



DEPARTMENT OF BIOCHEMISTRY

DST-FIST & UGC-SAP Sponsored Department

UNIVERSITY OF KERALA

(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 No. 3878-F1/72/Law dated 27th July 1974 of the government of Kerala)

(Re – accredited by NAAC with 'A' Grade)

Kariavattom

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QUOTATION NOTICE

Competitive two-bid quotations (technical bid and financial bid) are invited from various firms for the following laboratory equipments as per the specifications mentioned towards the purchase of equipments for the Advanced Centre for Tissue Engineering, Department of Biochemistry, University of Kerala. The quotations in the sealed covers addressed to the Professor and Head, Department of Biochemistry, University of Kerala, Kariavattom, Thiruvananthapuram - 695581 should reach the department on or **before 23/01/2017, 4.30 P.M.** The technical bid opening will be at **11:00 A.M. on 24/01/2017** in the department. Financial Bid opening would be intimated later. Bidders have to note the Appendix I – Technical Specifications and Appendix II - Terms and Conditions and should attach the relevant documents along with the quotation.

Previous quotation notices dtd. 08.01.2016, 20.01.2016 and 01.03.2016 stands cancelled.

List of Equipments

- 1. Biological Safety Cabinet**
- 2. CO₂ incubator**
- 3. Thermocycler**
- 4. Refrigerated Centrifuge**
- 5. Freezer -20°C**
- 6. Freezer -80°C**

- 7. Electrospinning apparatus**
- 8. Liquid Nitrogen Storage System**
- 9. Water purification system**
- 10. Sonicator**
- 11. UV/Visible Spectrophotometer**
- 12. Microscope- Phase contrast, inverted with camera**
- 13. Electricity Backup System**
- 14. Shaker incubator with cooling facility**
- 15. Autoclave with drying facility**

Note: Please send separate quotations for each Item/Model. (One cover should contain a single quotation).

APPENDIX I - TECHNICAL SPECIFICATIONS

1. Biological Safety Cabinet

Class II, Type A2, Stainless steel interior Size 3'× 2'. UV/ Visible lighting, stainless steel gas inlet, UV cut off on door opening, door ajar alarm, vertical airflow and ULPA filters. Internal power socket. With minimum 3 years warranty.

2. CO₂ incubator

Interior Volume – 170L or more with stainless steel interior. Working temperature of 5^oC above ambient to 50^oC with uniformity of ±0.3^oC at 37^oC, water jacketed, CO₂ sensor alarm and temperature variation alarm, CO₂ range of 0-10%. Shelves –four or more. Inbuilt sterilization option. Should be supplied with one CO₂ cylinder of 30kg and suitable regulator. The regulator supplied with ability to switch between dual cylinders when supply of CO₂ exhausted may be quoted as optional. With minimum 3 years warranty

3. Thermocycler

Independent PCR blocks with individual programming options suitable for individual tubes and strips of 0.2ml tube capacity. Heated lid. Temperature of 4^oC to 99^oC with temperature uniformity of ±0.5^oC. Should be supplied with 2KVA UPS of min 2 hours backup. With minimum 3 years warranty.

4. Refrigerated Centrifuge

Suitable fixed angle rotors for 2 ml (Minimum 15,000xg), 10-15 ml (minimum 10,000xg) and 50 ml tubes (minimum 10,000xg). Cooling capacity up to -10^oC, lid lock option while in operation, user programmable operation feature. With minimum 3 years warranty

5. Freezer -20^oC

Minimum capacity of 300 L, should be vertical, single door model with minimum four shelves, non-auto defrost mechanism. Digital temperature display, operating temperature of -18 to -22^oC with minimum 3 years warranty.

6. Freezer -80^oC

Vertical, Temperature range -50^oC to -80^oC. Capacity 400L and above. Four or more individual compartments, Polyurethane foam Insulation, Plunger assembly to release the vacuum, temperature variation indicating alarm, Digital temperature display, Two stage cascade compressor system, with minimum 3KVA stabilizer, minimum 3 years warranty.

7. Electrospinning apparatus

An electrospinning apparatus containing all the necessary components with an inbuilt hood resistant to chemical vapours. With minimum 3 years warranty.

