

This is a Request for Quote (RFQ) from domestic (India-based) vendors for the supply of a ESS-Thermal Chamber for Packaging and Systems Facility at CeNSE, IISc Bangalore.

Section 1 - Bid Schedule

1	Tender No	IISC-CeNSE-TC-01
2	Tender Date	July 8 th 2025
3	Item Description	Supply of Environmental Stress Screening Thermal Chamber at CeNSE, IISc Bangalore
4	Tender Type	Two bid system (i) Technical Bid (Part A) (ii) Commercial Bid (Part B)
5	Place of tender submission	Chairperson Office First Floor Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012
6	Last Date & Time for submission of tender	29th July 2025
7	For further clarification	Prof. Prosenjit Sen Centre for Nano Science and Engineering Indian Institute of Science, Bangalore 560012 Email: prosenjits@iisc.ac.in

Section 2 – Eligibility Criteria

Prequalification criteria:

1. The Bidder's firm should have existed for at least 3 years. Bidders should enclose a self-declaration.
2. The Bidder should belong to either Class-1 or Class-2 suppliers distinguished by their "local content" as defined by recent edits to GFR. **The bidder should include a local content declaration as per – Annexure 6.**
 - a) Class-1 supplier: Goods and services should have local content of equal to or more than 50%.
 - b) Class-2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.
3. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
4. The quotations should be on FOR-IISc Bangalore basis in INR only.
5. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
6. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.
7. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
8. The bidder should sign and submit the declaration for Acceptance of Terms and Conditions as per -Annexure 4.
9. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect must be given as per Annexure 3.

Section 3 – Terms and Conditions

A) Submission of Tender:

1. All documentation in the tender should be in English.
2. Tenders should be submitted in two envelopes (a two-bid system).
 - a. Technical Bid (Part-A) – Technical bid consisting of all technical details and checklist for conformance to technical specifications.

The technical proposal should contain a technical compliance table with 5 columns.

- I. The first column must list the technical requirements in the order that they are given in the technical requirement below.
 - II. The second column should provide instrument specifications against the requirement. Please provide quantitative responses wherever possible.
 - III. The third column should describe your compliance with a “Yes” or “No” only. Ensure that the entries in column 2 and column 3 are consistent.
 - IV. The fourth column should state the reasons/explanations/context for deviations, if any.
 - V. The fifth column can contain additional remarks from the OEM. You can use this opportunity to highlight technical features, qualify responses of previous columns, provide additional details, compare your solution with that of your competitors, or provide details as requested in the technical requirements table below.
 - b. Commercial Bid (Part-B) – Indicating item-wise price for the items mentioned in the technical bid, **as per the format of quotation provided in the tender**, and other commercial terms and conditions.
3. The technical bid and price bid should be placed in **separate sealed covers**, superscribing on both the envelopes the tender description, tender no., and the due date. Both these sealed covers are to be placed in a bigger cover which should also be sealed and duly superscripted with the Tender No, Tender Description & Due Date.
4. The SEALED COVER should reach the Chairperson Office, Centre for Nanoscience and Engineering, Indian Institute of Science, Bangalore – 560012, India, on or before the due date mentioned in the tender notice. If the due date is a holiday, the tender will be accepted on the next working day. If the quotation cover is not sealed, it will be rejected.
5. All queries are to be addressed to the person identified in “Section 1 – Bid Schedule” of the tender notice.
6. GST/other taxes, levies, etc., should be indicated separately. The BIDDER should mention GST Registration and PAN in the tender document.
7. If the price is not quoted in the Commercial Bid as per the format provided in the tender document, the bid is liable to be rejected.

8. The purchase committee reserves the right to accept or reject any bid and annul the bidding process and reject all bids at any time prior to the award of the contract without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders.
9. Incomplete bids will be summarily rejected.

B) Cancellation of Tender:

Notwithstanding anything specified in this tender document, the IISc purchase committee, in its sole discretion, unconditionally and without having to assign any reason, reserves the rights:

- a. To accept OR reject the lowest tender, any other tender or all the tenders.
- b. To accept any tender in whole or in part.
- c. To reject the tender, offer not confirming the tender terms.

C) Validity of the Offer:

The offer shall be valid 90 Days from the commercial bid's opening date.

