

F.NO.P-20/23/1/2018/Various.Equip/Vol.2

Date: 19.03.2018

**(Tender Document for Purchase of Equipment for NIPER-Kolkata)**

Quotations are hereby invited in respect of the items mentioned below in two envelop system. The quotations should be sent directly on the above address in the sealed cover so as to reach this office on or before **11<sup>th</sup> April 2018, 03:00pm.**

These will be opened on **11<sup>th</sup> April 2018 at 03:30 PM (at Seminar Hall, Chunilal Bhawan of NIPER-Kolkata at 168, Maniktala Main Road, Kolkata-700054, West Bengal)** by the committee members in the presence of the tenderer or their representative, who may like to be present. **The right of acceptance or rejection of any quotation without assigning any reason is reserved.**

Necessary literature of the equipment may please be sent. Please quote for F.O.R. at Site, NIPER-Kolkata, Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054

The quotations should be accompanied by earnest money (as mentioned in Section-III) in shape of Bank Draft in name of NIPER-Kolkata and terms & conditions duly signed by bidder.

**Note: - The complete tender document may be downloaded from the Govt. of India Eprocurement website i.e. <https://eprocure.gov.in/cppp/>. Or NIPER-Kolkata website under Tender Section [www.niperkolkata.edu.in](http://www.niperkolkata.edu.in)**

	Event	Date & Time
I	<b>Earnest Money</b>	EMD as mentioned in Section III, is to be deposited in the form of Demand Draft, favouring NIPER-Kolkata, payable at Kolkata.
II	<b>Cost of Tender Documents/Applications Fee. (Non-Refundable)</b>	Cost of Tender Document: For Bid Amount less than or upto 5 Lacs -- Rs. 1500/- For Bid Amount more than 5 Lacs -- Rs. 2000/- to be deposited as DD/Bankers' Cheque along with EMD/Technical Bid

I	Date of publication	20/03/2018
II	Downloading of tender document	Start date:- 20/03/2018 End date:-11/04/2018
III	Physical submission of EMD and other necessary pre-qualification documents.	Start date: - 20/03/2018 End date: - 11/04/2018
IV	Opening of Technical Bid and meeting for scrutiny of technical bid and declaring eligible bidders.	Date: - 11/04/2018 at 03:30 PM
V	Opening of Financial Bid of only eligible technically qualified bidder determined by Committee.	To be informed after checking eligibility/Technical Specifications
VI	Place of opening of bids	Seminar Hall, Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054.
VII	Address for communication	Registrar, NIPER-Kolkata Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054.

**Director, NIPER-Kolkata**

## CHECKLIST FOR TENDER DOCUMENT

S. No	Checklist	Tick (Yes/No)
1.	Whether EMD, Cost of Tender Document as mentioned above in the shape of Demand draft/ Banker Cheque in favour of NIPER-Kolkata, payable at Kolkata has been attached? If yes, DD/B.C No. _____ dated _____ and _____ name of the Bank DD/B.C No. _____ dated _____ and _____ name of the Bank	Yes/No
2.	Have you made three separate envelopes named Technical Bid, Financial Bid & Earnest Money/Application Fee	Yes/No
3.	Have you put the envelopes mentioned in S. No 2 (above), in a single envelope and named “ <b>Tender for purchase of Equipments</b> ”	Yes/No
4.	Have you sealed all the above mentioned envelopes Properly	Yes/No
5.	Have you signed the terms and conditions mentioned in Section-VI and enclosed with technical bid.	Yes/No
6.	<b>Have you enclosed the technical compliance chart for the items quoted as mentioned in Section-VII.</b>	Yes/No
7.	Have you mentioned your address on the envelope mentioned in S.No 3 (above)	Yes/No
9.	Have you written the following address on the envelope mentioned in S.No 3  <b>Registrar, NIPER-Kolkata Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054 West Bengal, India</b>	Yes/No
10.	Do you agree to provide delivery period less than 12 week in view of condition No. 5 of Section-VI?	Yes/No
11.	Do you agree that no advance payment will be made by the NIPER-Kolkata in view of condition No. 12 of Section-VI?	Yes/No
12.	Do you agree to provide the items F.O.R. at Site, NIPER-Kolkata, Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054 ?	Yes/No
13.	Do you agree to provide 04 months validity of tender as per condition No. 33 of Section-VI?	Yes/No
14.	Have you submitted the rates only in Financial bid ?	Yes/No
15.	Have you submitted the authorized dealer/distributer certificate	Yes/No

## **SECTION-I**

### **1. Invitation for Bids**

1. Tenderers are advised to study all technical and commercial aspects, instructions, forms, terms and specifications carefully in the tender document. Failure to furnish all information required in the Tender document or submission of a bid not substantially responsive to the Tender document in every respect will be at the tenderers risk and may result in the rejection of the bid.
2. Sealed offer should be submitted to Registrar, NIPER, Kolkata not later than the date and time laid down, at the address given in the schedule for invitation to Tender under Clause 8 (A) of Section I.
3. All bids must be accompanied by a refundable earnest money/bid security (as mentioned in Section-III) in the form of Bank Draft / Bankers Cheque drawn from a scheduled bank in favour of the NIPER-Kolkata, payable at Kolkata.
4. This tender document is not transferable. The categories of items and quantity indicated in the Tender Document are tentative, NIPER-Kolkata reserves the right to increase or decrease the quantity or delete some or all of the items depending on the needs of the Departments/ Indenter/Institute without assigning any reasons.
5. The tenderer should indicate specifically the Basic Price, Taxes/GST, other duties (if any), and levies chargeable. No additional information will be entertained after due date.
6. The tenders will be opened on the date and time indicated in the presence of tenderers, if any, present on the occasion. If the date of opening/receiving is declared to be a holiday/s the tenders will be opened/received on the next working day at the same time.
7. Payment of bill will be made on receipt/installation of material as per purchase order through /RTGS/NEFT.
8. **Schedule for Invitation to Tender**

