

**Office of the Dean Research and Development
Indian Institute of Engineering Science & Technology (IEST), Shibpur,
Howrah-711 103**

Project Code: DRC/DST-FIST/CHEM/HOD/023/15-16

**Department of Chemistry
Indian Institute of Engineering Science and Technology, Shibpur, Howrah-711 103
(Formerly Bengal Engineering and Science University, Shibpur)**

**Ref.: Advt. No. CH 1220, published in, "The Statesman (All Edition)", "Sanmarg" &
"Bartamaan", dated 06.10.2016**

Re- Tender of

**Advt. No. CH 1199, published in, "The Times of India (Kolkata, Delhi, Chennai,
Mumbai)", "Sanmarg" & "Ei-Samay", dated 16.05.2016**

Notice Inviting Quotations

Sealed quotations are invited for the supply of "**Multifunctional TCSPC Lifetime Fluorescence Spectrophotometer**" as per the following technical specification. The relevant bidding document can be downloaded from the website. Last date of submission of sealed quotation is **10.11.2016** by **3.00 p.m** at the Office of the HOD, Dept. of Chemistry, IEST, Shibpur.

Note: Those vendors, who are applied earlier, need not apply again.

Dean (R & D)

(A. Code DRC-T057/16-17)

This is downloadable

INDIAN INSTITUTE OF ENGINEERING SCIENCE AND TECHNOLOGY, SHIBPUR



BIDDING DOCUMENT

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For Supply of

"Multifunctional TCSPC Lifetime Fluorescence Spectrophotometer"

Dated 06.10.2016

SPECIFICATION**Technical specifications of “Multifunctional TCSPC Lifetime Fluorescence Spectrophotometer”:**

1. Modular, open architecture research level spectrofluorometer, capable of measuring fluorescence /phosphorescence lifetime, time resolved emission spectra (TRES), time resolved anisotropy, automatic acquisition of corrected emission and excitation spectra, polarization spectra, synchronous luminescence spectra, kinetic studies, quantum yield, etc.

2. Excitation Source

- Picosecond LED with timing electronics and necessary controller
 - Typical Pulse Width: 800 ps or better.
 - Repetition Rate: 20 MHz or better
 - Peak Wavelengths: 280nm, 330nm, 370nm (all ± 10 nm wavelength range)
- Laser Diodes with timing electronics and necessary controller
 - Typical Pulse Width: 50-100 ps
 - Repetition Rate: 100 MHz or better
 - Peak Wavelengths: 405nm, 450nm, 540nm, 785nm (all ± 10 nm wavelength range)
- Xenon pulse lamp for longer lifetime (e.g. lanthanides)
- 450W ozone free Xenon Arc lamp with computer controlled excitation shutter

3. Spectrometer***Excitation***

- Double Czerny-Turner monochromator with 1200 lines/mm or better grating along with 600 lines/mm grating as accessory.
- Wavelength range: 200-700 nm, optimized in UV
- Band pass: 0.1-15 nm or better, continuously adjustable from computer
- Wavelength resolution: 0.2 nm or better
- Wavelength accuracy ± 0.5 nm or better
- Scan speed: 120 nm/sec. or better, adjustable from computer

Emission: T-format**1st Emission**

- Double Czerny-Turner monochromator with 1200 lines/mm or better grating along with 600 lines/mm grating as accessory.
- Wavelength range: 200-900 nm, optimized in Visible.
- Band pass: 0.1-30 nm or better, continuously adjustable from computer

2nd Emission

- Single Czerny-Turner monochromator with 600 lines/mm or better grating
- Wavelength range: 800~2000 nm, optimized in NIR
- Band pass: 0.1~15 nm or better, continuously adjustable from computer

4. **Detector**

- Silicon photodiode reference detector (to monitor excitation source fluctuations)
- UV-VIS Detector for lifetime measurement. Minimum measurable lifetime 30ps
- UV-VIS Emission Detector: PMT, Wavelength Range: 240 - 850 nm or better. operating in Photon counting detection technique
- NIR range Emission Detector, wavelength range 850~1900nm or better

5. **Lifetime Measurement**

- TCSPC technique for lifetime measurement, 30ps to microseconds or better.
- Longer lifetime measurement, lifetime down from 10 μ s to seconds

