national centre for biological sciences
tata institute of fundamental research

ncbs

PUBLIC TENDER

2 PART TENDER FOR POINT SCANNING CONFOCAL MICROSCOPE – Qty. 1 No.

Tender Fee: Rs.700/-, EMD – Rs.5,00,000/-
Cost of Tender : Approx. Rs. 411Lakhs
Last date for Sale of Documents: 21/01/2020 till 16.00hrs
Last date for submission: 22/01/2020 till 14.00hrs
Due date for opening bids: 22/01/2020 at 14.30hrs

GENERAL CONDITIONS

(Tender documents consist of 17 pages, Pg. 1 to Pg.16 – Technical Bid, Pg. 17 - Price Bid)

Ref: NCB/F-191715/2019-2020 (N) **Tender Notice No.009/2019-2020**

Important Instructions: The bids shall be enclosed in an envelope and sealed duly marked "Tender for "Point Scanning Confocal Microscope – Qty. 1 No.." Ref. No. NCB/F-191715/2019-2020 (N)"; and addressed and to be mailed to "The Head-Purchase". The bids are liable to be rejected if the sealed envelope is not addressed to "The Head-Purchase" with Tender Ref. No. and Item Description. Offers delivered in person shall be deposited in the Tender Box kept in the office. If the bids are sent through courier or mail, it should reach by submission Date and Time and NCBS will not responsible for the delay.

Important instruction for the Tenderers: -

All tenders shall be made in ENGLISH only.

The details in regard to technical specification and other terms and conditions should be cogent and clear to the extent possible.

Sealed tenders are invited at NCBS - TIFR, GKVK, Bangalore – 560 065 under **2 cover system** from reputed **reputed Manufacturers / Suppliers for Supply, Installation, Commissioning and Technical Support for the following:-**

Point Scanning Confocal Microscope – Qty. 1 No.

The Technical and Financial / Price Bids shall be submitted simultaneously in two (2) cover (sealed) system. The proposals shall be evaluated in two stages: (1) Technical and (2) Price / Financial. Technical evaluation will be carried out and those Vendors who score minimum 75% and above will qualify for Price Bid opening. Thereafter, Financial Proposal shall be evaluated. The Commercially LOWEST BIDDER sahll be the first preferred Vendor for award of Order.

I) The EMD amount should be put in **first sealed cover – Cover I,** and superscribed as **"Techno-commercial Bid"** and should contain -

1. Acceptance of Technical specifications, **Annexure-A** and terms and conditions. Tender document to be enclosed with Date, Signature and Seal in every Page.
2. Complete Technical details of the Instrument offered
(Specifications, Technical Parameters, Advantages, etc.,)
3. Supplier profile & Schedule of Experience – **Annexure – B**
4. Supplier must describe in detail the technical support they will be able to provide in Bangalore. Only those companies will be considered who have engineers based in Bangalore who have been trained on the machines being quoted for, prior to the date of installation.
5. Suppliers must provide complete list of publications arising from use of their machines, in which the machines have been used for the applications listed. Enclose Data Sheet and Sample Analysis (if any)
6. Details of Warranty Services.
7. Details of "After Sales Service" and "Factory Trained Engineers" available in Bangalore.
8. Xerox copies of the Purchase Orders for having supplied similar Instruments in India.
9. Schedule of deviation from specifications / conditions – **Annexure C.**
10. Any other information the bidder like to provide with Date, Signature and Seal

(Annexures should be duly signed and filled with date wherever necessary)
(Please attach additional sheet(s), wherever necessary)

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II) The **second sealed cover – Cover II** superscribed **'Price Bid' (page 17)** should contain only rates **(please attach additional sheet(s), wherever necessary)** (should be duly signed with seal and filled with date whereever necessary)

THE ABOVE MENTIONED TWO COVERS SHALL BE SEALED ON THE OUTSIDE WITH WAX SEAL BEARING THE LOGO/NAME OF THE COMPANY SUBMITTING THE BID.