A) Address at which tender is to be submitted by hand/post:

**Registrar, National Institute of Pharmaceutical Education and Research (NIPER)-Kolkata  
Chunilal Bhawan, 168, Maniktala Main Road, Kolkata-700054 West Bengal, India**

**Last Date and time for receipt of Tender: 11<sup>th</sup> April, 2018 at 3:00 PM**

B) Date, time and place of opening of technical bid of the tender document:-

**Date: 11<sup>th</sup> April, 2018**

**Time: 03:30 PM**

**Place: Seminar Hall**

**NIPER-Kolkata, Chunilal Bhawan,168,Maniktala Main  
Road, Kolkata-700054 West Bengal**

**The date of opening of the financial bid will be informed only to the technically successful bidders later on.**

C) Date till which the tender is valid: 04 months from the opening of tender.

D) NIPER- Kolkata shall not be responsible for any postal delay about non receipt/non-delivery of the documents.

## **SECTION-II**

### **Procedure for submission of Bids**

It is proposed to have Two Bid System for this tender.

- (i) Technical Bid in one cover
  - (ii) Financial Bid in one cover
1. **Technical Bid** would be evaluated as per tender's terms and conditions. Technical bid should be covered in a separate sealed cover superscribing the words "Technical Bid as per Section-V" for each equipment separately.
  2. **Financial Bid** should be submitted as per prescribed format laid down in Section-IV. The financial bid should be covered in a separate sealed cover superscribing the wordings "Financial Bid as per Section-IV" indicating item wise prices.
  3. **The Earnest Money/Bid** security (as mentioned in Section-III) and cost of tender, is to be paid in the form of the Demand Draft, the draft should be in a separate sealed envelope and enclosed with the technical bid.
  4. All the document viz. **Technical Bid** cover, **Financial Bid** cover and **Earnest money** cover prepared as above are to be kept in a single cover super scribed with "**Tender for purchase of Equipments**".
  5. The cover thus prepared should also indicate clearly the name and address of the tenderer to enable the Bid to be returned unopened in case it is declared "late".

### **2. Cost of Bidding**

The tenderer shall bear all costs associated with the preparation and submission of its Bid, including the cost of presentation for the purpose of clarification of the bid, if so desired by the Institute and the Institute will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering Process.

### **3. Clarification of Tender Document**

A prospective tenderer requiring any clarification of the Tender Document may notify the Institute through email at the NIPER-Kolkata's e-mail address: [info@niperkolkata.edu.in](mailto:info@niperkolkata.edu.in). The Institute will respond to the request for clarification of the Tender Document, received not later than 07 working days prior to the last date for the receipt of bids prescribed by the Institute.

### **4. Amendment of Tender Document**

- 4.1 At any time prior to the last date for receipt of bids, the Institute may for any reason, whether at its own initiative or in response to a clarification requested by a prospective Tenderer, modify the Tender Document by an amendment.
- 4.2 The amendment will be notified on the website of the Institute [www.niperkolkata.edu.in](http://www.niperkolkata.edu.in) and on <https://eprocure.gov.in/cppp/>

- 4.3 In order to afford prospective Tenderers reasonable time in which to take the amendment into account in preparing their bids, the Institute may, at its discretion, extend the last date for the receipt of the Bids.

## 5. Language of Bids

The bids prepared by the Tenderer and all correspondence and documents relating to the bids exchanged by the Tenderer and the Institute, shall be written in English language, provided that any printed literature furnished by the Tenderer may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

## 6. Documents comprising the Bids

6.1 The Bids prepared by the Tenderers shall comprise of following components:

- I. Bid to be furnished as per the format for technical specifications (Section V).
- II. Technical literature for each product/service, covering full technical specifications.
- III. Submitted the authorized dealer/distributor certificate with technical bid.
- IV. Bid prices should be quoted item wise excluding taxes duly signed and complete as per the format (Section IV).
- V. Maximum educational discount as could be offered should be mentioned.
- VI. **Enclose the technical compliance chart for the items quoted as mentioned in Section-VII along with the technical bid separately.**

### SECTION-III

#### EMD FOR EACH OF EQUIPMENTS

(Detailed Technical Specification given in Section V)

S. No.	Items	Units (in Nos.)	EMD (Rs.)
1	Multi-Color Flowcytometer (Analyzer)	1	2,40,000/-
2	HPLC Preparative System	1	60,0000/-
3	REAL TIME PCR System	1	30,000/-
4	FLUOROMETER/FLUROSCENCE BIOSPECTROMETER	1	80,000/-
5	CHEMILUMINESCENCE IMAGER (Gel Doc)	1	12,000/-
6	CO2 Incubator	1	12,000/-
7	LN2 STORAGE SYSTEM WITH RACK & BOX	1	10,000/-
8	Biological Safety Cabinet	1	10,000/-
9	IVC System	1	1,00,000/-
10	CD- Spectrophotometer		1,32,000/-

**Note:-** All the items should be ISI Marked/good quality wherever applicable.  
**The EMD should be submitted separately for each instrument/equipment mentioned above S. No. 1 to 11.**

**Warranty:** - The supplier must warrant that the goods supplied under the contract are new, unused and the item being supplied has incorporated all recent improvements in design, materials as per specifications in this tender document. All Vendors (Manufacturers / Agents) must submit offers with at least **12 months warranty after installation** at Site (NIPER-Kolkata) **and/or as mentioned in the technical specifications.**

