



**NATIONAL INSTITUTE OF TECHNOLOGY
RAIPUR – 492 010, CHHATTISGARH**

**Advertised (Open) Tender Enquiry/ Limited Tender for
Lab Equipments Only**

Department: Biotechnology Department

Enquiry No: NITRR/Central Store/BT/OT/2014/9065

Date: 06/02/2014

Important Dates

To

Event	Date	Time
Last Date of submission of quotation	10/03/2014	Up to 03:00
Technical bid Opening date	10/03/2014	At 03:30
Price (financial) bid Opening	To be Informed to technically successful bidder by mail and phone.	

Dear Sir,

We intend to purchase the commodities specified in this document and invite quotations in accordance with the terms and conditions detailed in the bid document. If you are interested, kindly send your offer with prices and complete terms within the time mentioned above.

Please send your quotation to:

REGISTRAR
NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR
G. E. ROAD, RAIPUR – 492 010, CHHATTISGARH

Yours sincerely,

Registrar

National Institute of Technology,
Raipur

Enclosed:

- (1) Bid Document - Instruction to bidder - containing detail terms and conditions.
- (2) List of Equipment's/machines/commodity etc.- Annexure 1
- (3) Technical Specification – Annexure 2
- (4) Technical Compliance Format- Annexure 3
- (5) Price Bid Format in INR – Annexure 4
- (6) Price Bid Format in of imported items in currency other than INR -Annexure 5
- (7) Deviation statement form - Annexure 6
- (8) Bidder information & check list- Annexure 7

BID DOCUMENT

INSTRUCTION TO BIDDER

1. Please go through the enclosed “bid document” carefully for other bidding instructions.
2. **IMPORTANT NOTE:** Being a Two-Part Tender (techno-commercial and price bid), fax quotations will not be accepted. Please ensure your offers are received on or before tender due date and time. Bidder/ Tenderer are requested to download the tender documents from our website (www.nitr.ac.in) and please submit the Demand Draft of Rs. 1000/- towards Tender fee (in favor of Director NIT Raipur, Demand Draft should not be dated prior to the date of advertisement. Separate request letter and separate Demand Draft shall be sent for each tender document.) in a separate cover along with a covering letter duly marked on the cover "Tender fee in respect of Tender No". please note carefully that;
 - **Quotations received without tender fee will not be considered.**
 - No request for extension of the due tender date will be considered.
 - In the event any date indicated above is declared as holiday, the next working day at Institute shall be considered as the due date for receiving & opening of tenders.
 - The bids shall be opened on date and time as mentioned above. The bidders may send their authorized representatives to attend the bid opening, if they so desire.
 - Bids received after the deadline of receipt indicated above, shall not be taken in to consideration.
3. The bid should remain valid for a period of **180 days** from the date of opening. In case your offer has a different validity period that should be clearly mentioned in the quotation. Validity period may also be extended without change in bid prices ,if required on mutually agreed basis only.
4. The bids may be drop in the Tender Box kept in the office of Registrar, NIT Raipur in normal working day that is Monday to Friday except holidays (from 11 AM to 5 PM) of the Institute. Please do not hand over the quotation to any person by hand.
Speed post/Registered Post and Other Courier Services is not acceptable.
5. **Clarification of bidding documents:** If a prospective bidder requires any clarification in regard to the bidding documents, they may mail to asstreg.str@nitr.ac.in at least 15 days before the deadline for receipt of bids.

6. Amendment of Bidding Documents

- o Corrigendum, if issued any for the tender, shall form part of the Tender Document. Corrigendum will be posted on NIT RAIPUR website (www.nitr.ac.in). Bidders/Tenderers are requested to visit NIT RAIPUR website regularly and note the corrigendum / amendments to the tender without fail and submit the offer accordingly. NIT RAIPUR will not be responsible for ignorance of corrigendum.
 - o At any time prior to the deadline for submission of bids, the Institute may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder/Tenderer, modify the bidding documents by amendment. The same would also be hosted on the website of the Institute and all prospective bidders/tenderer are expected to surf the website before submitting their bids to take cognizance of the amendments. Bidder/Tenderer who has submitted bids before publishing the amendment may revise their bid incorporating the amendments before the last date of tender.
 - o In order to allow prospective Bidder/Tenderer's reasonable time in which to take the amendment into account in preparing their bids, the Institute, at its discretion, may extend the deadline for the submission of bids and host the changes on the website of the Institute.
7. **Excise Duty/Custom duty:** The NIT Raipur have Excise Duty/Custom duty exemption certificate.
8. **VAT/CST:** The Institute is not authorized to give C or D form. CST or VAT should be charged according to applicable rates.
9. **Entry Tax:** The State of Chhattisgarh may charges entry tax on all goods entering the State. Please include it in your quotation as a separate item. Entry Tax will be reimbursed on production of proof of payment.

10. Bid Security (BS)/(Earnest Money/ EMD)

- I. The Bidder/Tenderer shall furnish, as part of its bid, a bid security (BS) of **3 % of gross bid value** has to be submitted as Bid Security (Earnest money Deposit/ EMD).
- II. In the case of foreign bidders/tenderers, the BS shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders/tenderers; the BS shall be submitted by the manufacturer or their specifically authorized dealer/Bidder/Tenderer.
- III. The bid security shall be in Indian Rupees. The bid security shall be in one of the following forms at the Bidder/Tenderers' option:
 - (a) A Banker's cheque or demand draft in favour of the Director, NIT Raipur.
 - (b) FDR in favour of the Director, NIT Raipur

- IV. The bid security should be submitted in its original form. Copies shall not be accepted.
- V. *Any bid without EMD or bid not secured in accordance with above will be rejected by the Institute as non- responsive.*
- VI. The bid security of unsuccessful Bidder/Tenderer will be discharged / returned as promptly as possible but not later than 30 days after the expiration of the period of bid validity or placement of order whichever is later.
- VII. The successful Bidder/Tenderer's bid security will be discharged upon the Bidder/Tenderer furnishing the performance security.
- VIII. The firms registered with DGS&D & NSIC, if any, are exempted from payment of BS provided such registration includes the item they are offering which are manufactured by them and not for selling products manufactured by other companies.**
- IX. The bid security may be forfeited:**
 - (a) If a Bidder/Tenderer withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder/Tenderer on the Bid Form; or

11. Sealing and Marking of Bids:

In a two bid system All Bidders/Tenderers are requested to follow carefully the following instructions before preparing their offer.

Part I: Technical & Commercial Bid

Part - (a) Technical

- i. This part should contain detailed specifications of the items quoted by you along with technical literature and leaflets.
- ii. A compliance statement showing the compliance of the item quoted by you with that of item tendered by us should be prepared and enclosed to this.
- iii. Any other information called for in the tender related technical and commercial specifications can also come in this part.
- iv. Prices should NOT be indicated in this cover.