THESE TWO COVERS SHALL BE AGAIN PUT INTO A SINGLE WAX SEALED COVER superscribed **"Tender for Point Scanning Confocal Microscope – Qty. 1 No. " and should reach NCBS on or before 22/01/2020 before 14.00 hrs".** This should be addressed to the Head-Purchase, NCBS-TIFR, GKVK, Bangalore – 65. The Techno – Commercial Bid will be opened on **22/01/2020 at 14.30 hrs.**

On the date of tender opening (i.e. on **22/01/2020**), only the **Techno-Commercial Bids** shall be opened in the presence of attending tenderers.

The Technical and Financial / Price Bids shall be submitted simultaneously in two (2) cover (sealed) system. The proposals shall be evaluated in two stages: (1) Technical and (2) Price / Financial. The Technical and Financial / Price Bids shall be submitted simultaneously in two (2) cover (sealed) system. The proposals shall be evaluated in two stages: (1) Technical and (2) Price / Financial. Technical evaluation will be carried out and those Vendors who score minimum 75% and above will qualify for Price Bid opening. Thereafter, Financial Proposal shall be evaluated. The Commercially LOWEST BIDDER shall be the first preferred Vendor for award of Order.

Earnest Money Deposit shall be submitted along with the "Techno-Commercial Bid" in the form of a Demand Draft drawn in favour of "National Centre for Biological Sciences, payable at Bangalore" and the DD should be from a Commercial Bank/ Foreign Bank (First class Bank). Alternatively, a Bank Guarantee from a Commercial Bank/ Foreign Bank (First class Bank) may be provided (no other mode of payment will be accepted). The Bank Guarantee should be valid for 6 months from the date of opening. Bids not accompanied with Earnest Money Deposit shall be rejected. The EMD shall be refunded to the unsuccessful bidders once the order is released on the successful bidder.

The Techno-Commercial bids shall be evaluated subsequently and only the shortlisted firms Price Bid will be opened.

1.1 Quotations must be submitted giving complete details using enclosed tender papers.

1.2 The rates quoted should remain valid for a period of 180 days from the date of Price Bid opening.

1.3 Each page of the tender except the Price & Delivery part shall be on printed letterheads or forms and bear the signature, date, name and designation of the person signing the offer. If they are not on letterheads, a rubber stamp indicating full name, address and phone No., Telex No., Fax No. etc. of the firm shall be affixed at the end of each page. The price & delivery part shall be as Annexure B attached.

1.4 This tender document is not transferable. Only the party to whom the tender documents have been issued shall be entitled to quote.

1.5 Bids containing erasures or alterations are liable to be rejected unless countersigned by the Authorised signatory.

1.6 All rates and total amount should be written both in figures and in words and if there is any discrepancy between the two, the lowest amount only will be considered.

1.7 Tenders will be opened in the presence of attending tenderers on **22/01/2020** at **14.30 hours**. In the event the due date is declared as holiday, the tender will be opened on the following working day.

1.8 If the item offered is to be imported, arrangements for import will be made by the Institute. Import duty and customs clearance will be under purchaser's scope.

1.9 We reserve the right to place order for part/reduced quantity than what is specified in the tender and also reserve the right to split the order to more than one supplier.

1.10 Any deviation/substitution in regard to the technical specification must be indicated in Annexure C of this tender document. Otherwise it shall be binding on the bidder to supply the items as specified in this tender specification.

1.11 All bids are to be submitted before the due date and time. **The bids shall be enclosed in an envelope and sealed duly marked "Tender for Point Scanning Confocal Microscope – Qty. 1 No."; Ref. No.NCB/F-191715/2019-2020 (N)"; and mailed to the Head-Purchase.** Offers delivered in person shall be deposited in the Tender Box kept in the office.
Due date for opening the bids: 22/01/2020 (14.30 hours).

1.12 Please return the tender papers including Conditions of Tender as well as the Annexures with your signature, rubber stamp and date affixed on each page.

1.13 All bids in response to this invitation of tender should be submitted in a manner and method specified above. Tender which do not comply with the above conditions are liable to be rejected.

1.14 Late and delayed tenders will not be considered. Therefore tenderers shall ensure that the tender reaches the Purchaser on or before the due date and time stipulated for receipt of bids.

