KERALA AGRICULTURAL UNIVERSITY
College of Climate Change and Environmental Science,
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No: CCCES/146/2025-A2 (NT-xvii) Dtd.25.07.2025

TENDER NOTICE

Sealed tenders are invited from competent firms for the "**Supply and Installation of Water Purifier "**to College of Climate Change and Environmental Science with specifications as detailed below. The tender will be accepted up to **3.30 PM on 05.08.2025**. The tenders received after the stipulated time will not be considered at any circumstances. The received tenders will be opened at **4.00 PM** on the same day.

Sl No.	Specifications	Quantity
1	100 LPH Multi-Stage RO + UV Water Purification System **Operation**- Fully Automated **Flow Rate**- >=100 LPH at all stage **Operating pressure**- 10-15 PSI **Power Supply**- 220-240 AC **Material Quality**- Food Grade plastic, Stainless Steel(SS304/316) UV chamber. **Certifications-** Prefer NSF, BIS- certified components for safety and quality. **System Design**- Modular design for ease of maintenance and future upgrades **Filtration Stages: 7 filtration stages** 1. Sediment Filter (5 microns) ✦ Micron Rating: 5 microns – effectively removes dust, sand, and rust. ✦ Material: Food-grade polypropylene (PP) – durable and safe. ✦ Size: 10-inch or 20-inch cartridge – depending on system size. ✦ Flow Rate: Should support >100 liters per hour (1.67 L/min). ✦ Installation: First stage in the filtration system, before RO and UV.	1

	✦ Housing: Use transparent casing for easy clog detection. ✦ Pressure Compatibility: Should handle 10–100 PSI. ✦ Replacement: Every 3–6 months or as per water quality. ✦ Certifications: Prefer NSF-certified or BIS- compliant models. ✦ [Removes: Dirt, sand, rust, large particles; Why: ✦ Protects other filters and improves clarity] 2.Pre-Carbon Filter (Activated Carbon) ✦ Type: Granular Activated Carbon (GAC) or Carbon Block ✦ Material: Coconut shell-based activated carbon (food-grade) ✦ Size: 10-inch or 20-inch standard cartridge ✦ Micron Rating: 5–10 microns (if block carbon is used) ✦ Purpose: Removes chlorine, bad taste, odor, VOCs, pesticides ✦ Protection: Shields the RO membrane from chemical damage ✦ Flow Rate: Supports ≥100 liters per hour (1.67 L/min) ✦ Operating Pressure: 10–100 PSI ✦ Replacement Frequency: Every 6 months or 6,000–10,000 liters ✦ Certifications: Prefer NSF-certified for safety and performance [Removes: Chlorine, bad taste, odor, VOCs, Why: Enhances taste, protects RO membrane] 3. Antiscalant / Softener Filter (optional if TDS > 500 ppm) ✦ Type: Anti scalant cartridge or softener resin filter ✦ Function: Prevents scale formation on the RO membrane caused by calcium and magnesium salts	

	Media: ✦ Antiscalant Cartridge: Contains food-grade scale-inhibiting media (e.g., polyphosphates) ✦ Softener Filter: Contains cation exchange resin (e.g., sodium-based) ✦ Housing Size: Standard 10-inch or 20-inch ✦ cartridge ✦ Flow Rate: Supports ≥100 LPH ✦ TDS Compatibility: Recommended when TDS ✦ > 300 ppm and hardness is high ✦ Installation Position: Installed before RO membrane, after sediment and carbon filters ✦ Operating Pressure: 10–100 PSI ✦ Replacement Frequency: Every 6–12 months or depending on water hardness ✦ [Purpose: Extends RO membrane life, improves efficiency, reduces maintenance] 4. RO Membrane (Reverse Osmosis) ✦ Type: Thin Film Composite (TFC) membrane ✦ Flow Capacity: o 100 LPH (litres per hour) o Often marked as 300–600 GPD (gallons per day) for commercial membranes ✦ TDS Removal: Removes 90–98% of Total Dissolved Solids (TDS) Also removes heavy metals (lead, arsenic), nitrates, fluoride, etc. ✦ Micron Rating: 0.0001 microns (ultra-fine filtration) ✦ Operating Pressure: 80–150 PSI (requires booster pump in most setups) ✦ Recovery Rate: Typically, 25–30% of input water becomes purified water ✦ pH Range: Operates best between 3–10 pH ✦ Membrane Life: 1.5 to 2 years, depending on feed water quality and pre-filter maintenance ✦ Membrane Size: Commercial models: Standard 4040 or 2012 size for 100 LPH	