Part - (b) Commercial terms: (WITHOUT PRICE)

- i. The commercial terms applicable for the items quoted by you should be indicated in this part.
- ii. If any compliance statement is called for the commercial terms/contractual terms and conditions, the same is to be attached in this part.
- iii. ***Prices should NOT be indicated in this part. However a copy of the price bid (without prices) must be enclosed in this part to enable to understand whether all the items required to be quoted by you have been quoted in the price bid.***
- iv. The Commercial terms such as delivery terms, delivery period, payment terms, Warranty, validity of the offer, installation & commissioning, duties and taxes etc., shall come into this.

- v. The required EMD should be enclosed.
- vi. The Tenderer/ bidder need to submit the following certificates along with the Tender Documents to confirm their eligibility in this part :
 - Proof of establishment of Firms/shop/business/ manufacturing unit etc. and Dealership certificate from the principals etc.
 - Proof of registration with any other central government organization (if any)
 - Photocopies of purchase orders received from any central govt. organization to the firm (if any).
 - The Sales Tax/Commercial Tax/Service tax certificate should be enclosed
 - The bidder should enclosed proof of turnover by way of Audited Balance Sheet/Auditor's certificate, if required.
 - The bidder should Photocopy of PAN card issued un the name of the bidder's firm.

Note:

- Technical Specifications and terms & conditions as above should be very clearly reflected item-wise with reference to the items called for in the tender.
- Please note that the PRICE SHOULD NOT BE indicated in this part.
- Technical and Commercial part as described above shall be prepared and put it in a sealed cover.

Part II: Price Bid

The prices applicable for the items, item-wise in response to the tender shall come into this part in the prescribed format only. ***Bid will be rejected if rates are not quoted in the prescribed format.***

- i. Tenderer shall indicate very clearly item-wise prices with reference to their technical offer.
- ii. Price Bid prepared as above shall be enveloped and marked as follows:

The Technical & Commercial envelope (Part I) and Price cover (Part II) prepared as above along with 'Tender fee' which should be inserted in another envelope and marked as tender fee:

All envelop should be addressed to Registrar NIT RAIPUR and top of all envelop should be super scribed with (Tender No/ Department and due date of opening.). Part I: TECHNICAL BID with EMD & COMMERCIAL BID, Part II: PRICE BID should also be mentioned on respective envelop.

- 12. The bidders should quote their offer / rates in clear terms without ambiguity.
- 13. The rates should be quoted both in figures and words and legibly written without any over-writings. In case of any correction, the same must be attested by the bidder with full signature. However, no over-writing is permissible. Manufacturer's price-list, where applicable, should be submitted along with the bid.

14. In case of any discrepancy between the rates in figures and that in words, the rate in words will be accepted as correct.
15. Each bidder shall submit only one bid. A bidder, who submits more than one bid, shall be disqualified and considered non-responsive.
16. The bidder has to sign in full at all pages of the bidding document.

17. Bid Prices

- (i) The Bidder /Tenderer shall indicate **unit prices in the prescribed format only**,
 - (ii) Prices indicated on the price-schedule form shall be entered separately in the following manner:
 - (a) **For Goods being offered from India/ abroad in INR**
 - i. The price of the goods quoted should be FOR NIT RAIPUR inclusive of all taxes(Excise duty, VAT/ST, etc), charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the price schedule form, installation, commissioning, training charges etc , if any. (**Annexure V**)
 - (b) **For Goods being offered from abroad in currency other than INR**
 - i. The price of the goods, quoted on FCA (named place delivery abroad) or FOB (named port of shipment), as specified in the price schedule form. The price should be FOR NIT RAIPUR inclusive of all taxes, charges for insurance and transportation of the goods, agency commission, installation, commissioning, training charges etc if any. (**Annexure VI**)
 - ii. The terms FOB, FCA, CIF, CIP etc. shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.
 - iii. Prices quoted by the Bidder/Tenderer shall be fixed during the Bidder/Tenderer's performance of the Contract and not subject to variation on any account.
18. Conditional discount, if any, offered by the bidder shall not be considered at the time of evaluation.

19. Responsiveness of Bids

- (i) Prior to the detailed evaluation, the Institute will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
 - (b) limits in any substantial way, inconsistent with the Bidding Documents, the Institute's rights or the Bidder/Tenderer's obligations under the Contract; or
 - (c) if rectified, would unfairly affect the competitive position of other bidders/tenderers presenting substantially responsive bids.
- (ii) The Institutes' determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.
- (i) If a bid is not substantially responsive, it will be rejected by the Institute and will not subsequently be made responsive by the Bidder/Tenderer by correction of the material deviation, reservation or omission.

20. Evaluation and comparison of bids

- (i) The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.
- (ii) To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology shall be permitted.
- (iii) The bids shall be evaluated on the following basis which shall be arrived as under:

For goods being offered from India.

Goods price will be calculated FOR NIT Raipur. Lowest bid (L1) will be decided by the price of the goods quoted should be FOR NIT RAIPUR inclusive of all taxes (Excise duty, VAT/ST, etc), charges for inland transportation, installation, commissioning, training charges, insurance and other local services required if any for delivering the goods at the desired destination as specified in the price schedule Price Bid format

For goods being offered from Abroad

- (i) In case of goods being offered from abroad, Lowest bid (L1) will be decided based on total cost at NIT Raipur, that include basic price of goods, freight and Insurance up to Indian Airport/port (CIF/CIP value up to Indian airport/port), custom duty and other taxes as applicable etc., Inland transportation and insurance up to NIT Raipur, packaging, forwarding, agent commission for custom clearance and installation, commissioning and training charges if any.
- (ii) **Conversion to Single Currency:** To facilitate evaluation and comparison, Bids quoted in foreign currency will be converted into Indian Rupees at the selling exchange rate established by Reserve Bank of India on its website, on the date of price bid opening.

(iii) In case charges for packing, forwarding, transportation inside India, custom clearance charges or other incidental charges are quoted extra in addition to the quoted rates, the amount thereof must be specified. Packing, forwarding, freight, entry tax etc., when quotes separately are reimbursable at actuals after production of original receipts/invoices. If external agencies are employed, their receipts must be enclosed with the invoice.

(iv) *If vender wishes, he/they may alternatively, quote price of imported items in Indian rupees. In this case item may be treated as offered from India. Payment will be released accordingly.*

Note: *Where there is no mention of packing, forwarding, freight, transportation, insurance charges, taxes etc. such offers shall be REJECTED as incomplete.*

21. Clearance and delivery

On arrival of shipment/consignment, the supplier is required to arrange custom clearance and transportation of the consignment up to NIT RAIPUR premises. The Tenderer/ bidder will do all types of clearance work and **formalities to deliver/provide the equipment at the site of installation. The expenses incurred will be reimbursed on actual basis not exceeding the quoted amount.** Institute will provide all types of documentary support including Customs Duty exemption certificate. The custom duty, demurrage (in case of delay in release of custom duty to the custom department by NIT Raipur) and government taxes/levies (if any) will be paid extra by the buyer after as per term of payment. Please note that the State of Chhattisgarh may charge entry tax on all goods entering the State. This may be included in your quotation as a separate item. Entry Tax will be reimbursed on production of proof of payment. **Principals will themselves have to procure any requisite permission from the Govt. of country of origin of equipment.**

22. Agency Commission/other charges

Agency commission, if any, should be clearly mentioned by the Bidder/tenderer and will be paid in Indian Currency. Please note that actual reimbursement will not exceed the quoted amount in any circumstances.