TENDERS RECEIVED LATE OR AFTER THE DUE DATE WILL NOT BE CONSIDERED. NCBS RESERVES THE RIGHT TO ACCEPT, REJECT ANY OR ALL TENDERS WITHOUT ASSIGNING ANY REASONS THERE OF.

1.15 Individuals signing the bid form and other supporting documents must specify the capacity in which they sign, like -

a) Whether signing as a Sole Proprietor of the firm or his attorney.
b) Whether signing as a partner of the firm or his attorney
c) Whether signing for the firm as Agent.
d) Whether signing as Director of a Limited Company.

2. CATALOGUE/TECHNICAL LITERATURE

All necessary catalogue/drawing literature/data and details of item/s as are considered to be essential for full and correct evaluation of the bid shall invariably accompany the bid.

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3. BID GUARANTEE / EARNEST MONEY DEPOSIT:-
Bid Guarantee amount details are as below:-

Sl. No.	Item Description	BGA/EMD Amount
1.	**Point Scanning Confocal Microscope – Qty. 1 No.**	**Rs.5,00,000.00**

The EMD/BGA shall be submitted by a DD (for outstation firms) or Banker's cheque (in case of local firm) from a Commercial Bank/ Foreign Bank (First class Bank) along with the bid, drawn in favour of "National Centre for Biological Sciences, Bangalore". Alternatively, the EMD amount may be submitted by way of Bank Guarantee from a Commercial Bank/ Foreign Bank (First class Bank) valid for 6 months (no other mode of payment will be accepted). The BGA amount will be forfeited if the successful bidder fails to accept the Letter of Intent/ Purchase order or withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender. The offers are liable to be rejected, at the discretion of the Centre, if they are not accompanied with BGA. No interest shall be payable by NCBS for BGA amount. The BGA shall be refunded to the unsuccessful bidders once the order is released on the successful bidder.

4. AUTHORITY OF AGENTS

In case where a bid is submitted by an Indian Agent on behalf of his foreign principal, such bid should be supported with a letter of Authority from the principal that the Indian Agent has been authorised to submit the bid on behalf of the principal. The indigenous manufacturers shall submit their bids directly.

5. PRICE

The Tenders to be quoted in foreign currencies – USD/Euro/JPY/GBP/SGD/CAD or any other currencies approved/traded by RBI. The price/s quoted shall be firm till the complete execution of the order. All details relating to price, price breakup, inland transportation, documentation, taxes and duties, levies, Road/AIR/Marine freight charges, delivery terms (ex-works/F.O.R/F.O.B/C.I.F.) mode of payment, mode of Despatch, Insurance, Agency Commission, if any, should be clearly stated. For indicating the price, the tenderers may choose any/all of the following:

a) Ex-works (all other charges to be indicated separately).

b) F.O.R. site (i.e. Freight, Packing & Forwarding, loading on to the transport, documentation etc. included.) Internal transportation, Freight, Insurance, etc. to be shown separately.

c) F.O.B (cost of goods, Packing & Forwarding, Inland Transportation, Documentation, etc. till the item is loaded on to the cargo carrier). Freight & Insurance charges to be separately indicated.

d) C.I.P (cost of goods, packing & forwarding, documentation, freight, insurance, etc. all included). However, freight & insurance charges to be indicated separately. **INSURANCE TO BE COVERED TILL NCBS STORES.**

6. The taxes (State, Central, Turnover tax, Works Contract Tax, etc.). Please specify which are applicable. The duties and other levies, freight, insurance shall be stated clearly and separately. Also please mention whether the same is included in the price/s quoted.

7. VALIDITY OF BIDS

The bids should be valid for a period of 180 days from the date of opening of the Price bids. Bids with shorter validity period are liable for rejection.

8. DELIVERY

The tenderer should clearly mention the time required for supplying the item. The period of delivery will be counted (a) from the date of receipt of the order in case of Indian supplier and (b) from the date of opening of letter of credit/receipt of order (in the case of sight draft/advance draft) for foreign suppliers. The delivery date is the date at which the equipment should be delivered at NCBS.

9. PACKING

The item should be packed appropriately so that it can sustain transit hazards, multiple landing, warehousing, etc. during transit.