D) Evaluation of Offer:

1. The technical bid (Part A) will be opened first and evaluated.
2. Bidders meeting the required eligibility criteria in Section 2 of this document shall only be considered for Commercial Bid (Part B) opening. Further, agencies not furnishing the documentary evidence as required will not be considered.
3. Pre-qualification of the bidders shall not imply final acceptance of the Commercial Bid. The agency may be rejected at any point during technical evaluation or during commercial evaluation. The decision in regard to acceptance and / or rejection of any offer in part or full shall be the sole discretion of IISc Bangalore, and the decision in this regard shall be binding on the bidders.
4. The award of the contract will be subject to acceptance of the terms and conditions stated in this tender.
5. Any offer which deviates from the vital conditions (as illustrated below) of the tender is liable to be rejected:
 - a. Non-submission of complete offers.
 - b. Receipt of bids after the due date and time or by email/fax (unless specified otherwise).

- c. Receipt of bids in open conditions.
- 6. In case any BIDDER is silent on any clauses mentioned in these tender documents, IISc Bangalore shall construe that the BIDDER has accepted the clauses as of the tender, and no further claim will be entertained.
- 7. No revision of the terms and conditions quoted in the offer will be entertained after the last date and time fixed for receipt of tenders.
- 8. Lowest bid will be calculated based on the total price of all items tendered for the basic equipment along with accessories selected for installation, operation, preprocessing and post-processing, optional items, recommended spares, warranty, and annual maintenance contract. The purchase committee is looking for the most cost-effective solution for obtaining a new tool. Vendors are encouraged to propose all avenues, including but not limited to buy back of the existing tool, turnkey upgrade of existing tool or purchase of a new tool.

E) Pre-requisites:

The bidder will provide the prerequisite installation requirement of the equipment along with the technical bid.

F) Warranty:

The complete system is to be under warranty for a minimum period of 3 years (year-wise breakup value should be shown in the commercial bid). The vendor should include the cost of any spares expected to be needed during the warranty period, including electronics, subcomponents, and software. If the instrument is defective, it has to be replaced or rectified at the bidder's cost within 30 days from receipt of written communications from IISc, Bangalore. If there is any delay in replacement or rectification, the warranty period should be extended.

G) Annual Maintenance Contract:

An annual maintenance contract for at least 3 years post-warranty should be provided as an optional item upon completion of the warranty period.

The AMC costs will not be considered for classifying the vendor's domestic nature (class 1 or class 2) (see eligibility criteria in section 2).

H) SPARES:

Vendors must provide a detailed list of spares and a user manual with a detailed Bill of Materials for all Parts. It should include the Spares Column with the Manufacturer part Number, Qty, and availability of stock after 3 Years.

I) Purchase Order:

The quantity of the items in the tender is only indicative. IISc, Bangalore reserves the right to increase /decrease the quantity of the items depending on the requirement.

If the product and service quality is not found satisfactory, IISc, Bangalore reserves the right to cancel or amend the contract.

J) Delivery, Installation, and Training:

The bidder shall provide the lead time to delivery, installation, and made functional at IISc, Bangalore, from the date of receipt of the purchase order. The system should be delivered, installed, and made functional within 120 days from receipt of purchase order. The supply of the items will be considered as effected only on satisfactory installation and inspection of the system and the inspection of all the items and features/capabilities tested by the IISc, Bangalore. **For acceptance, the vendor must demonstrate the technical specifications mentioned in the tender.** After successful installation and inspection, the date of taking over of the entire system by the IISc, Bangalore, shall be taken as the start of the warranty period. **No partial shipment is allowed.**

The bidder should also arrange for technical training for the local facility technologists and users.

K) Payment Terms:

100% payments (except AMC) will be released after completion delivery, satisfactory installation, and qualification, subject to TDS as per rules. AMC cost (if ordered after completion of the warranty period) will be released on a half-yearly basis at the end of each six months, subject to satisfactory services. The price basis must be on FOR-IISc Bangalore basis only. As per GFR no advance payment can be made to domestic vendors unless an equal amount of bank guarantee is provided.

L) Statutory Variation:

Any statutory increase in the taxes and duties subsequent to the bidder's offer, if it takes place within the original contractual delivery date, will be borne by IISc, Bangalore, subject to the claim being supported by documentary evidence. However, if any decrease takes place, the advantage will have to be passed on to IISc, Bangalore.

M) Disputes and Jurisdiction:

Any legal disputes arising from any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located in Bangalore, India.