	✦ Certifications: Prefer NSF-certified membranes (e.g., Filmtec/Dow, Pentair) [Removes: TDS, heavy metals, fluoride, nitrates, arsenic; Why: This is the core filter for reducing TDS and toxic elements] 5. Post-Carbon / TDS Adjuster Filter ✦ Type: Post-Activated Carbon or Mineral Cartridge ✦ Function: ✦ Enhances taste of RO-purified water ✦ Balances TDS by adding essential minerals back into the water ✦ Material: ✦ High-quality coconut shell activated carbon ✦ May include calcium, magnesium, or other mineral beads for re mineralization ✦ Size: 10-inch or inline cartridge (standard for commercial systems) ✦ Micron Rating: Not usually rated (used for taste & TDS balancing, not filtration) ✦ Installation: After RO membrane, just before ✦ UV or final outlet ✦ Flow Rate: Supports ≥100 LPH ✦ TDS Range: Adjusts final water TDS to 50–150 ppm (ideal for drinking) ✦ Replacement Frequency: Every 6–12 months, depending on water usage ✦ Certifications: Prefer NSF or BIS-certified for safety and quality assurance ✦ [Function: Polishes taste and adjusts TDS to safe range (50–150 ppm): Why: Adds essential minerals if water becomes too flat after RO] 6. UV Filter (Ultraviolet) ✦ Type: Ultraviolet (UV) Disinfection Chamber ✦ UV Lamp Power: Minimum 11–16 Watts, For 100 LPH, 16W is ideal to ensure microbial kill rate ✦ Wavelength: 253.7 nano meters (nm) – optimal for killing bacteria, viruses, and	

	protozoa ✦ Flow Rate Compatibility: Supports 100 litres per hour (ensure correct flow rate to allow enough exposure time) ✦ Material: Stainless steel (SS304/SS316) chamber for durability and hygiene ✦ Quartz Sleeve: High-purity quartz glass around the UV lamp to protect it from water ✦ Kill Efficiency: Eliminates 99.9% of microbes (E. coli, Giardia, Cryptosporidium, viruses) ✦ Installation Position: Final stage, after RO and post-carbon, before dispensing ✦ Power Supply: Operates at 220–240V AC, includes electronic ballast ✦ Lamp Life: Replace every 8,000–9,000 hours (~12 months of continuous use) 7. UF (Ultrafiltration) or Copper/Alkaline Cartridge (optional) ✦ Type: Hollow fiber membrane UF ✦ Pore Size: 0.01 to 0.1 microns (removes bacteria, cysts, and suspended solids) ✦ Flow Rate: Supports ≥100 LPH ✦ Pressure: Works under low pressure (15–60 PSI), no booster pump needed ✦ Material: Food-grade polymer membrane inside a plastic housing ✦ Function: Removes microbes not caught by RO or UV, retains essential minerals ✦ Replacement: Every 12–18 months, depending on water quality and usage ✦ Installation: After UV or RO as a polishing filter Number of Taps – 3 (for Normal water, cool water and Hot Water)	

Cost of Tender Forms: - 0.2% of the quoted amount rounded to the nearest multiple of 100, subject to a minimum of Rs.400/- and maximum of Rs. 1500 + GST 18%

Terms and Conditions: -

1. Tender should be submitted in the prescribed forms which can be downloaded from the website www.kau.edu/tenders. The cost of the tender forms will not be refunded under any circumstances.
2. The sealed cover containing the tender should be superscribed supply of "Water Purifier" (along with the notification number) and addressed to the Dean, College of Climate Change and Environmental Science, Vellanikkara, KAU.
3. Tender should be accompanied by EMI) of Rs.2000/- and Tender fee @ 0.2% +GST 18% of quoted amount by way of three crossed Demand Drafts separately (1. Tender fee 2.GST on tender fee 3.EMD) drawn in favour of The Dean, College of Climate Change and Environmental Science, Vellanikkara, KAU.
4. payable at the State Bank of India, KAU Branch Vellanikkara. Late and incomplete tenders and tenders without EMI), tender fee and agreement will not be accepted. Firms which are exempted from payment of EMI) should furnish copy of the current valid certificate from the Store Purchase Department, Government of Kerala.
5. The tender should be accompanied by an agreement in Kerala Stamp Paper worth Rs. 200/- (Rupees Two Hundred only) and format can be downloaded from the above website. The successful tenderer should execute an agreement in Kerala Stamp Paper worth Rs. 200/- (Rupees Two Hundred only) and should furnish a security deposit of 5% of the cost of the items quoted in the form of demand draft term deposit/ bank guarantee/demand draft drawn in favour of the Dean, College of Climate Change and Environmental Science at State Bank KAU, Vellanikkara when directed from this office. The format of the agreement can be downloaded from the above website.
6. The price must be inclusive of all taxes and transportation charges and other charges, if any.
7. The cost of the item, tax and other charges should be stated separately
8. The warranty of WorkStation should be specified in the quotation separately. The lowest rate quoted, if reasonable will be accepted.
9. The exact specification, details of make, model, name of manufacturer, warranty details etc., of the item must be clearly specified.
10. If any Bandh/strike/ any unexpected holydays occur on the date of opening of tender, the tender will be opened at the same time on the next working day. The decision of the undersigned in accepting the tenders shall be final and binding.
11. Withdrawal of tenders after its acceptance of failure to supply the equipment or not according to the specification will entail cancellation of the tender.
12 The supply order will be issued on the acceptance of the tender and the invoice should be addressed to the Dean, College of Climate Change and Environmental Science, Vellanikkara. The payment will be effected only after satisfactory supply of the item.
13. The successful tenderer should supply and install the item to College of Climate Change and Environmental Science, Vellanikkara, KAU. within one week from the date of the receipt of the supply order.
14 The Dean, College of Climate Change and Environmental Science, Vellanikkara, reserves the right to remove the name of the defaulted suppliers from the list of suppliers permanently

or for a specific period.

15.The Dean, College of Climate Change and Environmental Science, Vellanikkara, has the right to accept or reject any or all of the offers without assigning any reason.

Signed by
(Sd/-)
DEAN

To,

1.KAU Website
2.Notice board