## **SECTION IV**

### **Financial Bid**

**Rates should be submitted in the following format separately for each equipment/instrument**

<b>S. No.</b>	<b>Name of Equipments</b>	<b>Basic Price in lump sum Including Installation</b>	<b>GST / Taxes etc.</b>	<b>Freight / Shipment cost</b>	<b>Total Cost in lump sum FOR NIPER-Kolkata (Inclusive of all Taxes) And shipment cost if any.</b>
1	Multi-Color Flowcytometer (Analyzer)				
2	HPLC Preparative System				
3	REAL TIME PCR System				
4	FLUOROMETER/FLUROSCENCE BIOSPECTROMETER				
5	CHEMILUMINESCENCE IMAGER (Gel Doc)				
6	CO2 Incubator				
7	LN2 STORAGE SYSTEM WITH RACK & BOX				
8	Biological Safety Cabinet				
9	IVC System				
10	CD-Spectrophotometer				

**Rates should be quoted for complete experimental setup for each equipment and not for individual components.**

**Rate should be F.O.R. at Site, NIPER-Kolkata, Kolkata. (No labour will be provided by the Institute for Loading/Unloading)**

**The percentage (%) of GST should be clearly mentioned in the quotation.**

**Signature of Bidder**

## **SECTION-V**

### **Detailed Specification of Equipments**

#### **1. Multi-Color Flowcytometer (Analyzer)**

- System should be a Bench-top flowcytometer with 2 lasers (Blue 488 nm, and Red 638-640 nm) with 6 colors and 2 scatter detection (forward and side scatter) configuration. The instrument should be upgradable to third laser with for 10 color configuration. All fluorescence channels and side scatter detection channel must incorporate Photomultiplier Tubes (PMTs) to ensure maximum possible resolution from even dimly stained populations.
- System must work on hydrodynamic focusing technology.
- All lasers and their excitation-optics should be fixed aligned.
- System should be able to acquire at least 30,000 events or more per second.
- System should provide sensitivity: < 85 MESF-FITC and <20-MESF-PE.
- System should support 21 CFR Part 11 workflow with audit trail and e-signature.
- Sample flow rate should be at least 10ul – 120ul, with a high sensitivity mode for better sensitivity of dimly stained population.
- System should have automated software controlled fluidics start up and shutdown procedures. Software should support acquisition of 5 million or more events per tube enabling rare event detection.
- System should be Capable to record and save Area, Height and Width signals for every parameter simultaneously along with time parameter.
- The system should be in a single tube acquisition format & upgradable in future to universal plate and tube loader platform which can accommodate minimum 30 tubes & 96 / 384 well plates as well.
- System should be provided with software capability of baseline settings of system performance, thereby ensuring automated instrument set-up for consistent results.
- The system in addition, should offer software driven auto alignment & fine alignment features to ensure consistent performance. The system should be able to do automated compensation calculation, single fluorochrome addition and inter-beam compensation.
- Suitable work station should be supplied for online analysis along with Machine. Offline analysis software should be provided additionally.
- System should be quoted with 5 years warranty and all required consumables for this period.
- Company should have proven track record and at least 10 installations in Govt. Research Organizations.
- Company should have direct presence in India and dedicated service and application support for Flowcytometer.

#### **2. HPLC PREPARATIVE SYSTEM**

Two Independent pumps High Pressure Binary Gradient HPLC System; both the pumps should have pressure-bearing capacity of 42MPa or better.

#### **Solvent Delivery System for Analytical, Semi-Prep & Preparative flow rates --- Independent Pumps - 2 Numbers**

- The flow rate should be set between 0.01 to 150 ml/min in each pump or better from micro/semi micro to preparative flow rates without any hardware change
- Flow rate accuracy should be  $\pm 1\%$  or better
- Flow rate precision should be less than  $\pm 0.1\%$  RSD or better
- Pressure setting range should be 1-42 MPa or better
- Maintenance kit, & automatic rinsing kit must be supplied
- It must have a leak sensor as safety feature.



**Dynamic Gradient Mixer for Both Analytical & Preparative Mixes 1 No Each**

- Mixing volume changeable in 2- 3 steps or more
- Suitable for high pressure, low pressure and semi-micro applications for analytical and preparative mixing
- Dynamic mixing.

**Photo Diode Array Detector: 1 No.**

Wavelength range 190 nm-800 nm or better

No of Diode elements: 512 or more

Wave length accuracy  $\pm 1$  nm or better

Wavelength precision 0.1nm or better

Noise levels  $\pm 0.6 \times 10^{-5}$  AU or better

Linearity: 2.0 AU min (ASTM method) or better

Flow cell must be Temperature controlled from 5°C above room temperature to 50° C for achieving superior base line stability.

**Refractive index Detector: 1No**

Refractive index range: 1 to 1.75 RIU

Measuring range:  $0.01 \times 10^{-6}$  to  $5,000 \times 10^{-6}$  RIU

Noise level:  $2.5 \times 10^{-9}$  RIU or better

Drift:  $1 \times 10^{-7}$  RIU/hr or better

Polarity switch, zero adjustment should be available

Min operating flow rate: 20ml/min or better.

Temp controlled flow cell unit. Cell volume: 9ul or better.

**Manual Injector for analytical with auto trigger - 1Set**

**Consisting of:**

- Manual injector with auto trigger and 20ul loop
- Injector mounting plate
- Micro Syringe 25ul

**Manual Injector for preparative with auto trigger - 1Set**

**Consisting of:**

- Manual injector model with auto trigger and 1ml, 2 ml loops
- Injector mounting plate
- Syringe 2.5ml

**Column Holder:**

- Column holder suitable for Holding Analytical and Preparative columns upto 50mm i.d , T-Joint, Piping kit etc all relevant accessories to be included.

### **Column Switching Valve:**

- Suitable from automatically switching between Analytical to preparative columns is desired.