N) General:

1. All amendments, time extensions, clarifications, etc., within the tender's submission period will be communicated electronically. No extension of the bid due date/time shall be considered due to delay in receipt of any document(s) by mail.
2. The bidder may furnish any additional information which is necessary to establish capabilities to complete the envisaged work successfully. It is, however, advised not to

furnish superfluous information.

3. With prior intimation, the bidder may visit the installation site before tender submission.
4. Any information furnished by the bidder found to be incorrect, immediately or later, would render the bidder liable to be debarred from tendering/taking up work in IISc, Bangalore.

Section 4 – Technical Specifications

4.1) Thermal Chamber Overall Specifications

Serial	Technical Specs Description	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
1	Chamber Capacity in Litres	110 L to 250L		
2	Temperature Range Max to Min °C	-70+180°C		
3	Temperature Ramp Up Rate °C/Minute	15°		
4	Temperature Ramp Down Rate °C/Minute	15°		
5	Programmable rate of change of temp from 1°C/minute to 15°C/minute	Yes		
6	Temperature gradient (∇T)	±1°C or less		
7	Temperature Fluctuation during run time	±0.5°C or less		
8	Temperature Deviation in the chamber	1.0°C or less		
9	Temperature Uniformity with no load	±1.0°C or less		
10	Humidity Range	10%RH-98%RH		
11	Humidity testing	10% to 98% RH in the temperature range +10 °C to 95 °C		
12	Humidity Fluctuation in during run time	± 3 % RH or less		
13	Humidity Deviation	A)>75%RH:≤+2,-3%RH, B)<75%RH:≤±5%RH.		
14	Temperature Uniformity with no load	±2 % RH or less		
14a	Allowable Heat Load at 20°C to Check Temp Performance	3 to 6 Kw		
14b	Allowable Heat Load + 25°C to 95°C/95%RH to Check Humidity Performance	250 to 450W		

4.2)Thermal Chamber Control Hardware and Software Specifications

Serial	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
15	Control Hardware and Software		
15a	HMI/PLC/Euro Therm Programmer or Mention the Hardware and Display used		
15b	Memory Card: 64-bit CPU, 1.6 GHz		
15c	CPU: 64-bit RISC quad core - 1.6GHz, RAM 4GB		
15d	10.1" Capacitive Touchscreen, TFT with program logic controller		
15e	Screen Lock / Auto sleep mode & status onscreen in lock mode.		
15f	Program edit / view program profile in run mode Save program up to 50.		
15g	Door-integrated Control Pad for display of actual values for temperature/RH		
15h	Power resume/Auto restart feature		
15i	Modification and monitoring of operating state		
15j	Running Status of Program No. Segment No. Remaining time and remaining loops.		
15k	Graph/online trend with time/graph zoom option		
15l	Temperature/humidity range selection/enable/disable option		
15m	Alarm History on separate window.		
15n	Fault diagnostics/System error display on main page.		
15o	Calibration offset & touch Calibration features.		
15p	Online connectivity for service & software up gradation.		
15q	USB/RS485/RS232 Ports for connectivity		
15r	Ethernet port for Remote access to operate the chamber through IP Address		
15s	Data import to PC on excel format.		
15t	Data log interval settings in Seconds		
15u	User Friendly UI Software(Windows10/11 compatible) with remote PC Paramters settings and control the Thermal Chamber		

4.3)Thermal Chamber Mechanical Specifications

Serial	Description	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
16	Mech Specs			
16a	Internal Material of the chamber	18SWG 304 grade stainless steel or better with completely welded finish. No joints/sharp edges		
16b	External Material of the chamber	16SWG GI sheet or better with electrostatic powder coated finish.		
16c	Dual-side wiring for enhanced operability with thermally treated Silicone plugs	Yes		
16d	Port Left Size Dimensions Minimum	50mm		
16e	Port Right Size Dimensions Minimum	100mm		
16f	Number of Adjustable Shelves with Tray	3		
16g	Viewing Window	Suitable size viewing window provided with illumination & toughened glass filled with air, strip heater is to be provided to overcome condensation		
16h	Airflow System	Laminar Air flow with entire conditioned air circulates into the workspace to maintain uniform distribution of temperature		
16i	Cooling system (Refrigeration)	Water cooled condenser with cascade refrigeration provided with		
		Ozone friendly CFC free (R-404A/ R23/R449A) refrigerant.		
		Suitable Accessories & Fittings to be provided with details		
16j	Heating	Nichrome Strip wire heater		
16k	Humidifier	Sheathed Heater		
16l	Dehumidifier	Plate Fin Cooler		
16m	Water flow rate (+5C to 35C)	4K Litres to 5K Litres		
17	Utility Requirements	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
17a	Power Supply	The system should be compatible with 240±10V, 50 Hz single phase or 415±20V, 50 Hz 3 phase supplies. Typical Power ratings 50A-80A		