- a. High Voltage Power Supply - 1 to 30kV Single Output, 0.5mA max Current with digital Voltmeter and Current meter. Facility for constant V or A settings. Charge discharge safety unit.
- b. Collector - Stationary collecting unit made of stainless steel or suitable metals with size ranging 12 x 12 inch. Rotating mandrel with speed control from 500 rpm to 3000 rpm or better. Size of mandrel 10 cm diameter or 5 cm diameter.
- c. Syringe Pump - Single or multiple syringe loading pump capable of accommodating standard syringes (2 ml to 20 ml) to dispense solutions at flow rate of 5 μ l / hr to 15 ml / min and accuracy of $\pm 2\%$ or better. Microprocessor controlled with digital display and programmable with multiple steps. Adjustable platform to align pump and collector height.
- d. Computer interface and suitable software. - Computer interface to control the individual components using common software. All parameters of electrospinning has to be operational through software with data backup. The settings should be saved for retrieval or re-do.
- e. Safety hood with in-built power supply, lighting and exhaust. Minimum 1m length with 1.5m height or better, inside hood for comfortable working. Protective measures to avoid electrical shock, solvent vapour and flying nanofibers.

8. Liquid Nitrogen Storage System

Tank volume 120- 150 L, average daily loss less than 1 L, static holding capacity of more than 100 days. Capacity to hold 4 and above racks of 6 cryo boxes each. Digital volume display. Roller base platform with racks. Racks to be supplied. With minimum 3 years warranty.

9. Water purification system

Tap water to ultrapure output capability. Output resistivity- 18.2 mega Ohm. Flow rate more than 30 L/hr. Multistage purification process with particulates less than 2 μ m/ml. Built-in reservoir of capacity minimum 1 L. With minimum 3 years warranty.

10. Sonicator

Ultrahigh intensity sonication, tapered micro tips of options 3 mm and 5 mm probes. Sample handling range of 0.5 to 20 ml. Acoustic insulation hood with transparent door, automatic amplitude compensation. Multiple modes of operation for continuous, pulsed and timer controlled operation. With minimum 3 years warranty.

11. UV/Visible Spectrophotometer

200-900nm, double beam with capacity to read 96 well plate format, spectral scan mode of 1 nm increment, Option for computer connectivity and data output. To be supplied with branded computer. Accuracy 0-2 OD wavelength, Reading modes – end point and kinetic mode. With minimum 3 years warranty.

12. Microscope-Phase contrast, inverted with camera

Inverted microscope with LED illumination. Suitable for bright field and phase contrast Imaging. Objective: 4X, 10X, 20X and 40X, Bidirectional stage movement with digital camera and option for computer connectivity. With minimum 3 years warranty.

13. Electricity Backup System (includes 13.1, 13.2, 13.3)

13.1) 5 KVA online UPS

Input voltage: 170 – 270 Single phase AC, Nominal input voltage: 230V, Frequency: 50Hz, Output voltage: 230v, Output Waveform Sine wave, Output power Capacity: 5KVA, Warranty: 3 years onsite, SMF Lead acid/NiCd battery, battery backup of 1hr at full load, with trolley and battery rack

13.2) 2 KVA online UPS

Input voltage: 170 – 270 Single phase AC, Nominal input voltage: 230V, Frequency: 50Hz, Output voltage: 230v, Output Waveform: Sine wave, Output power Capacity: 2KVA, Warranty: 3 years onsite, SMF Lead acid/NiCd battery, battery backup of 1hr at full load, with trolley and battery rack

13.3) 1 KVA online UPS

Input voltage: 170 – 270 Single phase AC, Nominal input voltage: 230V, Frequency: 50Hz, Output voltage: 230v, Output Waveform Sine wave, Output power Capacity: 1 KVA, Warranty: 3 years onsite, SMF Lead acid/NiCd battery, Internal 12V 7AH, with battery backup of 1hr at full load, with trolley and battery rack

14. Shaker incubator with cooling facility –

Refrigerated model with temperature range of +4°C- 50°C, temperature variation up to 0.5°C at 37°C, digital display and brushless motor operations, revolution of 20-400 rpm, clamps for 50ml, 100 ml, 250 ml and 500 ml conical flask, Minimum 4 clamps each. Minimum one shelf for culture plates. Warranty minimum 3 years.