23. The Institute reserves right to conduct pre-dispatch inspection of goods and the vender must facilitate it at NIT Raipur's cost for pre-dispatch inspection.

24. **Warranty Period:** The warranty period should be minimum **1 year** with spares or as mentioned in technical specifications (whichever is higher) from the date of installation with satisfactory performance as per specifications. For standard items which carry warranty of more than one year, standard warranty shall be applicable.

25. **Terms of Payment:** The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:

(i) **Payment for Goods and Services offered from India:**

Payment for Goods and Services supplied from within India shall normally be made in Indian Rupees, as follows: 100% payment will be made in account payee cheque or Draft/ online Transfer using RTGS to the Supplier normally within thirty (30) days after the successful installation and commissioning of equipment's subject to submission of performance security, if any.

(ii) **Payment for Goods and services offered from abroad:**

Payment of foreign currency portion shall normally be made in the currency of contract in the following manner:

a) **On Shipment:** Ninety (90) percent of the Contract Price of the Goods shipped shall be paid through irrevocable letter of credit (L/C) opened in favor of the Supplier in a bank in its country, upon submission of following documents specified as below:

Within 24 hours of dispatch, the supplier shall notify the purchaser the complete details of dispatch and also supply following documents by Registered Post/ courier and copies thereof by FAX.

- i. Two copies of supplier's Invoice giving full details of the goods including quantity, value, etc.;
- ii. Packing list;
- iii. Certificate of country of origin;
- iv. Manufacturer's guarantee and Inspection certificate/test report;
- v. Inspection certificate issued by the Purchaser's Inspector, if any.
- vi. Insurance Certificate, if required under the contract;
- vii. Name of the Vessel/Carrier;
- viii. Bill of Lading/Airway Bill;
- ix. Port of Loading;
Date of Shipment;
- x. Port of Discharge & expected date of arrival of goods and
- xi. H S code of classification of goods.
- xii. Any other document(s) as and when required in terms of the contract.

Note:

1. The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)
2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.

b) **On Acceptance:** Ten (10) percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods and successful installation & commissioning upon submission of claim supported by the

acceptance certificate issued by the Purchaser along with the Performance security, if any.

- The L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. If L/C is requested to be extended/ reinstated for reasons not attributable to the purchaser, the charges thereof would be to the suppliers' account. All bank charges in India to the account of the opener and all bank charges outside India to the account of the beneficiary. Payment of local currency portion shall be made in Indian Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed. The L/C for 100% value of the contract shall be established after deducting the agency commission payable, if any to the Indian agent from the CIF/CIP value.

26. **Performance Security (PS):** The successful bidder has to furnish "**Performance Security of 10% of the ordered value in Indian Rupee**", in the form of Account Payee Demand Draft, / Fixes deposit and/or unconditional Bank guarantee encashable on demand from the Director, NIT, Raipur, from a nationalized Bank with validity period of sixty (60) days beyond the date of completion of all contractual obligations of supplier including guarantee/ warranty obligations. The Performance Security is to be furnished in favor of the Director, National Institute of Technology, Raipur, within ten days of intimation, failing which his bid security will be forfeited.

The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations.

27. **Delivery period:** Delivery should be made within **150 days** from the date of order of placement of goods offered from India or opening of the LC in case of goods offered from abroad.
28. **The Insurance** shall be for an amount equal to 110% of the CIF or CIP value of the contract from within "warehouse to warehouse/installation site (NIT Raipur)" on "all risk basis" including strikes, riots and civil commotion.
29. **Delayed delivery:** Maximum one month extension in delivery period may be given on the receipt of written request of the successful vendor; however liquidated damage at the rate of 5% per month or part thereof will be recovered from the firm of the value of undelivered goods. Request for extension in delivery period should be made before the last date of supply as mentioned in Purchase Order.
- Non delivery beyond extended period:** If the Tenderer fails to execute the order within the delivery period as mentioned above the order will be cancelled and EMD will be forfeited by the institute.

30. **Installation time:** The Company must install the equipment within a period of two months from the date of delivery of the equipment at NIT Raipur failing which order will be cancelled and EMD will be forfeited. However, necessary requirement for installation of goods/equipment will be provided by institute.

31. **Copy Right:** The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

32. Insurance:

- a. Should the purchaser elect to buy on CIF/CIP basis, the Goods supplied under the Contract shall be fully insured in Indian Rupees against any loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
- b. Where delivery of the goods is required by the purchaser on CIF or CIP basis the supplier shall arrange and pay for Cargo Insurance, naming the purchaser as beneficiary, initiate & pursue claims till settlement, on the event of any loss or damage.
- c. With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent, if any, shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after customs clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.

33. **Right to use Defective Goods:** If after delivery, acceptance, installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

34. **Site preparation and installation:** The Purchaser is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications defined by the Supplier. The Purchase will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the

installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchaser's site immediately after notification of Award / Purchase Order / Agreement.

37. Force Majeure:

- (i) Notwithstanding the Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- (ii) For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.
- (iii) If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- (iv) If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.

38. Defective Equipment:

- (i) If any of the equipment supplied by the Tenderer is found to be substandard, refurbished, unmerchantable or not in accordance with the description /specification or otherwise faulty, the institute will have the right to reject the equipment or its part. The prices of such equipment shall be refunded by the Tenderer with 18% interest if such payments for such equipment have already been made to him.
- (ii) All damaged or unapproved goods shall be returned at suppliers cost and risk and the incidental expenses incurred thereon shall be recovered from the supplier. Defective part in equipment, if found before installation and/or during warranty period, shall be replaced within 45 days on receipt of the intimation from this office at the cost and risk of supplier including all other charges.