	Utility Requirements	Required Specifications	Compliance (Yes/No)	Comments/Remarks
17b	Cooling water supply pressure & Water Tank capacity	Specify		
17c	Max. water flow rate	Specify		
17d	Piping connection size	Specify		
17e	Operating cooling water temp. range	Specify		
17f	Tool footprint with weight	Specify		
17g	Cable & Connector	All details to be provided		
17h	Clean Room Compatability	Class 10K or better		

4.5) Thermal Chamber Accessories Specifications

18	Accessories Details	Required Specifications	Compliance (Yes/No)	Comments/Remarks
18a	Flat cable port rubber plug (Silicone sponge rubber)	As per cable port size - Each port 2 no		
18b	Specimen temperature measuring thermocouple	2 Nos		
18c	Specimen temperature input connector	2 Nos		
18d	ESD Plug	1 Nos		

4.6) Thermal Chamber Safety Specifications

19	Safety Features	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
19a	Explosion-proof	Pressure relief device		
19b	Explosion-proof	Chain		
19c	LAN/Ethernet	Networking		
19d	Overload Protection for	Motor, Compressor and any other Heating/Cooler System		
19e	High Pressure & Low pressure cut off switch	Refrigerant System with Pressure Gauge to indicate refrigerant volume		
19f	Any other Safety Features such as Annunciator, Status Tower Lamp	Details to be provided		
19g	Noise Levels	Not more than 65 dB(A)		
19h	Power Failure	Auto switching ON of the chamber after restoration of power in case of power failure		

4.7) Thermal Chamber Calibration/Standards compliance/Warranty Specifications

20	Calibration Details	Required Specifications	Compliance (Yes/No)	Comments/ Remarks
20a	Calibration shall be carried out for the entire range, at minimum 10 points spread across the range, for uniformity and stability. Also, the verification of chamber for low air velocity confirmation is to be carried out. This has to be done before the shipment of the unit to CeNSE-IISc	Calibration details to be provided		

	Calibration Details	Required Specifications	Compliance (Yes/No)	Comments/Remarks
20b	Calibration certificate shall be strictly in the name of consignee along with full address, model no. and serial no.	Yes		
20c	Validity of the calibration shall not be mentioned in the calibration certificate	Yes		
20d	Sample copy of applicable calibration certificate set, shall be attached along with the technical bid.	ISO/IEC 17025:2017 accredited or equivalent		
21	Performance Compliance	Required Specifications	Compliance (Yes/No)	Comments/Remarks
21a	Carry out steady state as well as cyclic temperature, humidity tests as per std. Data Need to be submitted	1 Cold test IEC 60068-2-1		
		2. Dry heat test IEC 60068-2-2		
		3. Damp heat steady state IEC 60068-2-78		
		4. Damp heat cyclic IEC 60068-2-30		
		5. Change of temperature IEC 60068-2-14		
22	Standards Compliance	Required Specifications	Compliance (Yes/No)	Comments/Remarks
22a	IEC & MIL STDS	Chamber to be compliant as per ISO 9000 & IEC 60068 and MIL - 883		
23	Safety Standards	ISO 12100, Safety of machinery IEC 60204-1, Low voltage EMC IEC 61000-6-2, 6-4		
24	Tool Qualification and Acceptance	List a set of acceptance tests for on-site (vendor) inspection and after installation at IISc.		
25	Shipping:	Cost of shipping up to IISc should be included in the commercial bid		
26	Installation, commissioning & Training	The supplier shall install & commission, also provide training at IISc & should be part of the cost in commercial bid		