10. PLACE OF DELIVERY

In the case of items indigenously manufactured, ALL DELIVERIES shall be effected to the National Centre for Biological Sciences, GKVK, Bellary Road, Bangalore-560065, whereas the foreign suppliers shall effect delivery up to Bangalore Airport, India by AIR only unless otherwise specified.

11. GUARANTEE/WARRANTY

The item/s covered under this tender shall be subject to a guarantee for trouble free performance, workmanship, material etc., fulfilling the specifications mentioned in this tender for 36 months from the date of commissioning. If any defect is found in the material, workmanship or performance during the guarantee period the same may either be repaired/replaced by the supplier as the case may be free of charge. The guarantee period for replacement of parts or repair work shall be same as above. A guarantee certificate to this effect should be forwarded to us with your invoice. For order placed on foreign suppliers, the supplier shall specifically confirm that their Indian representatives, if any, will provide with after sales service and will attend to any repairs or technical problems that may arise.

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12. PERFORMANCE B/G

The successful bidder shall have to execute a performance B/G in accordance with the guarantee/warranty for 10% value of the order. This B/G has to be executed on an appropriate value of stamp paper in terms of a bank guarantee drawn on any Nationalised Bank or first class Foreign Bank and shall remain valid till the completion of the Defect Liability period/warranty period, with **6 months** claim period.

13. TAXES AND DUTIES

The Centre shall deduct all taxes and duties, as applicable, from time to time from the bills payable.

14. PAYMENT TERMS

As per our Centre, 90% of the payment shall be made through Sight Draft (documents through bank) and balance 10% payable after installation, trail run and subject to acceptance by the group head through SAI and all other relevant documents, with Performance Bank Guarantee. All claims shall cease as per the Limitation Act.

15. CLARIFICATIONS

After opening the bids, if it becomes necessary for the purchaser to seek clarifications from the bidders, the same will be sought from the bidders. In such an event, the bidders will furnish all technical information / clarifications to the purchaser to reach on or before the due date fixed for that purpose indicating the Purchaser's tender reference. If the technical clarifications sought do not reach on or before the date date fixed, the bids shall be summarily rejected without any further notice.

16. RISK CLAUSE

Notwithstanding the other terms therein, the Centre at its option will be entitled to terminate the contract and to avail from elsewhere; at the risk and cost of contractor; either the whole of the contract or any part which the contractor has failed to perform within the time stipulated or if the same performance is not available, the best and the nearest available substitute thereof. The contractor shall be liable for any loss which the Centre may sustain by reason of such risk contract in addition to penalty.

17. DISPUTE AND RESOLUTION

Any dispute or differences between the parties that cannot be settled by mutual discussion at appropriate levels shall be referred to the sole arbitration of the Director, NCBS or his nominee and his decision in the matter shall be final and binding upon the parties to the dispute. The venue of arbitration proceedings shall be Bangalore. In respect of any matters pertaining to such arbitration, the courts of law in Bangalore will have exclusive jurisdiction.

18. OTHER TERMS

1. If electrical/ AC/ technical works contract, appropriate license defining the required expertise from the approved Licensing authority.

2. The Centre, will at its discretion ask for a solvency certificate from your bankers.

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19. DEFINITION AND MEANINGS

In constructing these conditions, specifications, etc. in the tender document or the Annexures/Appendices the following words shall mean herein assigned definitions except where the subject context is otherwise stated.

PURCHASER	:	Shall mean the National Centre for Biological Sciences.
BID/TENDER	:	Shall mean the proposal/document that the BIDDER submits in the requested and specified form or otherwise along with Annexures, Appendices, etc.
BIDDER/TENDERER	:	Shall mean the firm/party who quotes against an enquiry.
CONTRACTOR/SUPPLIER	:	Shall mean the party to whom a Work Order/Purchase Order is awarded to undertake all or a part of the work covered by this tender document as well as and amendment orders relating to this tender issued by the Purchaser and shall include his/their legal representative, assignee/s or successor/s.
CONTRACT	:	Shall mean and include the articles of agreement, Declaration form, the general and special conditions, the Annexures, the Schedule of Quantities & rates and the specifications attached hereto and the drawings, if any.
ORDER VALUE	:	Shall mean total value of the Purchase Order/Work order issued against this tender item including taxes, levies, etc.