### **Fraction Collector: 1 No**

- Fraction collector for automated fraction collection should be quoted with small & large fraction collection capacity.
- Should accommodate vials, micro titer plates, tubes, bottles etc.
- Should be able to collect fractions by time, volume peak, peak collection by level, slope or sub fractions by time
- Suitable rack should be provided to accommodate 3.5ml & 4.5ml test tubes
- 4.5ml Test tubes 75mm - 250pcs should be included.

### **Columns**

- C18 Analytical (250 x 4.6mm, 5 $\mu$ m) with Guard column-1 Nos.
- C18 Semi-Preparative (250 x 10mm, 5 $\mu$ m) with Guard column-1 Nos.
- C18 Preparative (250 x 20mm, 5 $\mu$ m) with Guard column 1 Nos.
- Amide Analytical (250 x 4.6mm, 5 $\mu$ m) with Guard column -1 Nos.
- Amide Semi-Preparative (250 x 10mm, 5 $\mu$ m) with Guard column-1 Nos.
- Amide Preparative (250 x 20mm, 5 $\mu$ m) with Guard column-1 Nos.
- Cyano Analytical (250 x 4.6mm, 5 $\mu$ m) with Guard column-1 Nos.
- Cyano Semi-Preparative (250 x10mm, 5 $\mu$ m) with Guard column -1 Nos.
- Phenyl column Analytical (250 x 4.6mm, 5 $\mu$ m) with Guard column-1 Nos.
- Semi preparative phenyl column (250 x10mm, 5 $\mu$ m) with Guard column -1 Nos.
- Silica (Normal phase) Analytical (250 x 4.6mm, 5 $\mu$ m) with Guard column-1 Nos.
- Silica (Normal phase) Semi-Preparative (250 x 10mm, 10 $\mu$ m) with Guard column-1 Nos.

### **Software**

- Necessary system controller module for controlling all the HPLC modules to be quoted.
- Operation of the system should be very easy and intuitive via a state-of-the-art windows based software
- Complete system control software all parameters should be computer controlled
- Software must have its own log files for complete audit trails with 21 CFR part 11 Compliance
- Original manufacture's licensed software to control the entire HPLC system during operation and post-run data analyses must be provided.
- The software should be an authenticated one, besides compatible with the operating system of the computer and be able to update the latest versions at free of cost in future.

### **Accessories**

- Computer from branded company with i7 processor, 16GB RAM, 1TB HDD) and all interfacing hardware and software for instrument control, data acquisition, data storage and data processing. Colour Laser Printer should be provided.
- True Online UPS (5 KVA) with batteries from branded company with 3 Years warranty and battery rack.
- Other accessories like necessary solvents for primary standardization (Acetonitrile, Methanol and Water) for the fulfilment of application should be provided.

- A minimum of 7 days training should be provided on experimental and data analysis part by vendor with no extra cost. Later training cum workshop should be provided for another 7 days on demand within a year with free of cost.
- 5 years comprehensive warranty from installation and commissioning.

### **3. REAL TIME PCR SYSTEM**

The system should be an automated system for both real time pcr and post pcr analysis with the following features:

1. High throughput touch screen system, system should be 96-well Peltier based PCR Machine. Should have option to upgrade / change hardware in future.
2. The excitation source should be LED (5 or more) / Laser and detection should be photodiode (5 or more).
3. The Hardware must offer Peltier based thermal cycling for fast PCR (40 cycles in 50 minutes).
4. The system should have average block ramp rate for heating and cooling of 5°C or more. Must offer at least 4 individual filters with the machine. Must have common filters like Cy5, HEX, ROX, FAM etc.
5. The machine must offer temperature uniformity of +/- 0.40 and Cq uniformity <0.20
6. The system should support minimum reaction volume of 10µL
7. It should be supplied along with branded Desktop for system control, operation, data analysis and USB port for data export to power point or JPEG file formats.
8. The system should come along with High Resolution Melting Curve Analysis Software. The Machine vendor should have reagents for HRM Applications from same company.
9. The system must offer pre programmed assays for easy selection of calibrators, normalizers and sample associations.
10. The system must offer multiple customizable data analysis algorithms.
11. The software must enable export of raw data in multiple formats.
12. The system should come along with software to support applications like absolute quantitation, RQ, multiplex PCR, Melt curve analysis, pathogen detection and plus minus assays.
13. The system must be open to all chemistries including SYBR, Probe and HRM (optional)
14. The system must be flexible to be used with 96-well plates or strips of 8.
15. The Instrument must offer 09 logs of linear dynamic range.
16. Consumables for initial start up should be quoted separately.
17. Three years of comprehensive warranty with Kolkata based service centre.