39. Any disputes arising out of this enquiry shall be dealt in the Raipur jurisdiction.

40. Bidder has to sign all the pages of this tender and enclose it with the bid.

Registrar
NIT-Raipur

List of Annexure

1. List of Equipments – Annexure 1
2. Technical Specification of equipments/goods – Annexure 2
3. Technical Compliance of the bidder with reference to the 'Specification of Equipments :Annexure 3
4. Price Schedule for goods being offered from India - Annexure 4
5. Price Schedule for goods being offered from Abroad. - Annexure 5
6. Deviation statement form - Annexure 6
7. Bidder information & check list – Annexure 7

Annexure 1

List Of Equipments To Be Procured Under Tender

S. No	NAME OF EQUIPMENT(S)	QUANTITY
1	BIO SAFETY CABINET CLASS 2 A II WITH CULTURE CABIN	01
2	LABORATORY FERMENTER	01
3	LYOPHILIZER	01
4	SONICATOR	01
5	1-D & 2-D GEL ELECTROPHORESIS UNIT WITH POWER PACK	01
6	GEL DOC SYSTEM	01
7	ORBITAL INCUBATOR SHAKER	01
8	TRINOCULAR UPRIGHT MICROSCOPE OF TRANSMITTED LIGHT WITH BRIGHT FIELD, DARK FIELD & PHASE CONTRAST TECHNIQUE	01
9	BINOCULAR UPRIGHT MICROSCOPE OF TRANSMITTED LIGHT WITH BRIGHT FIELD, DARK FIELD & PHASE CONTRAST TECHNIQUE	01
10	UV TRANSILLUMINATOR	01
11	TISSUE HOMOGENIZER	01
12	AUTOCLAVE	01
13	HIGH SPEED REFRIGERATED TABLE TOP CENTRIFUGE	01

Annexure 2

SPECIFICATIONS OF LAB ITEMS DEPT. OF BIOTECHNOLOGY, NIT RAIPUR

1. BIO SAFETY CABINET CLASS 2 A II WITH CULTURE CABIN

A. Biosafety Cabinet Class 2A II

General Specification:

- 30% exhaust and 70% recycled ventilation
- Work area surrounded by negative pressure, double wall plenums for protection
- Supply and exhaust 99.99% efficient ULPA filters (0.1-0.2µm)
- Self-adjusting motor technology
- Microprocessor with filter clogging automatic compensation to ensure a precise volume of air as required
- Laminated safety glass to provide protection from explosion, breakage and UV
- Window interlock to prevent the UV lamp operation with programmable timer.
- Timed UV light option to reduce risk of sample contamination and lower bulb replacement cost
- Electronic security lock that requires code to operate the cabinet
- Ergonomically angled window sloped at 10° for better comfort
- 304 stainless steel interior and removable, seamless surface with lift out knobs
- Should be equipped with 3 independent openings for water, vacuum and gas tap, and 2 water-proof power sockets.
- Adjustable stands available with manual adjustment for convenient working positions
- Air Velocity from the supply filter should be 55 to 65 FPM with no single point outside the 20% of average range measured in a horizontal plane defined by 4 inches (102 mm) above the bottom edge of window.
- Fluorescent lighting should be mounted externally providing more than 1000 lux on the work surface. The electronic ballast should be provided with automatic reset
- Should have ultraviolet Germicidal Lights, fault Interpreter for Electrical Devices, Biological Air Sampler, Service Valves (Remote), Additional Valves for air/gas, Alarm Systems
- Electronic Exhaust Interlocking Mechanism
- Additional Arm rest.

- Castor Wheels with brake system for easy movement in laboratory

Certifications and documentation

- System should meet any one of the performance requirements of NSF/ANSI 49/EU/EN 12469.
- The cabinet shall be approved for hydrogen peroxide vapour, formaldehyde decontamination and other fumigation protocol.

Technical Specification:

Particulars	Features
Operating Temperature (°C)	10-50
Operating Relative Humidity (RH)	≤95%(25°C)
Atmospheric Pressure (Pa)	80-105
Collection Efficiency of Main Filter (%)	≥99.999(Particle of 0.1-0.2μm)
Collection Efficiency of Exhaust Filter (%)	≥99.999(Particle of 0.3μm)
Average Air Inflow Velocity (m/s)	0.53 ± 0.025
Average Air Downflow Velocity (m/s)	0.25-0.5
Downflow Velocity Control Precision	0.35 ± 0.025
Velocity Resolving Power (m/s)	0.1
Differential Pressure Indicating Range (Pa)	0-500
Differential Pressure Indicating Precision	±1%
Constant Negative Pressure in the Workroom (Pa)	>120
Noise Pressure(dB)(A)	<67
Vibration Peak Mesial Magnitude	≤5
Illumination Level (Lux)	≥1000
Control System	Microprocessor
Filter Performance (HEPA)	>0.3 μm at 99.999% output air quality class
Filter Performance (ULPA)	>0.1 0 -.2 μm at 99.999% output air quality class
Filter Life Display	LED/LCD Strip Display
Main Filter	Motorized HEPA/ULPA
Exhaust Filter	Motorized HEPA/ULPA

B. Culture Cabin specification:

- Eligible manufacturers/authorized distributors/dealers for establishment of Cell Culture Facility of approximate size of 10 ft x 10 ft x 10 ft through aluminium & glass partitioning of existing Biotech lab space is required. Only those companies that are ISO9001:2008 certified and have established such facilities supported by proper documentary evidence should apply.
- Dust Free Cabin with suitable Air curtain at the door, plastic/rubber floor mat and other facility as per requirement of culture room should be installed with the biosafety cabinet.
- Cell cultures room should be well-controlled temperature, humidity, air circulation, and light quality and duration.
- The bidder will have to quote both items [biosafety cabinet (A) and culture cabin (B)] together. Partial quotes will not be accepted.

2. LABORATORY FERMENTER

The system should be a compact autoclavable fermentor design for growth of bacteria, yeast fungi, animal and plant cell. Batch, Fedbatch and continuous modes operation should be possible. Controllers should be capable of running either fermentation. The system should be supplied with at least 3 fixed speed peristaltic pumps. The system should use Platinum RTD probe for temperature sensing. The system should use PID Control for heating and cooling. The system agitation should be through magnetically coupled drive. The agitation range and control should be from 50 - 1,000 RPM. Instrument should be CE certified.

TECHNICAL SPECIFICATIONS:

Vessel	: SS316L or Borosilicate
Removable Baffles	: Stainless steel 304
Total volume	: 3 Liters $\pm$ 0.5 Liters
Working volume	: Minimum working Volume 75% of Total Volume

Working conditions:

Max. Working pressure (vessel)	: 3 bar
Maximum working temperature of Vessel	: 150°C
Fermentation temperature	: 5°C to 80°C

Material of Construction:

All parts in contact with the product	: SS 316L
Vessel head plate	: SS 316L
'O' Rings	: Silicone

1.1. FERMENTER PORTS / CONNECTIONS:

The top plate of vessel should be provided with following ports:

- 1No. Antifoam Inlet port
- 1No. Inoculum port
- 1No. Nutrient port
- 1No. pH electrode port
- 1No. DO electrode port
- 1No. Agitator port

- 1No. Air inlet port
- 1No. Exhaust port
- 1No. Antifoam Probe connection
- 1No. Sampling port
- 1No. Acid inlet port
- 1No. Alkali inlet port
- 1 No. Condenser Port

1.2. AGITATOR DRIVE:

Top drive unit having PMDC motor. The power transmission should be by means of Magnetic Coupling.

