

Bidding document for-

Group A : Supply, Installation & Commissioning of Biomedical Equipmt. for Multi-Disciplinary Research Unit
Group B : Supply, Installation & Commissioning of Biomedical Equipmt. for Advanced Molecular Microbiology and Molecular Genomics

BIDDING DOCUMENT

E-TENDER NOTICE No: 04/2019- 2020/Bio-Medical Equipment/IGIMS/Store



Supply, Installation & Commissioning of Bio-Medical Equipment's / Instruments

E-TENDER NOTICE No: 04/2019- 2020/Bio-medical Equipment/IGIMS/Store

Issued to:

Cost of Document: Rs.2000/-

Paid By: Cash: Receipt No.:

Demand Draft: No.:

Issuing Bank:

(Authorized Signatory)

**INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,
SHEIKHPURA, PATNA - 800014.**

INDEX

Sr. No.	Description	Page No.
01.	CHECK LIST	4-6
02.	ELIGIBILITY CRITERIA	7
03.	INSTRUCTION TO BIDDER	8-14
04.	CONDITION OF THE CONTRACT	15-20
05.	SCHEDULE OF THE REQUIREMENT	21
06.	SPECIFICATION AND ALLIED TECHNICAL DETAILS	31-51

IMPORTANT DATES

Last date for Purchase of Bidding Document	Can be downloaded from Institute website
Last date for submission of completed bidding document	15/11/2019 up to 4.00 PM. by registered/speed post/ Courier only
Date of opening of technical bid	16/11/2019 at 02.00 P.M. in Conference Hall IGIMS, Patna.
Date of demonstration of equipment	To be informed to the qualified bidders qualifying after opening of technical bids.

INDIRA GANDHI INSTITUTE OF MEDICAL SCIENCES,
SHEIKHPURA, PATNA -800014 (Bihar, India)

Sr. No. of Tender: _____

FILE NO. : Tender No.: _____

Tender form issued in favour of: _____

Dear Sir,

1. I/We hereby submit our tender for the _____
2. I/We are enclosing herewith the Demand Draft No..... dated..... for **Rs.** /- drawn in favour of **Director I.G.I.M.S. - Patna (payable at Patna)** towards **EMD / Bid Security. (EMD AND COST OF BIDDING DOCUMENTS MUST BE SUBMITTED IN SEPRATE ENVELOP.TENDERS NOT ACCOMPANIED WITH EMD / BIDSECURITY ALONGWITH THE TECHNO-COMMERCIAL BID SHALL BE SUMMARILY REJECTED).**
3. I/We have gone through all terms and conditions of the tender documents before submitting the same.
4. I/We hereby agree to all the terms and conditions, stipulated by the I.G.I.M.S. - Patna including delivery, warranty, penalty etc. Quotations for each group are being submitted under separate covers, and sheets and shall be considered on their face value.
5. I/We have noted that overwritten entries shall be deleted unless duly cut & rewritten and initialled.
6. Tenders are duly signed and stamped.(No thumb impression should be affixed)
7. I/We undertake to sign the contract/agreement, if required, within 15 (Fifteen days) from the date of issue of the letter of acceptance, failing which our/my EMD/Bid deposited may be forfeited and our/my name may be removed from the list of suppliers

Yours faithfully,

(Signature of Bidder with full name and address)

CHECK LIST FOR TERMS AND CONDITIONS

A.: To be filled by the bidder and submitted along with the **Technical Bid.**

Sr. No.	Terms & Conditions as per Bidding Document	Page No.	Remarks
1.	Status of Bidder: <ul style="list-style-type: none">• Manufacturer or Authorized Agent of the Manufacturer• Whether Public Undertaking, Public Ltd., Private Ltd. Company or Proprietary Firm/partnership firm• (Please attach Notary certified MANUFACTURER'S AUTHORISATION FORM as per FORMAT placed at Annexure – III)		
2.	Power of Attorney as per Annexure - V in favour of person to sign, submit and negotiate the bid.		
3.	Certificate towards market standing of minimum 05 years in the area of supply and or maintenance of bio-medical equipment's.		
4.	Certificate for sole ownership / partnership		
5.	Statement of financial standing from bankers		
6.	Statements of turnover per year for last three successive years duly certified by the Chartered Accountants.		
7.	Notary certified User List (List of Govt. /Semi Govt., Reputed Pvt. Hospital) where quoted model of the items has been supplied and installed.		
8.	Notary certified Supply order copy (Minimum 3nos. or more) issued by Govt./Semi Govt./Reputed Pvt. Institutions/organization for the quoted items. (same model)		
9.	Notary certified Performance certificate of the same supplied machine (of quoted make and Model) issued by Head of the dept. or Institution after a minimum period of six months of installation		
10.	Prerequisite (if any) for installation of the Machine, if any, to be provided by the Institute.		
11.	Whether rates quoted are inclusive of all taxes or not.		
12.	Whether rates are quoted as per format mentioned in the Bidding Document or not.		
13.	Affidavit to the effect that the bidder is not blacklisted by any Govt. agency or have no pending case either Civil or Criminal against them.		
14.	Affidavit, to the effect that the bidder is not supplying the quoted item(s) to any other Govt. / Pvt. Organizations / Institutions / Hospitals at the rate lower than the rate quoted against this tender.		

