



**PONDICHERRY UNIVERSITY**  
**Department of Ecology and Environmental Sciences**

**DR. G.POYYAMOLI**  
**PROFESSOR & HEAD**

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**Ref: PU/DE&ES/ QUO/2018/**

**Date:04.04.2018**

**REGISTERED POST**

**To**

Sir,

Sub: Purchase of Instruments – Quotations - Reg.

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Sealed quotations are invited by registered post for the items mentioned below/annexure enclosed, so as to reach the undersigned on or before **24.04.2018, 4 p.m** in the Department of Ecology and Environmental Sciences, Pondicherry University, Kalapet, Pondicherry-14 on the following conditions.

1. **As per the university rules no freight or advance towards the cost of items are payable.**
2. **The envelope carrying the quotation should be super scribed with last date and time of the quotation.**
3. The university has the right to accept or not to accept any quotation and has the right to restrict the quantity, number of items of purchase.
4. The university has the right to reject the quotation that has corrections in the rates and other figures quoted.
5. The supply should be made in the premises of Department of Ecology and Environmental Sciences, Pondicherry University, Kalapet, Pondicherry –14.
6. **Price should inclusive of all tax** and discount if any, (Indicate actual tax chargeable, since no 'D' Form will be issued).
7. Enclose the relevant catalogue/Manual for all the instruments quoted.
8. If the cost of the instrument exceeds more than one lakh, an EMD of @ 2.5. % of the cost of the instrument should be given in the name of The Finance Officer, Pondicherry University, Payable at Pond cherry
9. The total cost should be quoted for FOB (ex-port, Chennai, India) as well as CIF-Pondicherry, India.
10. The University has been granted the benefit or exemption from the payment of the Central Excise Duty and Customs Duty by the Department of Scientific and Industrial Research (DSIR), India, in respect of Scientific and technical instruments, apparatus, equipment including computer
11. A clear statement regarding availability of after-sales service and availability of spare-parts for next 5 top 10 years should be included

12. The prices quoted shall remain firm until equipment is supplied to the Pondicherry University.
13. **The validity of each quotation should be at least 180 days from closing date of the bid.**
14. The offers will not be considered if received after the bid closing date and time
15. The university shall not be responsible for delay / loss or non-receipt of tenders by post / courier service
- 16 . If an order is placed with the firm, the purchase shall be governed by an agreement as per the University rules in force at this time
- 17 .Infra-structural, power and any other requirement for satisfactory installation and commissioning of the whole system must be provided, at least 120 days in advance of the installation to be commenced.
- 18 .Complete technical specifications and literature, including process flow, to be included with the quotation. Manufactures of various major parts/equipment must be mentioned explicitly Additional terms and conditions may be incorporated in the purchase order to safe guard the interests of the University.

**Warranty:** The material covered under the purchase order, when installed, shall be warranted for the quality, workmanship, trouble free operation and performance for a period of **at least 36 months from the date of putting the system into operation** at the Pondicherry University, or at least 18 months from the date of receipt of the last lot of the consignment in India.

19. In case of any dispute in respect of the tender, all legal matters shall be instituted within the jurisdiction of the place where the purchaser ordinarily resides