Electric Motor : PMDC motor

RPM Range : 50-1000 RPM $\pm$ 5RPM control accuracy

The RPM of the motor is indicated on the control panel.

2. RUSTON BLADE STIRRER:

The Ruston blade stirrer consists of:

- Main shaft with 6 bladed 3 Ruston impellers which can be varied in position along with the shaft
- Baffles x 3 No. made of SS 316

3. AERATION: The system should be supplied with ring sparger for aeration. Inlet filter should be 0.2 μ

The Aeration system consists of:

- 1 Pressure regulator
- 1 Air inlet filter
- 1 Air outlet filter
- 1 Exhaust condenser
- 1 Air Sparger ring type
- 1 Harvesting/ Sampling valve
- 1 Rotameters (0-10 lpm)

4. CONTROL PANEL:

The control panel contains PID controllers, amplifiers and switches for the parameters which have to be measured or controlled. The instrument should be mounted and the cabinet should be completely electrically wired and ready for operation.

5. TEMPERATURE CONTROL:

The temperature in the Fermenter is measured by means of RTD probe i.e. PT-100 sensor. The probe should be located on the top plate of the cylindrical vessel. The output of the probe should be fed to a controller with proportional integral function.

The controller output operates the heater or cooling water valve. A manual over ride should be provided to permit independent adjustment. The temperature range is 5°C to 80°C with an accuracy of $\pm 0.2^\circ\text{C}$ at an increment of 1°C min.

The temperature regulation consists of:

- 1 Temperature probe PT-100 Sensor
- 1 Connection to PID control
- 1 PID controller with remote set point
- 1 Circulation pump
- 1 Heat control valve
- 1 Cooling water control valve
- 1 Heater & heat exchanger

6. pH CONTROL (Range: 2 - 14):

The pH regulation consists of:

- 1 pH Electrode
- 1 Amplifier/transmitter
- 1 Connection for PID.
- 1 Digital read out
- 2 Disposable Disc Filter
- 2 Peristaltic pumps.
- 3 Injection needle, silicon rubber tubes

7. CHEMICAL ANTIFOAM DEVICE:

The Chemical antifoam device consists of:

- 1 Antifoam probe
- Amplifier in PID
- Electronic impulse counting in PID
- 1 Peristaltic pump
- 1 Disposable Disc Filter
- 1 x 250 ml Storage bottles
- 1 Injection needle
- Silicon rubber tube

8. DO MEASUREMENT AND CONTROL VIA AIR FLOW RATE:

The DO Control System consists of:

- 1 DO Electrode
- 1 Amplifier
- 1 Connection to the PID
- 1 Control valve

- 1 Pressure regulator
- 1 Rotameters

9. CHILLER WITH CIRCULATOR:

Technical Details:

1. Temperature Range : minimum temperature 15°C.
2. Accuracy of control : $\pm 1^\circ\text{C}$.

Suitable chiller as per the requirement of fermentor conditions.

10. OIL FREE AIR COMPRESSOR:

Type	: Diaphragm
Voltage	: 230V AC, 50Hz
Max. Pressure	: 2 bar
Dimension	: 7.5" x 4.5" x 9.5"
Flow rate	: 10 LPM
Motor H.P.	: 1/3 H.P.

11. **Gas Mixing Module:** System should be available with gas mixing option ranging from 1 to 4 rotameters

Technical Data:

Input	: Air, O ₂ , N ₂ , CO ₂
Connection	: 6mm Plastic tubing
Pressure	: Min. 1 Bar and Max 2 Bar
Gas mixing rate	: Max 200 NL/Hr per gas integrated
Manual as well as TMFC (Thermal mass flow control) gas mixing will be preferable	

3. LYOPHILIZER/ FREEZE DRYER

Technical Specification

- Product and condenser chamber, Stainless steel S 316
- Temp. controller cum indicator Vacuum drum should be made of non magnetic Stainless steel
- Condenser Capacity : 3-5 kg
- Condenser Temperature: -70 to -85°C
- Refrigerant Coils should be made of Copper and should be heavily insulated for maximum efficiency in the condensing chamber.
- CFC and HCFC free refrigerant,
- No of usable shelf : 5
- Total shelf area: 0.5 sq. m or more
- Stoppering Manual – top down – screw jack
- Loading capacity: Vial: 2ml – 150 nos., 10 ml – 30 nos. and 250 ml- 04 nos. flasks
- SS-4-port flask manifold: 1 No
- Vacuum pump 150 LPM or more: 1 No
- Exhaust Mist Filter for pump: 1 No
- Pump to chamber isolation valves: 1 No

- All necessary connecting tubes
- Freeze drying flask (RB) 250 & 500 ml each 2 nos. 1 set. Suitable Voltage stabilizer with delay timer.

Temperature variation (time)	+/-°C	0.5 or less
Temperature deviation (spatial)	+/-°C	0.5 or less
Readability/ Set ability	°C	0.5 or less
Temperature range	°C	-2° c to -70° C
Controller		Solid State digital Controller/PID optional
Display		LED/LCD
Adjustable alarm limits		visual and acoustic
Control		Automatic

- Menu instruction and convenient operation.
- Suitable servo voltage stabilizer with delay timer.
- Quality Assurance Certificate of manufacturer:- ISO- 9001:2008, ISO- 14001:2004, ISO-18001:2007, ISO-27001:2005, ISO-50001:2011, ISO-13485:2003, WHO-GMP (atleast One).
- CE/EU Approved.

4. SONICATOR

Technical Specification

1. Input: 220 V, 50 Hz
2. Maximum Treatment Time: 60 minutes—electrical stimulation
30 minutes—ultrasound or combination therapy
3. Frequency: 1.0 MHz to 3.0 MHz
4. Pulsed—5, 10, 20, 30, 40 and 50% duty cycle
5. Pulse Repetition Rate: 100 Hz
6. Pulse Duration: 0.5, 1, 2, 3, 4 and 5 msec
7. Temporal Peak/ average intensity ratio: 20:1, 10:1, 5:1, 3.3:1, 2.5:1 and 2:1
8. Maximum output power: 11 W (100%) with large applicator
9. Maximum intensity: 2.0 W/cm² (100%) 3.0 W/cm² (pulsed mode)
10. Programmability: 10 memories plus sequencing
11. Plus mode with On\Off cycle for 1 second to 59 seconds or more with at least 10 hours programmable timer. The timer should indicate time in minutes and seconds. The timer should also indicate the remaining treatment time during the “Hold” period.
12. Amplitude (intensity) ton be controlled from 1-100%
13. The sonicator should digitally track frequency changes in the converter\tip assembly caused by load and temperature changes and maintain electrical efficiency at all times
14. Overload protection
15. Output amplitude 0-100% adjustment
16. Probes and essential accessories:
Ultra high amplitude probes for 1.2-15 ml

A stepped micro tip probe for 0.5 ml-15ml
 High amplitude probes for 5-50ml and for volumes 50 ml and above
 5" Extender for probes
 Standard Tip: 6 mm Dia 5 – 200 ml volume.

