



UNIVERSITY OF KERALA

Thiruvananthapuram, Kerala, India – 695034

(Established as University of Travancore by the Travancore University Act in 1937 and reconstituted as University of Kerala by the Kerala University Act of 1957 and presently governed by the Kerala University act of 1974 passed by the Kerala State Legislative Assembly)

Tender No. Pl.A1/2541/IUCAMR/2014

Tender Notice (Re-tender)

Open Tenders (in two bid covers) are invited, through e-Procurement system only, for the Supply of the following Analytical Equipments in the Department of Chemistry, University of Kerala, Kariavattom, from reputed Companies/firms/agencies:

Sl. No.	Item	Last date of for Submission of the Bids
1.	Supply and installation of DLS instrument	26/11/2016 : 5 pm.
2.	Supply and installation of Viscometer	26/11/2016 : 5 pm.
3.	Supply and installation of Vapor Pressure Osmometer	26/11/2016 : 5 pm.

The detailed technical specifications and other terms & conditions can be downloaded from the website www.etenders.kerala.gov.in.

Director (P&D)

Specifications for DLS

Supply and installation of DLS instrument having the following specifications:

1. Measurement of Particle Size

- (i). Particle Size Range: 0.1 nm - 10.0 μm (Subnanometer range to micron range)
- (ii). Measurement Accuracy: $\pm 2\%$ for 100 nm measurement
- (iii). Sampling volume: 10 μL – 4mL
- (iv). Measurement Time: maximum 2 minute
- (v). Temperature Control Range: 1 – 90 $^{\circ}\text{C}$

2. Zeta Potential Measurement

- (i). Zeta Potential Range: -600 mV to +600 mV or better
- (ii) Conductivity range: 0-200 mS/cm
- (iii). Measurement Time: maximum 2 minute
- (iv). Sample Volume: minimum 100 μL
- (v). Temperature Control Range: 1-70 $^{\circ}\text{C}$ (should be able to accurately control the temperature in the cell holder to avoid temperature fluctuations)

3. Molecular Weight Measurement

- (i). Measurement Range: 1 kDa-20 MDa
- (ii). Sampling Cell: 20 μL cuvette
- (iii). Sensitivity: >80 kcps or better
- (iv). Measurement Time: minimum 2 minute
- (v). Lower Concentration Limit: ≥ 0.1 mg/L

4. General Specifications

- (i). Power Supply: AC: 100-240 V, 50/60 Hz, 150 VA
- (ii) UPS 5KVA with minimum one hour back up
- (iii) He-Ne low power laser (less than 5 mW) and filters to improve signal quality of fluorescent samples

Essential Conditions

1. Price quoted should be CIP Trivandrum.
2. Three years comprehensive warranty should be included in the quoted price.
3. Additional three years warranty/AMC after the expiry of the quoted 3 years warranty may be quoted separately.
4. UPS 5KVA with minimum one hour back up should be included in the quoted price
5. Air compressor of suitable capacity and drier and other essential accessories should be included in the quoted price.
6. Complete set of instruction manuals and circuit diagrams should be supplied.
7. Prices may be quoted item wise wherever possible.
8. Complete installation, testing and demonstration of the system and full training on operation and day-to-day maintenance are to be provided at site on free of cost.
9. Common tools and essential spares necessary for the operation, servicing or trouble shooting should be supplied on free of cost.
10. User list in India to be provided for the same model with contact number and e mail.
11. An undertaking to the effect that the quoted system will be supported (by service and spare parts) for a minimum period of 6 years to be submitted along with the quote.
12. A signed compliance matrix (on specifications and conditions) to be submitted along with the quote.

13. Any other accessories which are needed for the trouble free operation of the instrument should be included.
14. The quoted items should satisfy all the specifications and the essential conditions specified above otherwise the tender may be rejected.