#### **4.FLUOROMETER/FLUORESCENCE BIOSPECTROMETER**

- System should have preprogrammed methods for rapid and reliable analysis of Nucleic acids and proteins, OD600, dye methods (parallel measurement of biomolecule and dye label), FOI (frequency of incorporation) calculation
- Absorption measuring range : 0 A – 3.0 A (260 nm)
- BSA concentration range : 0.01 ng/μL – 45,000 ng/μL
- Beam receiver fluorescence : Photodiodes
- Cuvette shaft : 12.5 mm × 12.5 mm
- Detector Type : CMOS photodiode array, 1024 pixel
- Emission wavelength I fluorescence : 520 nm, bandwidth: 15 nm
- Emission wavelength II fluorescence : 560 nm, bandwidth: 40 nm
- Excitation wavelength fluorescence : 470 nm, bandwidth: 25 nm
- Fluorescence measuring range : 0.5 nM – 2,000 nM fluorescein (emission wavelength 520 nm)
- Light path height : 8.5 mm
- Light source absorption : Xenon flash lamp
- Light source fluorescence : LED
- Measuring principle absorption : Single-beam absorption spectrophotometer with reference beam
- Measuring principle fluorescence : Confocal filter fluorometer with reference beam
- Method memory : >100 method programs
- Power consumption : Approx. 15 W during operating step, Approx. 5 W with dimmed display
- Random error absorption :  $\leq 0.002$  at  $A = 0$   
 $\leq 0.005$  (0.5 %) at  $A = 1$
- Random error fluorescence :  $\pm 2$  % at 1 nM fluorescein
- Random error wavelength :  $\pm 1$  nm
- Smallest step size : 1 nm
- Spectral bandwidth :  $\leq 4$  nm
- Systematic error wavelength :  $\leq 0.5$  nm
- Wavelength range : 200 nm – 830 nm
- Wavelength range absorption : Scan (nm): 200 – 830 at 1 nm increments
- dsDNA concentration range : 1.0 pg/μL – 1,500 ng/μL
- Power supply : 230 V, 50 – 60 Hz
- Data transfer of measured data to a PC by connecting the device directly to a PC should be possible without any additional software or should be through USB stick
- System should be small, lightweight, mobile and should be easy to operate with its integrated 5.7 inch color display in combination with the keys of the device
- Should allow direct operation on the device and must not require PC to operate
- Three years comprehensive warranty for main instrument.
- Kolkata based service centre is must.
- Details of instrument up gradation should be quoted separately.

## **5. CHEMILUMINESCENCE IMAGER (Gel Doc)**

**Applications:** The system should be capable of the following applications/dyes –

- I. Chemiluminescence
- II. Chemi fluorescence
- III. Quantum dots
- IV. Silver stain
- V. Ethidium Bromide
- VI. Coomassie Blue
- VII. Flamingo
- VIII. Nano orange
- IX. Sypro ruby
- X. Sypro orange
- XI. Sybr safe
- XII. Sybr gold
- XIII. Oligreen
- XIV. Pico green
- XV. Texas red
- XVI. Cy2
- XVII. Pro Q emerald
- XVIII. FITC

1. System with true 16 bit CCD (not A/D) camera; pixel density of 65,536 gray levels.
2. Pixel size should be at least 4.65 x 4.65  $\mu\text{m}$  or bigger.
3. Image resolution > 4 megapixel.
4. Dynamic range should be at least 4 orders of magnitude.
5. Minimal dark current with maximum limit of 0.001 e-/p/s
6. The camera should have peltier based cooling of minimum -30°C Absolute or -50°C from Room Temperature.
7. Quantum efficiency at 425 nm should be 55%, at 600 nm 60% and peak quantum efficiency as 75% or better.
8. Motorized zoom lens with C-mount, f/1.2, 12-75 mm.
9. Light sources should include – Trans-UV, trans-white, epi-white and should have option for trans blue (for SYBR safe DNA application).
10. Should have preparative UV mode for DNA band excision.
11. Minimum sample size accommodated should be 28x36 cm
12. Should have Autofocus feature with pre-calibrated focus for any zoom setting or sample height.
13. System should have 100% automatic Iris adjustment for all compatible applications.
14. The system should have Dynamic image flat fielding which pre-calibrated and optimized for every reaction.
15. The instrument should be capable of imaging stain free gels and stain-free blots.  
Should be supplied with a stainfree kit for 65 gels with Temed APS

### **System Software-**

- 1) Software should have highest level of automation in hardware calibration, image optimization, capture, and analysis.
- 2) Should have automated workflow recorded in a protocol file from image capture to results thus eliminating need for training.
- 3) Should allow 100% repeatability of the workflow by any user and ensures optimized image data and analysis from a gel in a single uninterrupted, fast, and completely reproducible workflow.
- 4) Should have automated image capture driven by a selected gel or blot application.
- 5) Should generate the publication ready images (dpi, dimension and format) with one click export option.
- 6) Should generate customizable reports.
- 7) Should have feature for Automatic print when only imaging and printing is required.
- 8) Software should have easy copy/paste functionality, crop, zoom, 3D and colors.

- 9) Signal Accumulation Mode (SAM) for easy optimization of exposure time for chemiluminescent detection.
- 10) Software should be PC compatible.
- 11) Software should not require any license registration with possibility to be installed in unlimited number of computers with complete analysis features.
- 12) Should have the flexibility to specify the Publishing resolution (dpi) and publishing dimensions with one-click image export for publication.
- 13) It should be supplied with a Suitable PC & UPS
- 14) Should have at least 30 installation PAN India
- 15) Three years comprehensive warranty for main instrument.
- 16) Kolkata based service centre is must.

