



**DEPARTMENT OF BIOTECHNOLOGY**  
**Indian Institute of Technology, Madras, Chennai, 600 036**  
Telephone No.22574126, 22574101, FAX No.22574102

**Professor and Head.**  
**Ref: BT/HOD/2022/006/SPL**

**Dt. 12.12..22**

Date:29.11.2022  
**Due Dt. 12.12.2022**

On behalf of IIT Madras, quotations are invited in two bid system, namely Technical Bid and Financial Bid for supply of UV-visible spectrophotometer with single monochromator and Peltier system conforming to the specification given in Annexure-A

**1 Quantity: 1 No.**

**2 PRICING TERMS:**

Discount offered if any to be shown separately. GST Registration is mandatory. The price to be quoted should be Nett inclusive of GST, freight, delivery charges, etc.

**3 VALIDITY**

The Quotations should be valid for 90 days from the due date.

**4 DELIVERY**

The item to be delivered within 6 to 8 weeks from the date of Purchase Order

**5 PAYMENT**

A percentage will be paid in advance and remaining will be paid after the receipt of the goods.

**6 BIDDER ELIGIBILITY CRITERIA:**

The bidder shall not be from a country sharing land border with India and if the bidder is from a country sharing land border with India the bidder should have been registered with the competent authority as per orders of DIPP OM No. F. No. 6/18/2019-PPD dated 23rd July 2020, and MoCI Order No. P-45021/112/2020-PP (BE II) (E-43780) dated 24th August 2020. A declaration shall be submitted with the bid.

**7 NUMBER OF BIDS**

The bidders should submit the bids in two bid system as detailed below:

**Bid I Technical Bid**

The technical bid should consist of Bidder Eligibility Criteria and technical specification as per Annexure- A along with the Technical Compliance Sheet.

## **Bid II      Financial Bid**

The financial bid should be submitted in a sealed envelope. The Quoted price should be inclusive of all GST and duties, freight, etc.

### **8      SUBMISSION OF TENDER**

Envelope 1 should contain signed tender document, filed technical compliance sheet as per format given in Annexure - A. This envelope shall be super-scribed as "Technical Bid".

Envelope 2 should contain Financial Bid. This envelope should be sealed and super-scribed as "Financial Bid".

All the above two envelopes, namely, Envelopes 1 and 2, must be placed in a larger envelope, sealed and should be super-scribed as "Tender for UV-visible spectrophotometer with single monochromator and Peltier system". The bid should be **addressed to the undersigned so as to reach to the below address on or before the due date stipulated (12.12.2022 @ 5.00 PM).**

**The stores  
Department of BIOTECHNOLOGY  
Indian Institute of Technology Madras  
Chennai 600 036**

### **9      EVALUATION OF BIDS:**

**Bid evaluation will take place in two stages.**

#### **Stage I:      Technical Bid evaluation**

1. Bidder Eligibility Criteria will be evaluated first and those bidders who have complied with this criterion alone be evaluated for the technical Specification evaluation.
2. In the 2<sup>nd</sup> stage, the technical specification offered by the bidders will be evaluated by the technical committee for compliance. The proposed technical specification offered by the bidder should be equivalent to the specifications mentioned in the technical bid.
3. Bidders who have fully complied with Bidder Eligibility Criteria and technical evaluation will only be considered for opening of financial bid.

#### **Stage II:      Financial Bid Evaluation**

The financial bid evaluation will be based on price quoted by the bidder (BoQ). The tender will be awarded to the L1 bidder.

- 10** IIT Madras reserves the right to shortlist/reject any or all tenders and accept the whole or any part of a tender without assigning any reason.

**Annexure A**  
**SPECIFICATIONS**

Optical System: Czerny-Turner mount, Single monochromator

Fully symmetrical double beam

Light Source: D2 Lamp: 190 to 350nm

Halogen Lamp: 330 to 900nm

Light source

Exchange Wavelength: user selectable within a range of  
330 to 350nm

Detector: Photomultiplier tube (PMT)

Wavelength Range: Should cover the range from 190 - 900nm

Wave length Accuracy: +/-0.2nm or Better

Wave length Repeatability: Should have at least +/-0.05nm

Scanning Speed: 10 to 4000nm/min

Slew Speed: 12000nm/min

Spectral Bandwidth: 0.1, 0.2, 0.5 1, 2, 5, 10nm, L2, L5,

L10nm (low stray light mode)

M1, M2nm (micro cell mode)

Photometric Range: -4 to 4Abs

Photometric Accuracy: +/-0.0015 Abs (0 to 0.5Abs),

Stray Light: 1% (198nm KCL 12 g/L aqueous solution)

0.005% (220nm NaI 10 g/L aqueous solution)

Baseline Stability: +/-0.0003 Abs/hour

Baseline Flatness: +/-0.0002 Abs

RMS Noise: 0.00003 Abs

SOFTWARE SPECIFICATIONS:

Measurement Modes: Quantitative Analysis

Wavelength scan, Time scan: (Abs, %T, %R, sample reference)

Fixed Wavelength: (up to 20 wavelengths)

Abs/%T monitor, validation program, Daily check function

Should have basic and advance modes for parameter setting for routine measurement and advance measurement.

Data Processing: spectral Manipulation, overlay peak picking, peak height, peak area, peak width, Derivatives, smoothing, Data Truncation, Arithmetic, Base line connection, subtraction, Deconvolution, vertical axis conversion, Horizontal axis conversion.

Other standard functions should include Enzyme activity calculation, Film Thickness

measurement, colour analysis software

Instrument should be upgradable to be used with Micro volume of samples less than 1 $\mu$ l.

Should quote the following items along with the instrument:

1) Peltier Thermostatted Cell holder (Sample & amp; Reference) – 1 No.

Temperature Control sample & amp; Reference

Temperature Control Range: 0 to 100 o C

Temperature Control Accuracy: +/- 0.1 o C

2) Water Circulator for Peltier – 1 No.

3) 2X10mm pathlength cuvette with Lid – 4 Nos

4) 4X10mm pathlength cuvette with Lid – 4 Nos

5) 10X10mm pathlength cuvette with Lid – 4 Nos

6) PC with core i3 processor, 4GB RAM, 1TB HDD, LED Monitor, Mouse – 1 Set

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