20. TECHNICAL SPECIFICATIONS

See Annexure – 'A'

21. For imported items, final price after totaling the prices of the individual items has to be mentioned with estimated freight, insurance, agency commission charges, etc. The price shall be FOR CIF BANGALORE AIRPORT.

22. NCBS reserves the right to split the quantities or reject one or more offers in full or part without any reasons. Therefore NCBS decision is final and binding.

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23. The quantity mentioned in the tender may be decreased/increased while ordering. However, the price quoted should be firm irrespective of change in the quantity.

24. ACCEPTANCE OF TENDERS
NCBS does not pledge itself to accept the lowest/ any tenders and reserves to itself the right to accept the whole or part of the tenders or a part of the quantity offered.

25. The firm may quote in Foreign Currency for direct import on CIF basis as well as in Rupees on FOR NCBS basis for local supply. Please indicate insurance, freight and other charges separately for direct import.

26. Your Service Engineer should be fully trained to install the equipment and capable of maintaining the equipment during / after the warranty period.

27. LIQUIDATED DAMAGES:
The successful bidder will have to agree that in case the item is not supplied within the agreed delivery schedule and after a grace period of seven days, then Liquidated Damages (not in terms of penalty) will be imposed automatically and be deducted from their bill at the rate of 0.5% per week subject to a maximum of 10% of the order value.
Please enter unit price, Total Price and Grand Total in figures as well as words. Unit price and Total Price may be entered below each item.

Since NCBS is a Public funded Research Organisation, registered under Government of India Notification No.51/96 – Customs and 10/97 – for Central Excise is applicable for the items listed in the notification.

For and on behalf of
National Centre for Biological Sciences,

Head – Purchase

N.C.B.S. PURCHASE T.I.F.R.

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ANNEXURE A – SPECIFICATIONS

Point Scanning Confocal Microscope with Spectral Detection and Super-Resolution Capabilities – Qty. 1 No.

Summary:

Point scanning confocal microscope with inverted microscope body, laser bed with at least seven laser lines for excitation, at least three spectral detectors including at least one GaAsP based array detector for spectral unmixing, point scanning hardware based real time super-resolution capability, scanning XY stage, associated controllers and software.

System Specifications:

1. **Fully Motorized Inverted Fluorescence Research Microscope for Bright Field, DIC and Fluorescence Imaging**:
   a. LED or 100W Tungsten-Halogen lamp-based illumination tower
   b. Motorized condenser turret
   c. Long working distance condenser with NA 0.55 or better
   d. Shift free DIC accessories for all objectives
   e. Motorized objective turret with 6 or more positions
   f. Motorized beam path switch
   g. Motorized fluorescence filter turret with 6 or more positions
   h. Motorized Z focus drive with step size 25nm or better
   i. Epi-Fluorescence attachment with Visible LED illumination or 2000 Hrs or higher life time, 120/130W Mercury or metal halide lamp with built in attenuator and shutter and liquid light guide for fluorescence imaging
   j. Fluorescence filter set for UV Excitation, Blue Excitation and Green Excitation
   k. Universal sample holders for slides, 35/60 mm Petri dish, labtek chambers with multipoint, tile and mosaic imaging software
   l. Touch screen display for controlling motorized components
2. **High Precision Z focus drive**
   a. A fast Piezo focusing stage insert for fast z stack imaging
   b. Travel range 100 um or better
   c. Step size 10nm or better
3. **Motorized XY Scanning Stage:**
   a. LSM grade Motorized scanning stage for XY-scanning with tile-scan capability
   b. All associated controllers and joy stick
4. **Optical Coverslip Sensing Z Drift Compensator/Autofocus**
   a. IR LED (800 nm or above) hardware-based drift, coverslip sensing compensation mechanism
5. **Plan Apo-Objectives:**
   a. Air immersion Plan Apo-chromatic Objectives: 10x/0.4NA, 20x/0.8NA,
   c. Water Immersion Plan Apo-chromatic: 40x/1.2NA with correction collar (for FCS)
   d. Oil Immersion Plan Apo-chromatic: 40x/1.3NA, 63x/1.4NA
6. **Laser Module with all solid-state lasers control electronics:**
   a. All lasers should be solid state
   b. AOTF driven wavelength selection, attenuation and blanking and associated controllers and electronics
   c. At least the following seven laser lines should be present:
      i) 405nm ;ii) 458nm
      iii) 488nm ;iv) 514/515nm
      v) 561nm ; vi) 594nm
      vii) 633nm/640nm