Yours faithfully,

**(G.POYYAMOLI)**  
**PROFESSOR & HEAD**

### Annexure - 1

S.I. No.	Name of the Instruments	Specification
1.	Microbalance	0.1 mg to 200g with 1 mg accuracy
2.	Microprocessor based combined pH, E.C. and TDS, Temperature meter	pH range -2.0 to 20.0; conductivity 0 mS/cm to 500 mS/cm; TDS 0 to 500 ppm; Temperature : -10.0 to 110.0 °C / 14.0 to 230.0 °F
3.	Portable Dissolved oxygen meter	DO range from 0 to 20.00 mg/l or ppm with accuracy of 0.01 mg/l or 0.01 ppm & ±1.5% Full Scale DO Resolution 0.1 mg/L (ppm) DO Accuracy (@ 25°C/77°F) ±1.5% F.S. Temperature Range -5.0 to 50.0°C (23.0 to 122.0°F) Temperature Resolution 0.1°C (1°F) Temperature Compensation automatic, 0 to 50°C (32 to 122°F) Probe polarographic DO probe, internal temperature sensor, DIN connector Calibration automatic at one or two points (zero and slope) Battery Type / Life 1.5V AA (4) / approx. 500 hours of use Environment 0 to 50°C (32 to 122°F); RH max 100%
4.	P.M. 2.5 High volume air sampler	1 m <sup>3</sup> /hr controlled by mass flow controller; Oil Free, non-pulsating pump driven by induction motor for stable flow rate; Nominal 220 V, Single Phase, 50Hz AC mains supply; Filter holder designed to accept any standard 47 mm diameter filter media; Dry Gas meter records the total air volume sampled; Digital Microcontroller based system records flow rate, volume of air sampled, air temperature and filter temperature in non-volatile flash memory
5.	P.M. 10 High volume air sampler	1 m <sup>3</sup> /hr controlled by mass flow controller; Oil Free, non-pulsating pump driven by induction motor for stable flow rate; Nominal 220 V, Single Phase, 50Hz AC mains supply; Filter holder designed to accept any standard 47 mm diameter filter media; Dry Gas meter records the total air volume sampled; Digital Microcontroller based system records flow rate, volume of air sampled, air temperature and filter temperature in non-volatile flash memory
6.	Low flow air sampler	Suction Pump Diaphragm Type; Vacuum >1500 mm WC; Free Flow > 2 LPM Flow Meter Range Options 10-100 cc/ minute or 20-200 cc/ minute or 50-500 cc/ minute Flow Control Fine Needle valve(s)
7.	Rectangular Hot Plate	Rectangular hot plate with stainless steel dimension 12x18 " size temperature range from 0 to 500 C, 1.5 KV
8.	Desiccator	Inner Diameter: 350 mm Material: Borosilicate 3.3 Glass Total Height: 390 mm"

9.	Ultrasonicator (sonic clean bath type)	5 litre capacity with LED digital display timer & heater control, easier to operate. Ultrasonic cleaner with basket. Timer 1-99 minutes. Temperature upto 80 deg C.
10.	Distillation unit	Borosile Double Distiller - 10 Ltrs per hour 10 kw 1 to 1.5 $\mu$ S/ cm with Borosilicate Condenser
11.	Magnetic stirrer with hot plates	RPM 0 to 3000, temperature range from 0 to 300 C dimensions of 200x225x185mm 2 liter capacity Magnetic Stirrers should comes with a stainless steel top housing. The Inside should have Permanent Magnet DC PMDC motor which gives high torque even at low speeds and maintains speed stability despite viscosity or volume changes.
12.	Variable volume pipette 0.1 ml to 1.0 ml	Fully autoclavable with tip ejector with 0.01 ml accuracy
13.	Variable volume pipette 0.5 ml to 5.0 ml	Fully autoclavable with tip ejector with 0.1 ml accuracy
14.	Variable volume pipette 0.5 ml to 10.0 ml	Fully autoclavable with tip ejector with 0.1 ml accuracy
15.	Variable volume pipette 50 $\mu$ l to 200 $\mu$ l, 1-5 ml, 1-10ml.	Fully autoclavable with tip ejector with 0.01 ml accuracy
16.	Rotary Evaporator system with Vacuum Pump, Controller and Circulating Chiller	Electronic lift with provisions for automatic lifting of the flask in case of power failure. Rotation speed up to 280 rpm or better with microprocessor control. All glass components should be made of Borosilicate 3.3 glass and Cooling surface area of 1500 cm <sup>2</sup> or better. End stop positioner adjustable via button within a range of 170 mm with a stroke distance of 220 mm. Multifunctional combi-clip for easy removal and fixation of evaporating flask 6 7-stage adjustable immersion angle for the use of different flask sizes with maximum adjustable angle of 40 degrees. Should be supplied with P+G coated Vertical Glass Assembly. Large top hole Vertical condenser with Screw cap SVL 22. Digital display of set/actual bath temperature, rotation speed and lift position. Microprocessor controlled bath temperature ranging from ambient to 220°C with an accuracy of $\pm 1^\circ$ C. Transition of heating bath data to vacuum controller through Infrared Communication. Automatic over heat cut-off protection