27	Operation & Maintenance:	Operational and Maintenance Manuals with Spares detailed drawings are a must (hard copy & soft copy both)		
28	Online support:	System Online Support capability for online diagnostics from a remote location in case of tool problems free of cost		
29	Supply of spares & Maintenance parts for 10 years	Compliance to be provided and cost of Spares Separately in commercial bid		
30	References: Similar Equipment installed in India & Year	Reference of 3 companies with address and contact details to be provided		
31	Warranty	1 Year Free (cost to be part of the bid) with Additional 3 years terms and conditions to be provided separately in commercial bid		
32	AMC	3 Years Post Warranty terms and conditions to be provided separately in commercial bid		

Notes:-

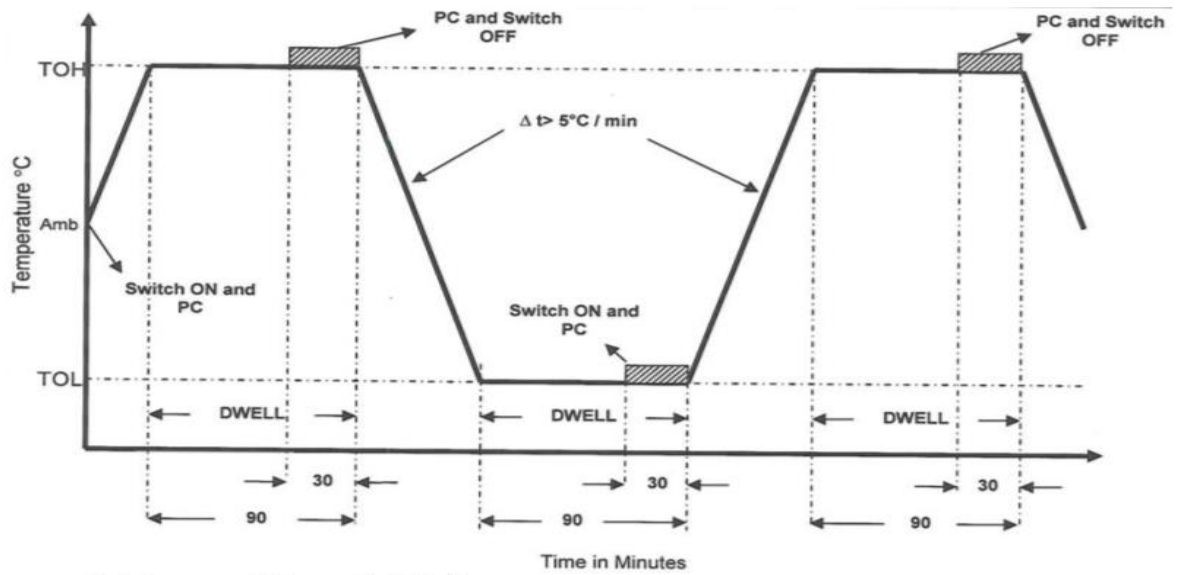
1) Compliance to be provided for each line item

2) Additional Remarks/Comments column to be filled as needed.

4.8) Acceptance Test

IISc will expect acceptance tests, post installation. These can be recorded in the presence of representatives of the OEM. Inability to pass these tests will be counted as a technical failure and breach of contract.

Sl. No	Required Specification	Compliance (Yes / No)	Remarks
1	Demonstration of Thermal Chamber meeting ramp rates and Performance compliance as in 21		
2	Test run as per below Graph in page 15, Figure1 and provide plots with excel data and time stamp along with this Technical bid.		



3 & 4. .report (Appendix 3 & 4).

TOH (Temp. Operational High)	: $65^{\circ}\text{C} \pm 2^{\circ}\text{C}$
TOL (Temp. Operational Low)	: $-40^{\circ}\text{C} \pm 2^{\circ}\text{C}$
Ambient Temperature	: $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$

Figure 1 :- Plot to be run for 3 cycles and Data to be provided with no load/empty chamber

Section 5- Technical Bid

The technical bid should furnish all requirements of the tender along with all annexures in this section and be submitted to

The Chairperson,
Attn: Prof. Prosenjit Sen
Centre for Nano Science and Engineering
Indian Institute of Science
Bangalore – 560012, India

Annexure-1:

Details of the Bidder

The bidder must provide the following mandatory information & attach supporting documents wherever mentioned:

Details of the Bidder

Sl. No	Items	Details
1.	Name of the Bidder	
2.	Nature of Bidder (Attach an attested copy of Certificate of Incorporation/ Partnership Deed)	
3.	Registration No/ Trade License, (attach attested copy)	
4.	Registered Office Address	
5.	Address for communication	
6.	Contact person- Name and Designation	
7.	Telephone No	
8.	Email ID	
9.	Website	
10.	PAN No. (attach copy)	
11.	GST No. (attach copy)	

Signature of the Bidder

Name
Designation, Seal

Date:

Annexure-2:

Declaration regarding experience

To,
The Chairperson,
Centre for Nanoscience and Engineering,
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXXXX

Dated: XXXXX

Dear Sir/Madam

I've carefully reviewed the Terms & Conditions in the above-referred tender. I hereby declare that my company/firm has -----years of experience in supplying and installing the proposed equipment.