7. Scan Head:

a. Galvanometric scanning mirror unit with associated electronics for frame rates ≥ 12fps at 512x512 frame size and better than 300fps at 512x16
b. Capable of performing ROI scan
c. Include high laser suppression low angle of incidence primary dichroic mirrors
d. Optics for polarization anisotropy imaging
e. Scanning Resolution: 64x64 to 4096x4096 or better
f. Optical Zoom 1x to 40x
g. Electronics and controllers for photon counting
h. Aperture for controlling focal volume for confocal imaging

8. Confocal Fluorescence Detection Mechanism:

a. At least three spectrally resolved detection units with:
i) Two spectral multialkali PMT channels
ii) One high sensitivity GaAsP based 32channel array detector to measure spectral distribution of fluorescence emission and subsequently use this information to perform spectral deconvolution. The array detector should also be capable of operating in the channel mode by logically grouping the 32 array into 8 or more channels. The array detector be capable of working in photon counting mode for applications like FCS
b. The spectral separation should be performed using one or more of the following systems: a. Pellin-Broca Prism, b. Holographic Transmission Diffraction Grating or c. Reflection Diffraction Grating.
c. Spectral pass band selection with slit/knife edge/prism wedges-based mechanism (by changing the position and width/separation of the slit/knife edge/prism wedge).
d. The spectral selection and control should be possible from both ends of the central wavelength independently for all channels. The system should provide a spectral resolution of at least 7nm.
e. All detectors should be capable of working in Intensity and Spectral Imaging Modes

9. Transmitted light detector:

a. Transmitted light detector for laser scanning bright field/laser scanning DIC imaging

10. Point Scanning based Super Resolution Imaging Attachment:

a. Fully automated hardware based, point scanning based, realtime and online Super resolution attachment for complete Vis Spectrum
b. Resolution enhancement should be based on collection of higher spatial frequencies using an array detector and subsequent photon reassignment for simultaneous improvement in resolution and SNR
c. Ability to achieve Lateral resolution of 120-140 nm and Axial resolution of 350-400 nm.
d. Should be capable of performing live cell HR Imaging
e. The system should be capable of using all Confocal imaging laser lines in super-resolution mode
f. The system should be capable of using the associated array detector for parallelizing collection of pixel information in the confocal laser scanning process, thereby increasing speed to 25fps at 512x512 or better without decreasing pixel dwell times when compared to non-parallelized detection

11. Control Computer:

a. High end CPU with fast processor (Intel Xeon 3.5GHz or better)
b. At least 8 TB of storage space and 256GB of SSD
c. At least 64 GB DDR RAM
d. At least 512GB SSD
e. High performance graphics card with at least 4GB VRAM
f. 64bit operating system
g. Monitor 32inches or better

12. Confocal imaging and control software:

System control software with imaging capabilities including the following:

a. Multidimensional Image Acquisition, Line, curved line, frame, Z-stack, Time series imaging capabilities.
b. Advanced 3D image reconstruction with rendering from a Z-stack image series.
c. FRET and FRAP as Quantitative data analysis capability
d. Multipoint, Multiwell imaging and image stitching/tiling software module
e. Standard geometry measurements like length, areas, angles etc and intensity measurements like histogram, line profile, intensity statistics
f. Spectral imaging with lambda stacking and spectral un-mixing with fingerprinting for separation of overlapping excitation/emission spectra of fluorophores.
g. ROI bleach for FRAP, Photo-activation/conversion experiments.
h. Co-localization and histogram analysis with individual parameters.
i. Image Analysis Module
j. Macro Scripting module for automation
k. Photon counting Module