## **6. CO<sub>2</sub> INCUBATOR**

- 1) Direct Heat Chamber :
- 2) 160L or More Electro polished stainless steel chamber with compact footprint, easily stackable.
- 3) Standard door swing; reversible door swing for added flexibility.
- 4) THRIVE Active Airflow :
- 5) Uniform air circulation and humidification should avail throughout the chamber ensuring homogeneous conditions.
- 6) Protected Humidity Reservoir :
- 7) Should have directly heated water reservoir provides stable high relative humidity levels, preventing culture desiccation.
- 8) Cover should limit particles and spilled media from settling into the reservoir.
- 9) Should have Condensation free inner chamber, prevents a breeding ground for contaminant.
- 10) Should have 5X faster humidity recovery than traditional water pan designs.
- 11) For easier water handling, humidity reservoir may be filled or drained without the removal of shelves
- 12) or cultures are preferable.
- 13) In situ sensors and probes :
- 14) Dual temperature probes for over temperature protection with operational back up.
- 15) Steri-Run, high temperature deflection cycle :
- 16) Overnight cycle simplifies cleaning and eliminates the need for separate autoclaving of parts.
- 17) Convenient on-screen user prompts and reminders for easy navigation.
- 18) Visibility to changes in culture environment on performance graphs and error and data logs
- 19) Technical Specification :
- 20) Chamber volume 160 liters or more
- 21) Shelf count : 3 Standard / Max. 10 numbers
- 22) Temperature range : 3°C above ambient to 55°C
- 23) CO<sub>2</sub> Range : 1- 20 %
- 24) Humidity Range : >93% @ 37°C
- 25) Concentration Control : ±0.1°C
- 26) Stabilization Time : Under 12 hours
- 27) Port Type : 42mm access port, rear left
- 28) Sensor Types : TCD Sensor, IR sensor or any other suitable sensors
- 29) Certifications: CE approved
- 30) Accessories :
- 31) Two CO<sub>2</sub> Cylinders and CO<sub>2</sub> Regulator must be supplied.
- 32) Suitable servo Voltage stabilizer should be quoted separately.
- 33) Power Supply : 230 V , 50 Hz, Single Phase operation.
- 34) Warranty 3 years comprehensive from installation and commissioning.
- 35) Some User list and Performance Certificate from reputed Institutes should be provided
- 36) Prompt & efficient after-sales service from Kolkata should be available.

## **7. LN2 STORAGE SYSTEM WITH RACK & BOX**

- LN2 capacity of 71 liters
- Neck diameter of 8.5”
- Vacuum insulation
- Static holding time of 83 days
- 2mL vial capacity of 2000 vials
- 5mL vial capacity of 648 vials
- Temperature uniformity: samples are stored below -180°C even when less than 2 in. (5 cm) of liquid nitrogen remains in the vessel
  
- Shipping weight of 91 lbs. / 41.3 kg
- Empty weight of 59.4 lbs. / 27 kg
- Exterior dimensions of 55.8 x 68.3 cm (Diameter x height)
- Must include 4 Stainless steel racks, each rack designed to hold (5) boxes of 1.2/2.0 mL vials
- Must be supplied with Wheeled accessory cart (5 in. high)
- CE certification
- 40 nos. Cryo box of 1.5/2ml should be included
- Low level alarm should be quoted as optional.
- Warranty minimum 3 year from installation and commissioning.

## **8. BIOLOGICAL SAFETY CABINET**

1. **The biological safety cabinet should be of Class A2 designed in compliance with International standards .**
2. **It should be certified from any Internationally reputed independent accredited agency such as EN 12469 , TUV Nord (Germany), NSF etc for complete safety.**
3. **It should have Personal protection, Sample protection, Cross contamination protection and Environmental protection .**
4. **It must utilize dual DC motor technology to ensure lower levels of energy consumption and heat emission. AC motor technologies are not acceptable.**
5. **It should have dual blower for independent control for inflow & down flow velocities.**
6. **The motor must automatically adjust the airflow speed without the use of a damper to ensure continuous safe working conditions, even without maintenance adjustments.**
7. The interior dimensions : (wxhxd ) 1800 x 780 x 465 mm.
8. Air flow direction : Vertical Laminar Flow & Air intake across front opening.
9. Filter : High performance particle air filter (HEPA), filtering efficiency 99.995% MPPS.
10. **Pressure sensor should be in-built for exact airflow measurement for balancing Air flow.**
11. **It should have Independent supply and exhaust blowers automate balancing of down flow and inflow/exhaust velocity to ensure continuous safe working conditions.**
12. Control Panel and Performance monitor displays inflow / down flow velocities, hours of use etc. to verify proper cabinet operation.
13. Approximately 30% of the air volume is exhausted as sterile air back into the environment and approximately 70% of the air is recirculated inside the work area.
14. **The UV light must be quoted which should be programmable to shut off automatically. The settings must allow the user to program the timer from 30 min to 24 hours in 30 min increments,.**
15. **The front window sash must be angled 10° to reduce glare for users who wear glasses and allow for more comfortable posture for users.**
16. **The cabinet noise level must be less than 59 dB(A) as measured in a sound proof room. to promote more comfortable and safer working habits of the user.**

17. The microprocessor controller must be located on a slanted front panel so it is easy to see from a seated working position in front of the cabinet.
18. The microprocessor must display the inflow and downflow air velocities in real-time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.
19. The microprocessor must display the number of hours of use on the HEPA filters to ensure user knows when to replace the HEPA filters to achieve safe working conditions.
20. The interior of the front window must be accessible for cleaning without requiring the user to manually hold the window.
21. The drain pan beneath the work surface must be negatively pressurized to ensure that any contaminants are quickly trapped and pushed into the HEPA filters.
22. Arm rest should be provided for operator's comfort without disturbing the Air Flow.
23. The Work Area should be illuminated with switchable fluorescent lamp of lighting power greater than 1400 lx.
- 24. In built Access ports (23 mm) 4 (2 on each side) should be available .**
- 25. It has 4 pieces stainless steel work tray for easy autoclave able and decontamination .**
26. It should be quoted with Floor stand .
27. Service tap for combustible gas with safety valve, vacuum valve should be quoted optionally.
28. Warranty for three years.
29. Electrical supply available : 230V A.C, single phase, 50 Hz..
30. Prompt & efficient after sales service should be available from Kolkata.
31. Some User list and Performance Certificate from reputed Institutes should be provided .
32. Suitable servo voltage stabilizer should be quoted.

## **9. IVC SYSTEM**

Offers are invited for Individually Ventilated Animal Caging system (IVC System) & other animal care equipment as per the specifications described below.

### **I. IVC System**

The IVC system should comprise of following;

- a) Standalone type Ventilator (Air Handling Unit)
- b) Cage Rack with air distribution system (ducting system)
- c) Animal Cage assembly with water bottle suitable for IVC system.

A brief description / specifications for above equipment are provided below.