6. **Sensitivity**

Signal-to-Noise ratio for Raman band of water: 20,000:1 or better. Water Raman signal must be minimum 500,000 cps (Ex: 350nm, Em: 397nm, BP: 5nm, Integration: 1sec)

7. **Sample Compartment**

- T-format sample chamber with all reflective optics (mirror based)
- Solid Sample Holder with front face viewing option of thin films, powders, pellets, slides etc. with variable alignment angle
- Peltier thermostatted cell holder with stirring facility. Temp. range: -10°C to 110°C or better (with temp. ramp facility). Temp. control of cell holder through computer software. Liquid Nitrogen Dewar for working at low temperature should also be available.

8. **Control and Analysis Software**

Comprehensive software compatible with Windows OS environment for instrument control, data acquisition and data analysis through USB/PCI ports and auto-calibration facility on start-up. Advanced fluorescence lifetime software for lifetime distribution, batch analysis, global analysis, FRET, stretched exponential analysis, miceller quenching and forster analysis.

9. **Integrating Sphere**

Internal / external accessory with coupling optics, for measuring luminescence quantum yields of various solids, liquids, powders, thin films. Software provision for calculation of

quantum efficiency and chromaticity is needed. sample holders, other optical components and standards for this should be included

10. **Computer Hardware**

Suitable computer workstation and all interfacing hardware for steady-state and time resolved fluorescence measurement.

11. **Essential Accessories**

- i. Computer controlled motorized polarizer (for both excitation and T-format emission channel) for Anisotropy measurement
- ii. Second order cut-off Filters with Filter Holder (wavelength range: 295 ~ 630 nm) - a set of 5 nos. or more
- iii. Neutral Density Filter - a set of 7 nos. or more
- iv. Integrating sphere standard (reflectance from 250-2500nm) with NIST traceable certificate
- v. Quartz Cuvette, 10mm pathlength, volume 3 ml --- 2 nos.
- vi. Quartz Cuvette, volume 1 ml ----- 2 nos.
- vii. Solid sample holder with Front Face optics

12. **Computer and Printer-** The computer system delivered should have a minimum specification as below.

System rack mounted industrial PC with remote keyboard and monitor consisting of;
Minimum configuration:

- 8 Gb DDR RAM
- *Graphics Card*
- *23" LCD monitor*
- *10/100 Fast Ethernet Controller*
- *Keyboard and optical scroll mouse*
- *Windows 7TM or higher version*
- *RW DVD drive*
- *2 TB HD*

The vendor must offer a color laser jet printer

13. UPS for the Multifunctional TCSPC Lifetime Fluorescence Spectrophotometer system: 2 kVA 1 – phase input, 1 – phase output on-line UPS with digital signal processor (DSP) control double conversion with IGBT with latest version and at least 2 KVA or more rating capacity with sealed maintenance free batteries

14. **Warranty:** The Multifunctional TCSPC Lifetime Fluorescence Spectrophotometer system should be warranted for a minimum period of 3 years.
15. **Service facility in India:** Supplier should clearly demonstrate the service set up in India for prompt service support along with number of service engineers specially trained on the offered system. The service must be very prompt in case of any problem regarding the TCSPC.
16. **Installation in India:** Detailed lists of Indian users for the TCSPC system quoted model.
17. **Optional Items:** The supplier should quote for the following optional items.

Vendor should quote all necessary accessories and consumables required to run the system.

Annexure – I (b)

FORMAT OF COMPLIANCE STATEMENT

Para of Tender Enquiry Specification	Specification of Equipment Offered	Compliance to Tender specification whether yes or no (if yes indicate the page no and Put a Flag also highlight the matching specification)	In case of noncompliance / deviation from Tender specification to be indicated in unambiguous term.
01	02	03	04

* The compliance certificate along with the page no indication (i.e. required spec and availability of the page in the entire tender documents by flagging or giving page no) must be submitted with the bid for evaluation. Firm not submitting the model/spec and their details availability in the bid documents by flagging/page no may not be considered for evaluation.

NOTE: The bid documents are not transferable and the firm's seal and signature of the authorized official must appear on all papers and envelopes submitted.