Optional Items

1. Stage top incubator with temperature controller, humidifying chamber, CO2 controller and Objective heater
2. Multi Photon Adaptation:
   i. Coupling optics for coupling an existing Femtosecond laser for Multiphoton imaging (femtosecond laser is not required)
   ii. Beam conditioning unit and EOM based Beam attenuation for multiphoton imaging
   iii. Necessary dichroics and other filters/optics for multiphoton exaction
3. Two GaAsP based non-descanned detectors with photon counting capability for use in FCS and FLIM applications. Dedicated Beam splitter for Time Resolved Anisotropy with NDD detectors. Filter sets for red – green, Violet-green for NDD should be offered for easy selection.
4. Dedicated monochrome cooled CCD camera, 2/3''Chip with 2 million or better net effective pixel resolution controlled by the same confocal software for multichannel, z stack, time lapse wide field imaging with a speed of 30fps at full resolution.
5. Active anti-vibration table with compressed air damping, bread board table top with M-6 threading for the complete microscope system (Newport or equivalent)

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INFORMATION TO TENDERERS

The Tender shall be evaluated under 2 (Two) Bid System

I. Technical Bid
II. Financial Bid

Technical Evaluation shall comprise of

Sl. No.	Item	Maximum Marks
1	Fully Motorized Inverted Fluorescence Research Microscope for Bright Field, DIC and Fluorescence Imaging with a. LED or 100W Tungsten-Halogen lamp-based illumination tower b. Motorized condenser turret c. Long working distance condenser with NA 0.55 or better d. Shift free DIC accessories for all objectives e. Motorized objective turret with 6 or more positions f. Motorized beam path switch g. Motorized fluorescence filter turret with 6 or more positions h. Motorized Z focus drive with step size 25nm or better i. Epi-Fluorescence attachment with Visible LED illumination or 2000 Hrs or higher life time, 120/130W Mercury or metal halide lamp with built in attenuator and shutter and liquid light guide for fluorescence imaging j. Fluorescence filter set for UV Excitation, Blue Excitation and Green Excitation k. Universal sample holders for slides, 35/60 mm Petri dish, labtek chambers with multipoint, tile and mosaic imaging software l. Touch screen display for controlling motorized components	10
2	**High Precision Piezo Z focus drive with** a. Travel range 100 um or better b. Step size 10nm or better	4
3	LSM grade Motorized scanning stage for XY-scanning with tile-scan capability with associated controller and joy stick	3
4	IR LED (800 nm or above) hardware-based drift, coverslip sensing compensation mechanism	3
5	**Plan Apo-Objectives:** a. Air immersion Plan Apo-chromatic Objectives: 10x/0.4NA, 20x/0.8NA, b. Water Immersion Plan Apo-chromatic: 40x/1.2NA with correction collar c. Oil Immersion Plan Apo-chromatic: 40x/1.3NA, 63x/1.4NA	10
6	**Laser Module with all solid-state lasers control electronics:** a. All lasers should be solid state b. AOTF driven wavelength selection, attenuation and blanking and associated controllers and electronics c. At least the following seven laser lines should be present: i) 405nm ; ii) 458nm ; iii) 488nm ; iv) 514/515nm ; v) 561nm vi) 594nm ; vii) 633nm/640nm	10