15. Autoclave with Drying facility

Fully automatic vertical top loading autoclave with capacity of 100 L, Pre and post sterilisation drying suitable for labwares and liquids, Single lever lock for lid, Temperature range: 121^oC and above, operating pressure: 15Psi, Should have sterilizer timer, drying timer up to 99 minutes and lid/ door interlock, Digital display with programming feature for temperature and time, Stainless steel interior, Epoxy coating on steel exterior, Should have low water detection, safety valve for over pressure, independent self- resetting thermal safety cut off, pressure interlock on door, External bottle for draining, Castors for ease of movement required, Equipment should be supplied with at least 2 Nos. of dressing drums and one number of carrier, Minimum 3 years warranty

APPENDIX II - TERMS AND CONDITIONS

1. Separate tender along with separate sets of all necessary documents should be submitted for each instrument. The main envelop should be superscribed: “TENDER FOR SUPPLY OF (ENTER NAME OF EQUIPMENT). Last date of submission” The date of Opening of Technical Bid and Financial Bid is indicated above.
2. For those bidders submitting tenders for more than one instrument, separate applications for each instrument (Technical Bid and Financial Bid) must be placed in individual sealed envelopes and these envelopes must be placed inside a bigger envelope. Only one model can be quoted in a tender. If the tenderer wants to quote for more than one model separate tenders should be submitted. If more than one model is quoted in a single tender it will be summarily rejected.
3. The tenders received late, without required documents or incomplete in any respect / misleading will be summarily rejected.
4. The proposals shall be submitted in two parts, viz. **Technical bid and Financial bid in two separate sealed envelopes** (with respective marking superscribed in bold). The first envelope (envelope 1) marked “**Technical bid**” should include the technical specifications. The first envelope should not contain any cost information whatsoever. The second envelope (envelope 2) marked “**Financial bid**” should contain the detailed price offer in prescribed format. Both the sealed envelopes, Technical bid and Financial bid should be placed in a bigger sealed cover. The top of cover must also contain Name and Address of the tenderer, telephone and other contact details for further correspondence. The financial bids of only technically acceptable offers will be opened for further evaluation and ranking before awarding the contract.
5. The Bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf for this tender. Certificate to this effect should be included in the quotation.
6. The models quoted should comply with technical specifications and if necessary the University of Kerala reserves the right to accept superior specifications.
7. The models quoted should be in successful operation for at least one year as on the date of Bid opening.

8. Prices are to be quoted ***FOR DESTINATION (Department of Biochemistry, University of Kerala, Kariavattom)***. The prices quoted should clearly indicate the following charges: Price of the equipment; Price of optional accessories if any; Customs duty (after submission of custom and excise exemption certificate); Customs Clearance Charges, other taxes if any, transportation charges and installation charges. **If these details are not provided it will be considered that the price quoted is inclusive of all charges.**
9. **Payment terms:** Payment against delivery and successful installation of the equipment in the department.
10. Complete installation, testing and demonstration of the system and full training on operation and day-to-day maintenance are to be provided at site.
11. A signed compliance matrix (on specifications and conditions) to be submitted along with the quote.
12. The quoted equipment should be a whole product of the manufacturer and service and warranty for the whole product should be provided.
13. The tender submitted shall remain valid at least for 90 days from the date of opening the tender. Validity beyond three months from the date of opening of the tender shall be by mutual consent.
14. The supplier should be fully equipped to render us after sale service during warranty and thereafter.
15. The University of Kerala reserves the right to accept / reject / reduce the number of equipments any or all quotations without assigning any reason thereof. In case of any dispute the decision of the University Authority shall be final.
16. Previous unsatisfactory experiences (unhonoured quotations/purchase orders/after sales servicing etc.) with present bidders shall be a criteria for selection, even if they meet technical specifications.
17. All equipments must be covered with comprehensive warranty as specified in technical specifications.
18. Users list of the specified model to be attached preferably from research centers within Kerala.

19. Performance Certificate from at least 3 research centers in Kerala, preferably in Trivandrum shall be an added advantage.
20. Suppliers with service centers in South India, preferably in Kerala shall be an added advantage.

Sd/
Professor & Head