INSTRUCTION TO BIDDERS:

Instruction (1)

1. Bidders are invited to submit sealed quotation as per the technical specifications for tendered item at the Office of the Chemistry department, IEST, Shibpur, **on or before 10.11.2016** between **10.30 a.m. to 3.00 p.m.** except Saturday, Sunday and other public holidays.
2. The last date of receipt of tenders is **10.11.2016** up to **3.00 p.m.** quotations received later will not be entertained under any circumstances.
3. **The Pre-bid conference will be held at the Chemistry department, IEST, Shibpur on 19.10.2016 at 2.30 pm**
4. Date and time of opening of bid is 15.11.2016 at the Dept. of Chemistry on 3.00 pm.
5. Bidders are to submit the quotations in Sealed Cover and write the **Advt. No.** on the Top of the envelope to the **Office of the HOD, Dept. of Chemistry, Indian Institute of Engineering Science and Technology, Shibpur, Howrah-711103.**

Instruction (2)

Two/Double Bids:-

01. Tenders will have to be submitted in TWO PARTS i.e. (a) Technical Bid and (b) Price Bid, in two separate properly sealed covers indicating the type of Bid; and both these covers will have to be again put in to a single sealed cover. Also the address of the firm submitting the tender and the officer, to whom the tender is addressed, must appear distinctly on both the inner sealed covers, indicating also TECHNICAL BID / PRICE BID as may be applicable.

Scanned and offer not ink-signed in Technical Bid and Price Bid are not acceptable and such offers shall be rejected outright without any further reference to the bidder.

02. In the part relating to Technical Bid, the OEM/Vendor must provide the followings:-

- (a) Details of the technical features of the offered Equipment vis-à-vis specification as per Annexure – I;
 - (b) Standard Technical literature on each of the items offered;
 - (c) Dealership certificate on the offered products from OEM in case of dealer/s;
 - (d) List of reputed organizations/Institutions, where similar orders have been executed (copies of the purchase/work order will have to be enclosed). The bidders / OEM should attach a self declaration stating that he is not banned / debarred from working with any Central Government / PSU / State Govt of India / Any other Govt Agencies or any Institute of National / International importance.
 - (e) Up-to-date Sales Tax clearance certificate (*for vendors outside the State of West Bengal*)/VAT registration certificate indicating also the TIN number (*for vendors from within the State of West Bengal*) of the FIRM will have to accompany the tender to be submitted;
 - (f) Copy of PAN must be submitted of FIRM / Bidder along with the Technical Bid;
 - (g) Banker's details of tendering FIRM / Bidder should be clearly mentioned;
 - (h) Details of nature and maximum period of **Warranty** offered by the OEM/Bidder;
 - (i) **An amount of Rs.1,00,000/- only is to be deposited as Earnest Money Deposit (EMD), in the form of Demand Draft only, will have to be clearly stated and the same will have to be enclosed with Technical Bid.**
- only;
- (j) A copy of the Price bid, ***WITHOUT MENTIONING THE PRICES***, will have to be provided as part of the Technical Bid document.

03. In the part relating to Price Bid, the OEM/Vendor must provide the following:-

- (a) Quantity, basic price (against item-wise details of specifications of each of the offered items);
- (b) Prices of each of the optional accessories, as required by specifications and may be relevant for offered Equipment, will have to be specifically stated in the quotation:
- (c) Central / Sales Tax/ VAT (as percentage of basic price + packing & forwarding charges if any)
- (d) Installation & commissioning charges (including Service Tax), to be shown item-wise extra, if any
- (e) Freight & insurance charge, if any.
- (g) Annual Maintenance contract (**AMC**) rate (after expiry of warranty period in both yearly and 5-year consolidated basis) is to be clearly indicated – preferably in both comprehensive and non-comprehensive terms, *failure to which the offer may not be considered even if it turns out at the lowest price.*

Terms & Conditions:-

01. **Rates:** Rates quoted should be on F.O.R., IEST, Shibpur, on Door Delivery basis for Indigeneous accessories. For Imported supply materials Shipment on FCA and CIP Kolkata Airport Basis.