Additional Tip: 3 mm Dia (2-5 ml) for low volume.

17. Accessories for simultaneous processing of at least 4 samples (direct sonication)
 Accessories for indirect sonication in standard microfuge tubes (atleast 8 at a time)
 Accessories for indirect sonication in standard as well as deep well microtiter plats and PCR tubes
 Recirculating chiller along with accessories for temperature control from +2°to +40° C.
18. Certification: ISO 9001.
19. Any other certificate regarding quality may attach.

5. 1D & 2D GEL ELECTROPHORESIS SYSTEM

Technical Specification

A. First dimension (Iso Electric focusing)

- System should include Individual Lane Control for running different samples, pH Gradients and focussing protocols in a single run.
- System should have touch screen User Interface for easy easily creating and editing protocols and setting up the program rapidly.
- System should come with opaque lid.
- System should include run mode flexibility- to run IPG strips gel Side Up, Gel Side Down and with cup loading configuration.
- System should have voltage 0–10,000 V, 1 V increments (50-10000V)
- Current range should be 0–100 μ A per lane, 1 μ A intervals
- • Should come with all required accessories.
- System should have peltier based cooling platform.
- Temperature range should be 15–25°C $\pm$ 1.0°C @ max ambient 23°C 18–25°C $\pm$ 1.0°C @ max ambient 31°C.
- Focusing trays should be made of polycarbonate for contaminant free process.
- System should accommodate IPG strip length 7, 11, 13, 17, 18, and 24 cm.
- System should have ramping Step, linear, gradual, and hold voltage ramping for each focusing step.
- System should have at least 2GB capacity for storing protocols.
- System should have following regulatory compliances:
 Safety EN 61010-1:2001, IEC 61010-1:2001 Use NRTL to test for compliance to UL61010-1:2004 and CAN/CSA C22.2, EMC EN61326 (1997 w/A1:98) Class A FCC Code of Federal Regulations
- Other approvals RoHS/WEEE Research Materials to determine level of EFUP.
- Should be open system to accommodate consumables from other suppliers also.

Power Pac Power:

- Output range (programmable): 10–300 V, fully adjustable in 1 V steps 4–400 mA, fully adjustable in 1 mA steps 75 W maximum
- Type of output: Constant voltage, constant current with automatic crossover

- Output terminals: 4 pair recessed banana jacks floating in parallel
- Timer: 1–999 min, fully adjustable
- Pause/resume run function: YES
- Display: LED
- Operating conditions: 0–40°C; 0–95% humidity in the absence of condensation
- Safety compliance: EN–61010
- EMI: Conforms to CE Standards for Emissions and Immunity class A, tested only at 230 V; TÜV EMC certification
- Safety features: No load detection, sudden load change detection, overload/short circuit protection, input line protection, auto power-up after power failure
- Input protection: Fuse on both hot and neutral
- Input power (actual): 90–120 or 198–264 VAC, 50 or 60 Hz, autoswitching

B. 2nd Dimension System:-

Mini size electrophoresis system

- Number of Gels 1-2.
Easy setup with glass plates having spacers and combs.
- Versatility: Supports both Precast and hand cast gel runs.
 - Perfect alignment and leak free casting
 - Should supply with 6 rectangular plates and 6 notched plates.
 - Should supply with Suitable Combs and spacers with 0.75mm and 1mm thickness (3 each) and other essential accessories should be included.
 - Gel casting platform
- Glass plate size (W x L) small plate 10.1 x 7.3 cm, Large plate 10.1 x 8.2 cm
- Gel size (W x L): 8.3 x 7.3 cm approx
- Total buffer volume for 2 gels, ml: 700 approx
- Typical run times for SDS-PAGE 45 min-1 hr
- Should be open system to accommodate consumables from other suppliers also.

Large size electrophoresis system (gel size: 18*20 cm)

- Number of gels may run: upto 4 gels
- Max Gel size (W x L): 18*20 cm and adjustable to run gel less than 18*20 cm
 - Perfect alignment and leak free casting
 - Should supply with a dozen of glass plates (thick and thin), spacer, combs
- Buffer volume: 350- 1.2 L
- Typical run time: 3- 5 hr
- Should be open system to accommodate consumables from other suppliers also.

PowerPac

- Volts : 5-500 V
- Current : 0.01-2.5A
- Power : 500 W
- Type of out put : Constant current, Voltage
- Timer : 1-99 hrs
- Volt hour control : 99000 v-Hr
- Programmable
- No of output : 4
- Automatic recovery after power failure : Yes
- 4 Recessed port in parallel

- Safety Features: No lead detection; sudden load change detection; ground leak detection, arc detection, overload/short circuit detection; overvoltage protection.

C. Image analysis 2D Software

- Automatic Spot Detection & Quantification.
- Simultaneous analysis of more than 15 gels.
- Automatic matching without manual land marking
- Ability to detect and separate merged, overlapping spots.
- Background removal algorithm for most accurate representation of faint abundance proteins.
- Ruby Gel Filter for noise removal.
- Gel Normalization with total quantity in valid spots or total density in gels or local regression levels
- Gel land marking and automatic spot matching
- Can Export XML data and JPEG file format
- Group consensus feature to review consensus data for individual gels classes or replicate groups
- Unbiased standard deviation formula to calculate coefficient of variation for groups and classes
- Different analysis tools: Spot review, Scatter plot, Student t-Test, Fold changes, Boolean analysis etc
- Interactive review analysis tool for analysis of sets of gels – *Page of Graphs*.
- Creates analysis sets which integrate the functioning of spot cutter.
- Can be integrated with data from IMAGING SYSTEM, SPOTCUTTER etc
- Should be GLP/GMP Compliant, and should have facility for future advance upgrade.
 - Should provide training on 2D and should have good installation database of 2D setup.
 - 1KVA online UPS along with the system and suitable reagents like IPG strips, starter kit should include with system for demo.

THE BIDDER WILL HAVE TO QUOTE ALL THE MENTIONED ITEMS TOGETHER FOR 2-D GEL ELECTROPHORESIS SYSTEM. PARTIAL QUOTES WILL NOT BE ACCEPTED.