#### **a) Standalone type Ventilator (Air Handling Unit) –**

Standalone type IVC Ventilator unit shall be in 304 grade stainless steel construction.

Unit shall consist of two separate modules for supply of clean air to animal cages and to evacuate contaminated air from the cages. Both the modules will individually consist of following;

- Suitable design silent operation blower to handle supply air / exhaust air.
- Prefilter & Hepa filter, grade H4 & H14 of suitable size
- Supply / Exhaust air fan with speed regulator
- Necessary electricals & controls to monitor various parameters such as Air Changes per hour, average cage temperature and humidity, working pressure mode.
- Programmable Logical Controller with TFT LCD, Touch screen type color Display to set and monitoring of above referred parameters as required. The controller should be capable for necessary logging of basic parameter data up to the period of 1 year.
- Run our counter with change filter notifications.
- Necessary audio visual alarm system (Local) to indicate the failure of maintenance of any of the parameters mentioned above.
- Housing & structure in SS 304 construction
- Castor wheels in special grade nylon construction with SS housing, 2 Nos. free moving & 2 Nos. with pad lock



- Supply & Exhaust air manifolds suitable to connect up to two double sided racks or four single sided racks to each Ventilator.
- Ventilator shall be suitable for connecting 2 Nos. single sided racks on each side.
- Arrangement to adjust fan speed automatically as per the set value.
- Ventilator shall operate on 220 V, 50 Hz, single phase AC power supply.

**b) Cage Rack with air distribution system (ducting system) for holding purpose– qty.**

Double sided Cage Rack (suitable to mount cages from both side) shall be in SS 304 construction and shall be suitable to house atleast 90-100 Nos. mice cages selected for the system: The cage rack shall comprise of following;

- Frame structure with air distribution ducts, supply & exhaust air headers in SS 304 construction.
- Duct couplers, endcaps, supply air nozzles & exhaust air nozzles in special grade rubber construction suitable for autoclaving.
- Cage runners in special grade nylon construction suitable to withstand autoclave conditions.
- Suitable design castor wheels with SS 304 casing and special grade nylon wheels (2 nos. free moving & 2 Nos. with padlock arrangement).
- Wire reinforced hosepipes suitable to connect supply and exhaust air headers with ventilator.

**c) Animal Cage assembly with water bottle suitable for IVC system.**

IVC cage assembly shall consist of following;

- Cage bottom in polysulphone construction having floor area not less than 500 sq.cm. and cage height not less than 14 cm. The cage bottom will have suitable arrangement to properly house in cage rack at required position.
- Cage lid in polysulphone construction with supply air and exhaust air port & water bottle port with self closing isolators, HEPA grade breather filter with filter retainer ring & cage lid clamps
- Water bottle in Polysulphone construction with special grade rubber gasket and bottle cap with nozzle in SS construction.
- Cage grill in SS 304 construction with nylon gasket.
- Cage card holder with hanger clip.

**10. CIRCULAR DICHROISM SPECTROMETER**

**The Circular Dichroism spectrometer** should be possible to measure small quantity of sample as low as 10 µl. Software should give Protein secondary structure estimation. future upgradable on field up to 1600 nm

- **Light source:** Highly stable 150W air-cooled Xe lamp
- **Detector:** High performance detector in range 170-900 nm or above.
- **Monochromator:** A dual Polarizing prism monochromator for the highest S/N ratio.
- **Wavelength specifications:**
  - Accuracy: at least±0.2 nm or better
  - Precision:±0.1 nm or better
  - Resolution: 0.1nm or better
- **Scanning speed** up to 10000 nm/min or faster
- **CD resolution:**0.0001mdeg or better
- **CD RMS noise:** Please quote the RMS noise values for the following wavelengths using 1nm bandwidth and & 2 sec D.I.T:175nm, 180nm, 200nm, 500nm
- **Stray Light:**<3ppm at 200 nm or better
- **Slit Bandwidth:** 0.01 to 15 nm or better

- **CD baseline stability:**  $\pm 0.02$  mdeg/hour or better
- **Digital Integration time:** 0.1 msec to 30 sec or better
- **Measurement Modes:** Continuous Scan, Step Scan, Auto Scan
- **Data Acquisition & Analysis:** High Speed spectral scan, 3D Scan, Multi-wavelength variable temperature programming, Curve-fitting analysis, Macro command programming, Customizable templates, system validation program, Secondary Structure Estimation,
- **Absorbance measurement:** Simultaneously recorded with CD measurement
- **Scanning method:** Continuous scan or Step scan mode (Step scan preferred)
- **Temperature controller:** single-cell peltier including an external temperature probe covering a temperature range 40 to 120 degree C. Should be capable to do multi-wavelength temperature ramping in a single experiment
- **Chiller unit:** for use with the peltier to be quoted
- **Rectangular Cells:** 1mm, 2mm, 5mm, and 10mm (each) should be included with the required cell spacers
- **Sampling Accessory & Capillary Cell:** 2 micro litre sampling accessory & capillary Sample Holder to be supplied as standard
- **Shutter:** Computer controlled shutter to prevent damage of the system
- **Start up time:** Minimum start up time. Please quote the required startup time
- **N<sub>2</sub> purging and requirement:** Minimum N<sub>2</sub> consumption in near & far UV region. Please quote the N<sub>2</sub> generator 5 Litre/ min.
- **Software:** Please detail the software capability and package included
- **PC Interface:** Windows 7 professional or higher OS.
- **Installation & Training:** To be included

Instrument having internal validation using Mercury Lamp for routine check is preferred. User lists of CSIR labs, IIT, IISER and other national laboratory to be provided installations in India of Circular Dichroism Spectrometer to be provided.

- 3 years comprehensive warranty from installation and commissioning.
- Kolkata based service centre.