02. **Validity:** Quoted rates must valid for 180 days.

03. **Warranty/Guarantee:** The material must be quoted with a minimum comprehensive **Warranty / Guarantee period of 36 months after the date of delivery and acceptance at final destination.**

04. **Validity of licenses:** Software's licensing price or policy (if any) shall be clearly mentioned. (a) All licenses should be perpetual. (b) All the accessories shall be from the same OEM.

05. The OEM should be an ISO-9000 and ISO-14001 certified company with due credits to energy conservation and green earth compliance.

06. **EMD:** In form of DD in favour of '**Registrar, IEST, Shibpur**' payable at '**Howrah**'.

07. **Delivery:** Unless otherwise stated delivery of goods at **IEST, Shibpur**, will have to be maximum within 90 days from the date of issue of the Purchase Order. All aspects of safe delivery shall be the exclusive responsibility of the OEM / Bidder.

08. **Rate of AMC:** Annual Maintenance Contract rate (after expiry of warranty period in both yearly and 5-year consolidated basis) is to be clearly indicated (for Equipment only). The selected supplier/s is to ensure regular availability of spares.

09. **Printed conditions of supply of the firm, if any, will not be binding on us.**

10. **Late and delayed Tenders:** Late and delayed tender will not be considered. In case any unscheduled holiday occurs on prescribed closing/opening date the next working day shall be the prescribed date of closing/opening.

11. **Ground for Rejection of Tender:** The tenders are liable to be rejected if the foregoing conditions are not complied with. The tender should be complete in all respects and duly

signed wherever required. Incomplete and unsigned offer will not be accepted.

12. **Payment Terms For Indigenous Scope of Supply:-** 90% payment will be released after receiving of stores in good order and condition and balance 10% on successful installation and commissioning, duly certified by the concerned authority, and submission of 10% **Performance Bank Guarantee (PBG)** of contract value. Successful vendor should arrange to submit a **Performance Bank Guarantee** to the tune of 10% amount of the total purchase value at the time of submitting the bill.

This Performance Bank guarantee should be issued from any Nationalized Bank and validity of the same will be till **warranty period + 60 days** from the date of delivery / installation of the material. The payment will be made by RTGS / FUND Transfer

mode only. **Hence, following information must be clearly written in the Price Bid for RTGS / FUND TRANSFER:**

- (a) Name of the Firm with complete postal address
- (b) Name of the Bank with Branch where the Account exist
- (c) IFSC CODE
- (d) ACCOUNT No
- (e) PAN No
- (f) VAT/TIN No (Required from the vendors belongs to West Bengal)

13. **Excise Duty:** The Institute is exempted from payment of Central Excise Duty vide GOI Notification No.10/97-Central Excise, dated 01.03.97 with Regn No.TU/V/RG-CDE(402)/2011, dated 10th October' 2011.

14. **Entry Tax:** Entry tax, if applicable will be borne by us (generally @1% of Invoice value / Assess value). Road permit once issued will not be changed / altered in any circumstances. If any alteration is required due to fault from vendor / OEM side the same will be debited to supplier's A/C.

13. **Termination for default:** Default is said to have occurred:-

- (a) If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by **IEST, Shibpur**,
- (b) If the supplier fails to perform any other obligation(s) under the contract (c) If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of the default notice from **IEST, Shibpur** (or takes longer period in-spite of what **IEST, Shibpur** may authorize in writing), **IEST, Shibpur** may terminate the contract /purchase order in completely or in part and forfeit the EMD. In addition to above, **IEST, Shibpur** may at its discretion also take the following actions: **IEST, Shibpur** may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate **IEST, Shibpur** for any extra expenditure involved towards goods and services to complete the scope of.

14. **Applicable Law:**

- (a)The contract shall be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing.
- (b) All disputes are subject to exclusive jurisdiction of Competent Court and Forum in Kolkata, India only.
- (c) Any dispute arising out of this purchase shall be referred to the Registrar IEST, Shibpur, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the Director of the Institute. The decision of such Arbitrator shall be final and binding on both the parties.