General Conditions

1. Equipments must be of the most recent series/models incorporating the latest improvements in design.
2. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.
3. **Payment Terms:** 85 % payment shall be made through irrevocable L/C on presentation of complete and clear shipping documents and balance 15 % of the amount shall be released after the receipt, installation, commissioning and acceptance of the equipment.
4. **Validity of tender:** Tender submitted shall remain valid at least for 90 days from the date of opening the tender. If necessary the validity of the offer should be extended to additional 3 more months.
5. **Delivery and installation:** Proposed delivery schedule should be mentioned clearly. Delivery and installation and training for a minimum of three people should be made at University of Kerala, Kariavattom campus, Trivandrum- 695581, without any extra cost.
6. **Service facility:** Supplier should mention their details of service setup and manpower in Trivandrum who are responsible for after sales support.
7. The model number, make, and a printed literature of the product shall submit positively.
8. In case of any dispute, the decision of the University authority shall be final and binding on the bidders.
9. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Specifications for Viscometer

Supply and installation of viscometer having the following specifications:

Suitable for measuring (i) Dynamic viscosity (ii) Kinematic viscosity and (iii) Internsic viscosity

Technical Specifications

1. Viscosity Range: 5 mPa.s – 10,000 mPa.s
2. Sample amount: $\leq 100 \mu\text{L}$
3. Temperature range -25°C to $+100^{\circ}\text{C}$
4. Accuracy: 0.05% or better
5. Resolution: 0.001 s or better

Power supply

15. V 50 Hz, single phase

UPS: 5 KVA with minimum one hour back up

Capillaries: Suitable capillaries should be provided and included in the quote

Essential Conditions

4. Price quoted should be CIP Trivandrum.
5. Three years comprehensive warranty should be included in the quoted price.
6. Additional three years warranty/AMC after the expiry of the quoted 3 years warranty may be quoted separately.
7. UPS 5KVA with minimum one hour back up should be included in the quoted price
8. Essential accessories should be included in the quoted price.
9. Complete set of instruction manuals and circuit diagrams should be supplied.
10. Prices may be quoted item wise wherever possible.
11. Complete installation, testing and demonstration of the system and full training on operation and day-to-day maintenance are to be provided at site on free of cost.
12. Common tools and essential spares necessary for the operation, servicing or trouble shooting should be supplied on free of cost.
13. User list in India to be provided for the same model with contact number and e mail.
14. An undertaking to the effect that the quoted system will be supported (by service and spare parts) for a minimum period of 6 years to be submitted along with the quote.
15. A signed compliance matrix (on specifications and conditions) to be submitted along with the quote.
16. Any other accessories which are needed for the trouble free operation of the instrument should be included.
17. The quoted items should satisfy all the specifications and the essential conditions specified above otherwise the tender may be rejected.

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Specifications for Vapor Pressure Osmometer

Supply and installation of Vapor Pressure Osmometer having the following specifications:

Technical Specifications

18. Sample Volume: 10 mL or better
19. Measurement Range: Typically 20 to 3200 mmol/kg
20. Measurement Time: 90 seconds or better
21. Resolution: 1 mmol/kg or better
22. Repeatability: 2 mmol/kg Standard Deviation.
23. Linearity: 2% of reading from 100 to 2000 mmol/kg. 5% of reading over total range.
24. Calibration: Automatic using Opti-Mole osmolality standards.
25. Readout: 240 x 128 pixel backlit LCD or better
26. Storage Temperature: 0 to 60 °C
27. Serial Outputs: RS-232 (ASCII format)
28. Data Protocol: 9600 Baud, 1 Start Bit, 8 Data Bits, No Parity, 1 Stop Bit

Essential Conditions

16. Price quoted should be CIP Trivandrum.
17. Three years comprehensive warranty should be included in the quoted price.
18. Additional three years warranty/AMC after the expiry of the quoted 3 years warranty may be quoted separately.
19. UPS 5KVA with minimum one hour back up should be included in the quoted price
20. Essential accessories should be included in the quoted price.
21. Complete set of instruction manuals and circuit diagrams should be supplied.
22. Prices may be quoted item wise wherever possible.
23. Complete installation, testing and demonstration of the system and full training on operation and day-to-day maintenance are to be provided at site on free of cost.
24. Common tools and essential spares necessary for the operation, servicing or trouble shooting should be supplied on free of cost.
25. User list in India to be provided for the same model with contact number and e mail.
26. An undertaking to the effect that the quoted system will be supported (by service and spare parts) for a minimum period of 6 years to be submitted along with the quote.
27. A signed compliance matrix (on specifications and conditions) to be submitted along with the quote.
28. Any other accessories which are needed for the trouble free operation of the instrument should be included.
29. The quoted items should satisfy all the specifications and the essential conditions specified above otherwise the tender may be rejected.

General Conditions

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