Ref: NCB/F-191715/2019-2020 (N) Tender Notice No.009/2019-2020

Sl. No.	Item	Maximum Marks
7	**Scan Head:** a. Galvanometric scanning mirror unit with associated electronics for frame rates ≥ 12fps at 512x512 frame size and better than 300fps at 512x16 b. Capable of performing ROI scan c. Include high laser suppression low angle of incidence primary dichroic mirrors d. Optics for polarization anisotropy imaging e. Scanning Resolution: 64x64 to 4096x4096 or better f. Optical Zoom 1x to 40x g. Electronics and controllers for photon counting h. Aperture for controlling focal volume for confocal imaging	10
8	**Confocal Fluorescence Detection Mechanism:** a. At least three spectrally resolved detection units with: i) Two spectral multialkali PMT channels ii) One high sensitivity GaAsP based 32channel array detector to measure spectral distribution of fluorescence emission and subsequently use this information to perform spectral deconvolution. The array detector should also be capable of operating in the channel mode by logically grouping the 32 array into 8 or more channels. The array detector be capable of working in photon counting mode for applications like FCS b. The spectral separation should be performed using one or more of the following systems: a. Pellin-Broca Prism, b. Holographic Transmission Diffraction Grating or c. Reflection Diffraction Grating. c. Spectral pass band selection with slit/knife edge/prism wedges-based mechanism (by changing the position and width/separation of the slit/knife edge/prism wedge). d. The spectral selection and control should be possible from both ends of the central wavelength independently for all channels. The system should provide a spectral resolution of at least 7nm. e. All detectors should be capable of working in Intensity and Spectral Imaging Modes	15
9	Transmitted light detector for laser scanning bright field/laser scanning DIC imaging	5
10	**Point Scanning based Super Resolution Imaging Attachment:** a. Fully automated hardware based, point scanning based, realtime and online Super resolution attachment for complete Vis Spectrum b. Resolution enhancement should be based on collection of higher spatial frequencies using an array detector and subsequent photon reassignment for simultaneous improvement in resolution and SNR c. Ability to achieve Lateral resolution of 120-140 nm and Axial resolution of 350-400 nm. d. Should be capable of performing live cell HR Imaging e. The system should be capable of using all Confocal imaging laser lines in super-resolution mode f. The system should be capable of using the associated array detector for parallelizing collection of pixel information in the confocal laser scanning process, thereby increasing speed to 25fps at 512x512 or better without decreasing pixel dwell times when compared to non-parallelized detection	20

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Sl. No.	Item	Maximum Marks
11	**Control Computer:** a. High end CPU with fast processor (Intel Xeon 3.5GHz or better) b. At least 8 TB of storage space and 256GB of SSD c. At least 64 GB DDR RAM d. At least 512GB SSD e. High performance graphics card with at least 4GB VRAM f. 64bit operating system g. Monitor 32inches or better	2
12	Anti vibration table provided from Newport or Thorlabs	3
13	3 years Warranty and 2 years AMC	3
14	References from current users of the instrument and availability of trained service personnel	2

Optional Items

1. Stage top incubator with temperature controller, humidifying chamber, CO2 controller and Objective heater
2. Multi Photon Adaptation:
   i. Coupling optics for coupling an existing Femtosecond laser for Multiphoton imaging (femtosecond laser is not required)
   ii. Beam conditioning unit and EOM based Beam attenuation for multiphoton imaging
   iii. Necessary dichroics and other filters/optics for multiphoton exaction
3. Two GaAsP based non-descanned detectors with photon counting capability for use in FCS and FLIM applications. Dedicated Beam splitter for Time Resolved Anisotropy with NDD detectors. Filter sets for red – green, Violet-green for NDD should be offered for easy selection.
4. Dedicated monochrome cooled CCD camera, 2/3''Chip with 2 million or better net effective pixel resolution controlled by the same confocal software for multichannel, z stack, time lapse wide field imaging with a speed of 30fps at full resolution.
5. Active anti-vibration table with compressed air damping, bread board table top with M-6 threading for the complete microscope system (Newport or equivalent)

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ANNEXURE – B

SCHEDULE OF EXPERIENCE

Please furnish list of major supplies/works undertaken in relevant to this tender during the past two years.

Sl. No.	Name of the company with full address	Name of project	Purchase Order No. & date	Brief description	Value (Rs.)

Signature

Name

Designation

Name of company

Date

Seal of the company

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ANNEXURE - C

SCHEDULE OF DEVIATION FROM SPECIFICATIONS/CONDITIONS

All deviations from the specifications/conditions shall be filled in by the bidder in this schedule.

The bidder hereby certifies that the above mentioned are the only deviations from Technical Specification of this tender. [State NIL if no deviation is envisaged].

Signature Name	
Designation Name of the company Date	
Seal of the company	

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COVER – II PRICE BID

Point Scanning Confocal Microscope – Qty. 1 No.

Sl. No.	Item Description	Qty	Unit Price	Total Price

Please enter Unit Price, Total Price and Grand Total in figures as well as words. Unit price and Total Price may be entered below each item.