6. GEL DOC SYSTEM

Technical Specification

- System: Should be equipped with 2 Mega Pixel or better with CCD/CMOS camera.
- Zoom Lens : C- Mount, 12 – 51 mm
- Diopter : closeup.
- Dynamic range: 4 order of magnitude.
- Resolution: High, 1600 X 1200 pixel array or better.
- Grayscale Range : 65,536
- Pixel size : 6.75 μ m x 6.75 μ m (minimum)
- Transilluminator with UV safety shutoff.
- Overhead light: Uniform, white light and fluorescent viewer.
- Light fittings: Epi UV and Epi-white lights.
- UV timer : 30 minute

- Benchtop and instrument should be compatible with wide range of fluorescent and visible dye including Qdot, SYBR Safe, SYBR Green, SYBR Gold, ethidium bromide
- Transilluminator: LMS-20, 8 watt, single intensity, Wavelength: 365, 302 & 254 nm (any One).
- Filter size: Transilluminator viewing area should be 20 x 20cm (minimum).
- Instrument should be capable of Multi-image acquisition display
- Instrument should capture image in grayscale and color live mode, multiple image acquisition, auto contrast, inverted color function plus pseudo color image. Extended detection and background function for multi image acquisition
- Software: Software for detailed, advanced analysis of the images. Capable of imaging and analyzing 1-D/2-D electrophoretic gels, dot blots, slot blots, and colony counts. Rapid molecular weight determinations with choice of multiple regression models; Band/lane matching analysis with comparative dendrogram creation; Background subtraction correction of gradient gels and also for individual lanes; Accurate concentration analysis using sophisticated volume tools, volume box, volume circle, volume contour, or freehand drawing; Colony counting that discriminates colonies and plaques; Annotation tools to add text and lines; 3 D viewer for critical analysis of closely spaced bands;
- Computer details: A latest data processor with at least i5 processor, 500 GB HDD, 4 GB RAM, 17" TFT monitor and a laser printer should be provided with the system.
- A UPS with atleast 30 minute backup for the computer, printer and monitor.
- Should provide training on this system.
- Menu instruction and convenient operation (3 set of manual).
- Commitment for after sale service when ever required.
- Certification: ISO 9001.

7. ORBITAL INCUBATOR SHAKER

Technical Specification

Construction: Constructed of /SS 304. The plexi glass canopy should be provided to inspect specimen without disturbing the temperature. Powerful air circulation creates positive air flow through the incubator. Clamps to hold the flasks should also be made of SS 304.

Temperature Control:

Temperature is controlled by programmable micro-processor based temperature controller cum indicator.

RPM: RPM should be controlled by digital RPM controller cum display (250 RPM)

Temperature Range: 5°C- 60°C

Temperature Control		
Temperature variation (time)	+/-°C	0.5
Temperature deviation (spatial)	+/-°C	0.5
Readability/ Setability	°C	0.5
Temperature range	°C	5°C to 60°C
Sensor thermocouple		Type K
Controller		PID Controller

Display		LED/LCD
Safety thermostats		
Temperature variation (time)	+/- °C	3 (With PID Controllers)
Sensor thermocouple		Type K
RPM		
Readability/Setability	%	1 RPM
Maximum Setability	Lux	250 RPM
Flask Capacity		
Standard/ max		12x250ml or 12x500ml
Dimensions w,d	mm	3500mm x 350mm
Permitted total load	kg	5kg (Max)
Power Consumption		
Nominal power	W	1250
Nominal voltage	V	220-240
Frequency	Hz	50/60

NOTE: The suppliers should also provide an ISO 9001 or equivalent certificate and a letter stating that they will provide service support and spare parts on the aforesaid instruments.

8. TRINOCULAR UPRIGHT MICROSCOPE OF TRANSMITTED LIGHT WITH BRIGHT FIELD, DARK FIELD & PHASE CONTRAST TECHNIQUE

Microscope Stand	Ergonomically designed stand
	Rugged and sturdy stand. It should have low positioned co-axial coarse and fine focus knobs
	Carrying grip at the back
	Anti fungus treatment optics
	Special skin-friendly material coated on all operating elements.
Binocular tube with trinocular head for camera attachment	Integrated 30° Inclined Trinocular
	Interpupillary adjustment from 50 to 75 mm or better
	Side top Trinocular swivelling at two angles
Optics	Infinity colour corrected system optics.
Eyepiece	10x with a field of view of 20mm - 23mm & both should be focusable
Nosepiece	Quintuple revolving nosepiece, pointing backwards along with the grip to hold while shifting the objectives
Objectives	Infinity corrected objective with color coding for fast identification
	Suitable objective for Bright field, dark field & phase contrast 4x /5x,10x,20x, 40x, and 100x oil immersion objective
	Anti-fungal treated Optics

Condenser	Universal Condenser 0.9/1.25 H for bright field, dark field & phase contrast
Stage	Dual layered mechanical stage with hardcore anodized surface with XY movement of 75x30mm.(min)
Illumination	Modular illumination concept with drawer should be available with easy replacement of LED .With LED illumination 3 W
Camera adaptor	0.5x camera adaptor should be provided along with camera unit
Camera	Dedicated microscopic 3MP CMOS Camera or better. Sensor size: 5.7 mm x 4.28 mm equivalent 1/2.5" (diagonal 7.1 mm)
Software	Suitable software to be provided along with the camera for basic measurement like Length, Area, Text, Notify with Arrow etc.
Computer	Suitable PC system to be quoted to store the image and also should be in a position to conduct simple image analysis.
Note:	Microscope, Camera & Software should be from the same OEM.

9. BINOCULAR UPRIGHT MICROSCOPE OF TRANSMITTED LIGHT WITH BRIGHT FIELD, DARK FIELD & PHASE CONTRAST TECHNIQUE

Microscope Stand	Ergonomically designed stand
	Rugged and sturdy stand. It should have low positioned co-axial coarse and fine focus knobs
	Carrying grip at the back
	Anti fungus treatment optics
	Special skin-friendly material coated on all operating elements.
Binocular tube	Integrated 30° Inclined Binocular tube
	Interpupillary adjustment from 50 to 75 mm or better
	Side top Binocular swivelling at two angles
Optics	Infinity colour corrected system optics.
Eyepiece	10x with a field of view of 20mm - 23mm & both should be focusable
Nosepiece	Quintuple revolving nosepiece, pointing backwards along with the grip to hold while shifting the objectives
Objectives	Infinity corrected objective with color coding for fast identification
	Suitable objective for Bright field, dark field & phase contrast 4x /5x,10x,20x, 40x, and 100x oil immersion objective
	Anti-fungal treated Optics
Condenser	Universal Condenser 0.9/1.25 H for bright field, dark field & phase contrast
Stage	Dual layered mechanical stage with hardcore anodized surface with XY movement of 75x30mm.(min)
Illumination	Modular illumination concept with drawer for easy changing of LED. Suitable LED illumination should be available .ie 3 W

10. UV TRANSILLUMINATOR

Specifications:

- Single UV Benchtop Transilluminator with magnetic core/coil.
- UV wavelength: 302/312 nm.
- Filter size : 20 x 25 cm or more
- Intensity style: Variable
- Instruments having a control knob for selection of wavelengths or intensity.
- Long life filters should be available with UV protection lid.
- UV Blocking Cover may be included with the transilluminator. The cover is hinged and adjustable to varying heights.
- UV Blocking Eyewear should be provided.
- No. of tubes: 4x8 W or more
- Continuous adjustable from 100 to 20% intensity
- Capacity to detect nanogram amounts of DNA
- CSA approved.