15. **Past Performance of the Vendors will be judged at the time of Technical Evaluation.**

16. **The acceptance of the quotation will rest solely with the Registrar, IEST, Shibpur, who in the interest of the Institute is not bound to accept the lowest quotation and reserves the right to himself to reject or partially accept any or all the quotations received without assigning any reasons.** The institute at its discretion may change the quantity / upgrade the criteria / drop any item or thereof at any time before placing the Purchase Order.

ADDITIONAL TERMS FOR IMPORTED GOODS

Following terms besides the fore mentioned terms will be applicable in case of foreign purchases:

01. **Rates:** Quoted rates should be in FCA/FOB terms and charges to be stated in the following break-

- (a) Ex-works value
- (b) + Documentation & Handling Charge, if any
- (c) Total FOB/FCA value.

02. **After Sales Service:** In case of imported items, foreign manufacturing firms should indicate facilities available for after sales service, detail address and contact number of their local representative in India, without which their offers are liable to be ignored. To ensure quality of services, the deputed Engineer from the OEM/Vendor shall have a minimum of 3 years of experience in the relevant field and must be in the payroll of the OEM/Vendor.

03. **Delivery:**

- (a) Delivery of goods at IEST, Shibpur, will have to be maximum within 90 (ninty) days from the date of issue of the Purchase Order.
- (b) **Delivery at Kolkata Airport only:** As we do not have clearing agent in any other Airport, delivery is to be made only at Kolkata through our freight forwarder.
- (c) While trans-shipment will be allowed, part shipment will not be allowed.

04. **Payment for Imported Scope of Supply:**

(i) Payment by an irrevocable letter of Credit (90% against delivery and rest 10% by TT after successful installation of the Equipment) at FOB/FCA value non-negotiable through any overseas branch of State Bank of India with unrestricted provision. All bank charges inside India will be borne by IEST, Shibpur and outside India will be to supplier's A/c.

OR

(ii) **100% Payment Basis:** 100% payment by TT Swift / DD against delivery and installation will be made. In this case, on receipt of your Order Acknowledgement and document (i.e. AWB and MWB) through our freight & forwarder payment will be made for total ordered value.

Note: Please note LC will not be opened unless and until Letter of Acknowledgement in original is received at IEST, Shibpur, directly from the principal (Even in case of firms having subsidiary office in India). The Indian agents are therefore advised to submit quotation after consultation with their respective principals).

05. **Customs Duty:** The Institute is **exempted** from payment of Customs Duty vide GOI Notification No.51/96-Customs, dated 23.07.96, with Regn. No. TU/V/RG-CDE(402)/2011, dated 10th October' 2011. [CUSTOMS DUTY EXEMPTION CERTIFICATE WILL BE MADE AVAILABLE BY THE INSTITUTE IN REGARD TO QUOTES IN FOREIGN CURRENCY ONLY [NOT AGAINST QUOTES MADE BY A FIRM IN INDIAN CURRENCY, UNLESS THE CONCERNED FIRM IS A FOREIGN HOLDING COMPANY WITH 'FDI' CERTIFICATE ISSUED BY THE MINISTRY OF FINANCE, GOVT. OF INDIA].

06. **Agency Commission:** The percentage of ex-works value to be paid to Indian agent in equivalent Indian currency as agency commission as applicable will have to be clearly stated in the quotation wherever applicable.

07. **Country of Origin:** While Country of Origin Certificate will not be insisted, the same however will have to be stated in the Original Invoice for payment through LC.

08. **LC Amendment:** LC amendment charges due to mistake on the part of the supplier, if any, will have to be borne by the supplier.

Annexure – III (a)

TENDER FORMAT FOR INDEGENOUS SUPPLIES (For Price Bid only)

Reference No :-

SI No.	Description of Item & Model	Quantity	Unit Price	Sales Tax	Total Price

Delivery Mode: F.O.R. IEST, Shibpur.

Total bid price should be inclusive of Sales Tax, F.O.R. IEST, Shibpur, for the above quoted items is Rs.....

Delivery Period:

Packaging & Freight etc. extra:

Validity Date: Minimum 180 days from the date of opening of tender.

Any other terms and conditions.

Place:

Date:

Signature:_____

Name:_____

Business

Address:_____

Email_____

Contact

No:_____

Affix Rubber Stamp