(Signature of the Bidder)

Printed Name

Designation, Seal Date:

Annexure-3:

Declaration regarding track record

To,
The Chairperson,
Centre for Nano Science and Engineering
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXXXX
Dated: XXXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions in the above-referred tender. I hereby declare that my company/ firm is not currently debarred/blacklisted by any Government / Semi-Government organizations/institutions in India or abroad. I further certify that I'm a competent officer in my company/firm to make this declaration.

Or

I declare the following

Sl.No	Country in which the company is Debarred /blacklisted / case is Pending	Blacklisted/debarred by Government / Semi-Government/Organizations /Institutions	Reason	Since when and for how long

(NOTE: In case the company/firm was blacklisted previously, please provide the details regarding the period for which the company/firm was blacklisted and the reason/s for the same).

Yours faithfully
(Signature of the Bidder)

Name
Designation, Seal

Date:

Annexure – 4:

Declaration for acceptance of terms and conditions

To,
The Chairperson,
Centre for Nano Science and Engineering
Indian Institute of Science,
Bangalore – 560012, India

Ref: Tender No: XXXXXX
Dated: XXXX

Dear Sir/Madam,

I've carefully reviewed the Terms & Conditions mentioned in the above-referred tender document. I declare that all the provisions of this tender document are acceptable to my company. I further certify that I'm an authorized signatory of my company and am, therefore, competent to make this declaration.

Yours faithfully,

(Signature of the Bidder)

Name

Designation, Seal

Date:

Annexure – 5:

Details of items quoted:

- a. Company Name
- b. Product Name
- c. Part / Catalogue number
- d. Product description / main features
- e. Detailed technical specifications
- f. Remarks

Instructions to bidders:

1. Bidder should provide technical specifications of the quoted product/s in detail.
2. Bidder should attach product brochures along with the technical bid.
3. Bidders should clearly indicate compliance or non-compliance with the technical specifications provided in the tender document.

Section 6 – Commercial Bid

The commercial bid should be furnished with all requirements of the tender with supporting documents as mentioned:

Addressed to

The Chairperson,
Attn: Prof. Prosenjit Sen
Centre for Nano Science and Engineering Indian
Institute of Science
Bangalore – 560012, India

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1.	Essential items noted in the technical specification				
1.a	... (details of essential items)				
1.b	...				
2.	Optional items noted in the technical specification				
2.a	... (details of essential items)				
2.b	...				
3.	Accessories for operation and installation				
4.	All Consumables, spares and software to be supplied locally				
5.	Warranty (3 years)				
6.	AMC 3 years beyond warranty				

Any additional items such as Spares and Hardware/PCB'S/Other items Likely to going Obsolete after the next 3 Years

S.No	Description	Cat. Number	Quantity	Unit Price	Sub total
1					
2					

Section 7 – Checklist

(This should be enclosed with technical bid- Part A)

The following items must be checked before the Bid is submitted:

1. Sealed Envelope “A”: Technical Bid

1. Section 5- Technical Bid (each page signed by the authorized signatory and sealed) with the below annexures:
 - a. Annexure 1: Bidders details
 - b. Annexure 2: Declaration regarding experience
 - c. Annexure 3: Declaration regarding clean track record
 - d. Annexure 4: Declaration for acceptance of terms and conditions
 - e. Annexure 5: Details of items quoted
2. Copy of this tender document duly signed by the authorized signatory on every page and sealed.

2. Sealed Envelope “B”: Commercial Bid

Section 6: Commercial Bid

Your quotation must be submitted in two envelopes: **Technical Bid (Envelope A) and Commercial Bid (Envelope B)** superscribing on both the envelopes with, Tender description, Tender No. and due date and both of these in sealed covers and put in a bigger cover which should also be sealed and duly super scribed with Tender No., Tender description & Due Date.