11. TISSUE HOMOGENIZER

Specifications:

Stirring speed rpm:	graduated scale
Very fast assembly and disassembly system for dispersing tools	
Power:	500 W
Power supply:	230 V / 50 Hz
Weight:	2.87 lb (1.3 Kg)
Dimension (WxHxD):	2.8x10x2.8 in (70x255x70 mm) or more
PERFORMANCES	
Stirring speed:	from 10000 to 30000 rpm
Stirring volume max (H ₂ O):	up to 8 litres as homogenizer
Stirring volume max (H ₂ O):	up to 40 litres as high speed mixer
Max viscosity (mPa x sec):	10000
SAFETY DEVICES	
- Overload protection	
- Smooth start	
- Safety switch	

12. AUTOCLAVE

Specifications:

- Unique single lever lock for lid with single hand operation.
- Microprocessor Based Control ensures repeatability & a high accuracy.
- ISO 9001 certified.
- Designed for ease of use and dependability.
- Every chamber is hydrostatically tested as per standards.
- Internal Chamber and lid along with all parts fabricated from Stainless Steel.
- Single lever closure system with Silicone or neoprene Gasket.
- External vertical panels of MS duly heat cured epoxy coated.

- Easy lift and closing of the lid by manual assisted support.
- Castors for ease of movement.
- Flexible sensor enables in-situ control and monitoring of cycles.
- Microprocessor controller which provides high control accuracy along with user level flexibility for sterilizing various types of loads efficiently.
- Low water indication.
- Spring loaded safety valve for over pressure.
- Pressure interlock on door.
- Audio & Visual alarms for sensor open and low water level.
- MCB for electrical safety.
- Independent over temperature safety cut out.
- Required sizes: 35 ltr

13. HIGH SPEED REFRIGERATED TABLE TOP CENTRIFUGE

Specification:

- Microprocessor controlled, freely programmable with energy efficient high resolutions display screen
- Max. Speed : 30,000 rpm
- Max. RCF : 65,000 x g
- Temperature : -20 to +40°C, CFC free refrigeration
- Single Knob operation (no complicated keypads)
- Pre-selection of run parameters in terms of rpm and rcf
- Pre-selection of time from 10 sec to 99 hrs. 59 min or continuous
- 20 curves of acceleration and deceleration
- 10 freely programable Accel/Decl. Curves with graphic display
- Storing of upto 60 run protocols
- Free Programming of All Parameters
- Self diagnostic error messages & Alarms
- Display for end of Rotor life
- Magnetic rotor identification & imbalance sensor
- Motorised lid lock and inter lock
- Facility for automatic lid opening after the run

Rotors/ Adapter

- Angle Rotor 6 x 50 ml falcon with min 14000 rpm/20000 rcf & adapter for 15 ml falcon tubes also.
- Angle Rotor 24 x 2.2/1.5 ml eppendorff tube with min 26000 rpm/ 62000 rcf & adapter for PCR vial 0.2 ml also.

Annexure 3

Technical Compliance of the bidder with reference to the
'Specification of Equipments'

Name and model no of offered goods/equipment:

Item	Technical specification from NIT Raipur	Features available in equipments Yes or No	Any deviation from Specification, if any	Corresponding part number /datasheet/page no in broacher in support of specification	Comment of Technical Committee , NIT Raipur

Signature of Bidder

Annexure-4

Price Schedule form: Price Schedule for Goods Being Offered from India/Abroad in INR
(Separate form to be used for each item offered)

Name of the Bidder/Tenderer:

Name & Model No of offered good:

Tender No.:

S. No.	Details	Price per Unit in INR
1	Ex-works, Ex-warehouse, Ex-show room off the shelf price (inclusive of all taxes already paid)	
2	VAT & other taxes like excise duty* payable, if contract is awarded	
3	Packing & forwarding up to station of dispatch, if any	
4	Charges for inland transportation, insurance to ultimate destination i.e. NIT, Raipur, if any	
5	Installation, Commissioning and training Charges, If any	
6.	Any other charges (Please specify)	
Total Price (Sum of S. No 1 to 5) FOR NIT RAIPUR		

**** NIT Raipur have custom/exsices exemption certificate.**

Total Bid price in Indian currency_____

In words: _____

Name_____

Business Address

Note:

(a) The cost of optional items shall be indicated separately.

Signature of Bidder

Annexure-5

Price Schedule Form: Price schedule for goods being offered from abroad in currency other than INR

(Separate form to be used for each item offered)

Name of the Bidder/Tenderer:

Name & Model No of offered good:

Tender No.:

S. No.		Price per unit in ()
1	Country of origin	
2	FOB (named port of shipment) Or FCA (named place of delivery)	
3	Freight and Insurance up to Indian Airport/port	
4	Total Price at Indian Airport / port (2+3)	
5	**Custom charges (please mentioned %)	
6	Custom clearance and other charges if any (with breakup)	
7	Inland Charges for Insurance & transportation to NIT Raipur	
8	Installation, commissioning and training Charges, if any	
9	If any other charges (Please Specify)	
	Total Price (FOR NIT Raipur) (Sum of S. No 1 to 9)	

**** NIT Raipur have custom/exsices exemption certificate.**

Total Bid price in foreign currency: -----words: _____

(a) Indian agents name & address _____

(b) The cost of optional items shall be indicated separately-----

Signature of Bidder

Annexure-6**DEVIATION STATEMENT FORM**

The following are the particulars of deviations from the requirements of the tender specifications:

CLAUSE	DEVIATION	REMARKS (INCLUDING JUSTIFICATION)

Signature of Bidder

Annexure-7 (Please put this annexure at the top of the tender document)

Bidder's information & Check list

- 1. Name of the Firm:**
- 2. Type of the firm:** (*Proprietorship, Pvt Ltd, Public Ltd, Partnership etc.*)
- 3. Address of the firm:**
- 4. Contact detail:** **Phone No.:** **Mob No. :**
 Fax No. **E mail:**
- 5. Name of the authorised signatory:**
- 6. EMD detail : Instrument No.** **Date :** **Amount:**
Issuing Bank name & branch detail:

Check List (Please enclose the copy of the following & tick as per applicability)

- 1. Proof of registration of the firm:**
- 2. Authorisation certificate of dealership:**
- 3. PAN card in Firm's name:**
- 4. Sales tax certificate:**
- 5. Commercial tax certificate:**
- 6. Service tax certificate:**
- 7. Proof of registration with any central govt . organisation :**
- 8. Purchase orders issued by any central govt organisation.**

Signature of Bidder