in or rarsamb@kau.in contact 04936-260421.

Sd/-
Dr. K. Ajith Kumar
Dean

- To: 1. Notice Board
2. Panchayath Office, Ambalavayal
 3. Village Office, Ambalavayal
 4. Krishibhavan , Ambalavayal
 5. KAU web site (www.kau.in>tenders)