

## Department Biochemistry, University of Kerala

Kariavattom, Thiruvananthapuram, Kerala, India - 695 581

26/10/2022

### E-Tender Notice

“Advance Centre for Tissue Engineering” in the Department of Biochemistry, University of Kerala, Kariavattom invites open tenders through e-Procurement (in two bid system), from reputed manufacturers/authorized distributors/ Indian Agents for the purchase of the equipment ‘3D Bioprinter’ in the Department.

Last date and time for submission of tender online	<b>28/11/2022: 5 PM</b>
Date and time of opening of Technical bid	<b>30/11/2022: 11AM</b>
Date and time of opening of Financial bid	After technical Evaluation.
For technical details contact	Dr. A.Helen, Professor & Head Department of Biochemistry Phone :0471-2308078 Email : biochemistrykariavattom @gmail.com

**Name of the Equipment: 3D Bio-printer**

## Appendix I: TECHNICAL SPECIFICATIONS

1. 3D bio-printer that functions on a pneumatic/step-motor/screw driven extrusion based printing technology. The printer should extrude bioink with high precision and resolution (40-100 $\mu$ m).
2. The bio-printer should be sturdy with metal parts including a metal rail for the print heads and should have stable and precise XYZ movement.
3. The build volume should be at least 120x80x70mm.
4. The bio-printer should be within an enclosed chamber that has built-in HEPA filtered air circulation and UV sterilization for maintaining an aseptic environment while functioning.
5. The bio-printer should have two in-built print heads (extruders) which can selectively function independently or consecutively on the same prototype.
6. Each print head should accommodate syringes of capacity 10ml, 5ml and below.
7. There should be a light source for photocuring, within a range of 360-405nm, either in-built in the system or as a separate accessory. An in-built system would be preferred.
8. The printer should be a stand-alone system or be controlled through the computer. In the latter case, a Computer/Laptop compatible with the 3D bio-printer, along with associated USB port/CD drive should be provided.
9. A suitable software to control the bio-printer should be provided with the bio-printer, if necessary.
10. The software should be able to process .stl files to generate gcodes in the file formats suitable for the bio-printer.
11. The software should have options for sequential and independent control of the two print heads for using two bioinks on a single construct.
12. Appropriate software/module/files to facilitate printing in multiwell plates, should be provided.
13. The building platform must be compatible for glass slides, well plates (6, 12, 24 wells) and petri dishes (30mm and 60mm).
14. Accessories including but not limited to dispensing syringes (10ml, 5ml and lower) along with suitable adapters, plungers - at least 20 numbers each; dispensing needles (18G to 22G), plastic tapered nozzle (18G to 22G) - at least 15 numbers each; metal nozzles (18G) - at least 5 numbers; etc., to be provided by the manufacturer/supplier. Disposable items are preferred.
15. Suitable UPS (uninterrupted power supply) to support simultaneously both the bio-printer and the computer should be provided by the manufacturer/supplier.
16. The manufacturer/supplier should provide hands on training on the use and maintenance of the equipment.

17. User/Client list along with Performance Certificate of the specified model should be attached with the quotation.
18. The models quoted should be in successful operation elsewhere, for at least one year as on bid opening.

### **Optional**

1. The bio-printer should be upgradable to include temperature control on the print head (at least 10°C to 40°C) and the print bed (at least room temperature to 40°C).

### **Terms and Conditions**

1. Every tenderer should submit Tender fee of **Rs. 2,500/-**.
2. Every tenderer should submit Earnest Money Deposit (EMD) of **Rs. 80,000/-**.
3. Quantities can be increased or decreased by purchaser and bidder has to supply deviated quantities at the rates prescribed and approved by the purchaser in the tender document. Purchase of optional items will be finalized at the time of financial evaluation. However, the bidder must quote the optional items. The bidder should quote all items; partial quote will not be accepted.
4. **Original Equipment Manufacturer (OEM) Certificate/ Undertaking:** If the bidder is not an OEM, Certificate of authorized dealership/ distributorship from the OEM for technical support to the bidder and supply of spares shall be furnished.
5. Incomplete & conditional tenders and tenders received after the due date will be summarily rejected without assigning any reasons thereof.
6. Commercial bids of short-listed vendors will only be opened. Please note that the Vendor(s) who do not qualify in the technical bid will not be considered for commercial bid.
7. The bidder must not sub-contract the work to other providers.
8. The prices quoted must be on **“all-inclusive till destination”** basis. The prices quoted should be inclusive of all Taxes, Insurance, Freight, Packing & Forwarding Charges, Handling, Delivery Charges, installation charges etc.
9. **Payment terms:** Payment against delivery and successful installation of the equipment in the department.
10. The configuration given is the minimum configuration that is/are required. Vendors may choose to supply higher/better/ enhanced systems/peripherals, but their financial quotes shall be treated as if they have been offered for the specified configuration only.
11. The Bidder shall bear all the costs associated with the preparation of the documents,

submission of its bid and we will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

**12.** The bid shall be typed and shall be signed by the bidder or a person duly authorized to bind the bidder to the contract.

**13.** The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder. In such case the person or persons signing the bid shall initial such corrections.

**14.** The bidder is expected to examine all instructions, forms, terms, condition, and technical specifications in the tender Documents. Failure to furnish all information required by the tender Documents or submission of a bid not substantially responsive may result in the rejection of its bid.

**15.** The bidders shall give undertaking that all the Components used in the equipment shall be original make as per the technical specifications submitted and the hardware/software shall be supplied with the authorized license certificates, if found contrary the supplier shall replace the component/equipment with original one at their own cost.

**16.** Validity of tender: 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.

**17.** Delivery and installation: Proposed delivery schedule should be mentioned clearly. **Delivery and installation should be made at the Department of Biochemistry, University of Kerala, Kariavattom Campus Trivandrum - 695581, without any extra cost. Complete installation, testing and demonstration of the system and day to-day maintenance are to be provided at site** (inclusive of documentation, demurrage, customs duty, clearance and transportation charges). University of Kerala will provide customs duty exemption certificates if required.

**18.** The Supply and installation of items must be made within four weeks from the date of issue of supply order. Delay in supply will lead to penalty @1% of the value of tender for every week of delay or part thereof. (i.e. exceeding three days will be calculated as one week). If it is found that the items so supplied are not as per supply order specifications, the supply made will be rejected and Earnest Money Deposit will be forfeited. For those bidders submitting tenders for more than one instrument, separate applications for each instrument must be placed in individual sealed envelopes. 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.

**19.** Warranty period : Three year comprehensive on-site warranty (including service and spare parts). If any of the components is found to be defective during the warranty period, the vendor has to replace the defective item immediately, to the satisfaction of the University, at their own cost. The service provider should be available within 24 hours and preferably in Trivandrum.

**20.** In case of any dispute, the decision of the University authority shall be final and binding on the bidders. The undersigned reserves the right to reject any or all of the tenders received without assigning any reason thereof.

**Documents to be uploaded:**

1. Signed Compliance Matrix
2. Detailed Technical Brochure
3. BoQ
4. Detailed Financial Bid in pdf format.

**Registrar**