## SECTION-VI

### TERMS AND CONDITIONS

1. An EMD/ bid security of each equipments should be submitted along with the quotation separately for each item in form of DD in favour of NIPER,Kolkata. Tender without earnest money shall be considered unresponsive and rejected.
2. A Performance security of 10% of the cost of the equipment will have to be deposited by the successful bidder awarded the supply order in form of Bank Guarantee from a commercial bank which should be valid for 60 days beyond the completion of warranty.
3. Performance Security will be forfeited and credited to the institute in the event the supplier does not honor the warranty and other terms and conditions of the tender.
4. It may please be specified if the packing, insurance and Taxes etc. will be inclusive or extra of the prices quoted.
5. Please quote delivery period also. It should be less than 12 weeks from the date of supply order.
6. Catalogue should be sent along with supply.
7. Materials should confirm to safety specifications as mentioned in “Section V” for various items.
8. Only best quality should be quoted. The quotation for advance payment will not be accepted.
9. All legal disputes will be subject to Kolkata Jurisdiction and will be interpreted under Indian Laws.
10. The Director, NIPER-Kolkata reserves to himself the right to reject any or all quotations without assigning any reasons.
11. No advance payment will be made. Payment will be released after satisfactory receipt of goods/ material, demonstration/ installation.
12. The payment schedule will be as: Bills complete in all respect, verified and recommended by the department for payment, received in Accounts Branch upto 10<sup>th</sup> of the month will be cleared by 21<sup>st</sup> of the month & bills received upto 25<sup>th</sup> will be cleared by 7<sup>th</sup> of next month.
13. The penalty will be imposed as deemed fit by the Institute, after the expiry of delivery period, mentioned in the purchase order.
14. **All the rates will be FOR, at site NIPER-Kolkata, Chunilal Bhawan, Maniktala Main Road, Kolkata (West Bengal)-700054.**
15. The NIPER-Kolkata being an Institute of National Importance , discounts as applicable to Research Institute/Educational Institutes may be provided in the quotation. **The Institute holds DSIR customs duty and excise duty exemption certificate as per govt. Notification no. 51/96 customs dated: 23.07.1996 and central excise duty exemption in terms of govt. Notification no. 10/97 – central excise dated: 01.03.1997 as amended from time to time.**
16. The bidders shall not be allowed to change, alter or modify the bids after expiry of the deadlines for the receipts of bids.
17. The firm is entirely responsible for any damage or losses occurred to the material in the transit. The firm will lodge all complaints regarding the damage occurred in the transit and shall bear all expenses.
18. In a tender, either Indian agent on behalf of the Principal/OEM or Principal/OEM itself can bid but both cannot bid simultaneously for the same tender for the same item/ product.
19. If an agent bids on behalf of the Principal/OEM, the same agent shall not bid on behalf of another Principal/OEM in the same tender for the same item/ product.
20. Bidder is not permitted to alter/modify their bids after the expiry of the deadline for receipt of the bid.
21. Situation in which bid security will stand forfeited is if a bidder withdraws its bid during the period of bid validity specified by the bidder on the bid form, and in case of successful bidder,

if the bidder fails to supply the equipment or to furnish performance security in accordance with the tender.

22. Bids received after the due date will not be considered.
23. The tenderer is required to bring their own testing and measurement instruments which are required for the installation, commissioning and testing. These can be taken back after completion of the process.
24. If price is quoted in foreign currency, the rupee equivalent price must also be indicated.
25. In case, any free gift scheme / cash scheme is launched by the company same will be offered by the vender to NIPER-Kolkata free of cost.
26. Generally the bid offer will be received /opened on the day as specified in the schedule. If the scheduled date is declared as a holiday, then the tender shall be received / opened on the next working day at the same time.
27. The agency shall arrange to provide demo to the concerned lab staff regarding operation / maintenance of equipment free of cost.
28. Warranty period Should be at least one year and/or as mentioned in the specifications, of the equipment from installation /Demonstration in the department
29. **A technical compliance chart of the quoted product mentioning technical specifications of quoted product verses asked specifications is compulsory. Attach the compliance chart with technical bid separately for each quoted product.**
30. **Detailed technical literature of the item quoted must be attached to support the technical compliance.**
31. **Tender validity should be 04 months from the opening of tender.**

**All the terms and Conditions of this tender document are acceptable to me /us.**

Signature of Bidder

**SECTION-VII**

**Format for Technical Compliance**

**(Submit the Technical Compliance for each Equipment Separately with Technical Bid)**

S. No.	Items	Specification	Units	Compliance	Deviation
1					
2					
3					
4					
5					
6					
7					
8					
9					
10		As available on Schedule-V for each	1		

**Sample Compliance Chart**  
**(To be attached for each quoted product separately)**

S. No.	Items	Specification	Units	Compliance	Deviation
1	<b>Complete Gel Documentation System</b>	Must have versatile system to support wide range of applications - Fluorescent dye like SYBR green, SYBR safe, Western blotting, 2-D, 1-D, Dot Blotting, Nucleic acid detection, Densitometry with both fluorescent and colorimetric stains etc	1	Yes	-
		Should have true 12 bit CCD camera with image resolution greater than 4 megapixel		No	Image resolution 3 megapixel
		Should acquire image with automatic focus and iris adjustments at all zoom levels for all compatible applications		Yes	-
		Should have large trans-illuminator size capable of taking sample of size at least 28 X 36 cm		Yes	-
		It should have universal dark hood & should be upgradeable to chemiluminescence		Yes	-
		Camera should have motorized zoom lens with a fixed position of sample tray		Yes	-
		Should be supplied with compatible power back up for at least one hour, PC with minimum i5 processor, 4GB ram and original windows 10 operating system, software etc		No	RAM 3GB

Signature of Bidder