17.	Horizontal electrophoresis kit	<p>Complete set: Including base gel running unit, safety lid, at least two standard casting trays and combs.</p> <p>Gel Casting Tray: standard form; Combs sizes: 1.0 mm -10 wells</p> <p>Power Supply</p> <p>Output Voltage: Adjustable from 0/5/10V to 500V/600V with an increment of 1 V or less</p> <ul style="list-style-type: none"> <li>• Output Current: up to 800/1000 mA with increment of 1 mA •</li> <li>Output power : 300W or more</li> <li>• Terminals/ Sockets : 4 Pairs/4</li> <li>• Input Voltage: 230V <math>\pm</math>10VAC, 50Hz</li> </ul>
18.	Mini Centrifuge	<p>Standard fixed angle rotor for 6x1.5ml micro tubes with Optional extra rotor for 12x0.5ml micro tubes.</p> <p>Speed upto 10,000 RPM, RCF: 5585g.</p> <p>RPM and run-time can be set on the digital display, using the membrane key pad.</p>
19.	Digital Conductivity meter	<p>Microprocessor based, measure conductivity 0 <math>\mu</math>S/cm to 500 mS/cm; Temperature : -10.0 to 110.0 <math>^{\circ}</math>C / 14.0 to 230.0 <math>^{\circ}</math>F</p>
20.	Clinical centrifuge	<p>Fitted with 5 step speed regulator.</p> <p>Fitted with 8x15ml Angle head</p> <p>Speed: 3800 rpm &amp; Maximum RCF -1450g</p>
21.	Oil free vacuum pump	<p>Air Displacement – 25 Ltrs/minute (Double Head)</p> <p>Low vacuum cum Low Pressure Double Stage pump to create vacuum through a TEFLON diaphragm</p> <p>Workable on Single Phase 220 / 230 volts A.C. supply.</p>
22.	Combined pH electrode for PH meter.	<p>Combination pH Electrode with unbreakable Epoxy body that extends beyond the pH sensing glass bulb for protection</p>
23.	Agate Motor and pestle	<p>3.0" OD ,Natural Agate Mortar and Pestle,OD=76.2mm</p> <p>Colour = Grey</p>
24	Micro Quartz Cuvette Kit	
25	Digital Ultrasonic –Probe type	
26	Digital micrometer screw gauge	
27	Digital Balance	0.001 accuracy, Max capacity-300g

28	Single Distilled water Assembly still	
29	Digital Thermohygrometer (Meets GLOBE Spcification)	Temp.Range:32 °F to 122° F/0° to 50°C, Resolution1°.Accuracy1°C, Humidity range25 to 95%,update rate:1 sec.
30	Laser range finder/Hypsometer	Range:11 to 550 yds, 10 to 500m;33 to 999ft, Resolution:0.5 yds;0.5m;1 ft. Accuracy:±1/2yd. out to 99 yds;±1 yds from 100 to 550yds.
31	Kestrel 3000 Pocket weather station.	<p>Minimum wind speed: 0.7 mph (0.6 knots, 1 km/h, 0.3 m/s, or 60 fpm). Maximum wind speed: 89 mph (78 knots, 144 km/h, 40 m/s, or 7,830 fpm). Wind speed accuracy: ±3%. Update: 1 second. Temperature and wind chill accuracy: ±1°C. Wind chill factor resolution: ±1°C. Relative humidity accuracy: ±3% from 5% to 95%. Dew point temperature accuracy: ±2°C. Heat index accuracy: ±3°C. Humidity sensor can be recalibrated in the field. Temperature resolution: ±0.1°F (±0.1°C). Operating temperature: -4°F to +140°F (-20°C to +60°C). Temperature range: -20°F to +158°F (-29°C to +70°C). Impeller: 1" diameter, sapphire bearings, light weight. Temperature sensor: hermetically sealed precision thermistor. Humidity sensor: silicon based capacitive sensor. Display: reflective 3-1/2 digit backlit LCD. Sealing: electronics enclosure IP67 – water resistant to 3 ft. Floats. Battery: user-replaceable CR2032 coin cell battery (included) with a typical life of 400 hours. Dimensions: 4.8" x 1.7" x 0.6".</p>