15.	Quality Assurance Certificate like ISI, ISO-9002, IP/BP, CE, FDA (US) or any other (please specify)		
16.	Bid Security amount deposited is enclosed or not. If yes, please mention the details.		
17.	Original Technical Catalogue of the quoted model .		
18.	Certificate, to the effect that bidder will maintain the quoted item(s) during Warranty period of three years including all spares, accessories, consumables etc., (Please mention the name of the item / items with price, which are not supplied by the bidder free of cost with frequency of replacement)		
19.	Certificate, to the effect that bidder has quoted its rate for Comprehensive Annual Maintenance Contract inclusive of labour, spares, consumables, accessories etc. on per year basis for a further period of seven years after expiry of warranty period of three years in the price bid . (Please mention the name of the item / items with price, which are not supplied by the bidder free of cost with frequency of replacement during Comprehensive Annual Maintenance Contract period in the price bid)		
20.	Acceptance of all terms / conditions towards after sales / services as mentioned in the bidding document.(Clause No- 13 of “ Instruction to Bidder “ & clause no- 3, 4 and 5 of Condition of contract.)		
21.	Compliance Statement with relation to the technical specification as mentioned in the bidding document duly supported by the original catalogue. The bidder must quote specification in the compliance column Mere writing” Complied shall not be accepted.		
22.	Compliance Statement with relation to the terms & conditions as mentioned in the document.		
23.	PAN and copies of Income Tax Returns for the last three years.		
24.	Duly attested copy of GST registration certificate.		

B: To be filled by the Bidder and submitted along with Price Bid

Sl. No.	Terms & Conditions as per Bidding Document	Page No.	Remarks
1.	Item wise price for the item(s) as mentioned in the Bidding Document and as per format attached as Annexure – I(a) or I (b)		
2.	Rate for Comprehensive Annual Maintenance Contract as per terms & conditions mentioned in the Bidding Document and as per format attached as Annexure - II		

Note: If the above tender details are not mentioned and required documents are not attached at appropriate places, the offer of the bidder(s) shall be summarily rejected. Hence, bidder(s) are advised to go through the bidding document carefully and tender be prepared with all the required documents to avoid rejection of offer.

(Name of the Bidder with signature & seal)

ELIGIBILITY CRITERIA

01	Manufacturers or their authorized dealers/Indian subsidiaries/direct importers having a place of business in any of the States of India are eligible to participate in this tender.	Mentioned Page no.
02	The bidder and manufacturer of the equipment offered should be in the business of the supply and installation of same / similar equipment for the last five calendar years.	
	<p>(a)The manufacturer should have completed at least 05(Five) nos. installations of the quoted items in Govt. /Pvt. Institutions /Hospitals in India. The installations mentioned by the manufacturer in their offer must be functional and performance certificate for the same issued by the user concerned also be attached with the offer.</p> <p>(b) The bids quoted as the authorized representative of the manufacturer meeting the above criteria 02 (a) should have also supplied and installed at least 03(Three) nos. installations of the quoted items in Govt. /Pvt. Institutions/ Hospitals in India in last five years from the last date of submission of tender. The installations mentioned by the authorized representative in their offer must be functional and performance certificate for the same issued by the user concerned also be attached with the offer.</p>	
03	The Bidder should be public undertaking /Autonomous Body /Public Ltd./Pvt. Ltd. Company or proprietary firm /Partnership Firm and should be in medical equipment business since last five years in India. The Bidders having manufacturing facility in their name in India for the majority of the items offered by them shall be given preference.	
04	The Bidder (manufacturer or their authorized agent) should have had average annual financial turnover of Rs. 50 Lakh during the last three years ending s 31 st March 2018.	
05	Bidders who have the capability to attend repairs of these equipment within the time mentioned in this bidding document and who are willing to provide stand by equipment or replace the faulty equipment if the repair/down time extends beyond 72 hours from the time of reporting of the fault within the next 48 hours (total down time should not exceed 5 days in one instance). The bidders who have the capability to ensure the uptime mentioned in this document (Documentary proof shall be submitted on the after sales facilities and expertise of the bidder.)	
06	Bidders are not offering the equipment of a firm /company that has been blacklisted by Indira Gandhi Institute of Medical Sciences – Patna or blacklisted/debarred by any other State / Central Government's organization.	

Note:

- Notwithstanding anything stated above, the Institute reserves the right to assess the Bidder's capability and capacity to perform the contract satisfactorily before deciding on award of contract, should circumstances warrant such an assessment in the overall interest of the purchaser.
- The Institute reserves the right to ask for a free demonstration of the quoted equipment at a pre-determined place acceptable to the purchaser of technical acceptability as per the tender specification, before the opening of the price tender.

INSTRUCTION TO BIDDER

GENERAL INSTRUCTIONS TO BIDDERS

1. **Tendering System**

The tenders/Bids are to be submitted in two Parts i.e. **Part - I & Part II**.

PART - I titled as TECHNICAL BID shall contain the complete technical specifications and details on the competency of the bidder and also the commercial bid package with terms and conditions of supply, warranty, after sales service etc. (Except Price Bid Form). Apart from the documents and signed copy of the purchased tender document, the necessary enclosures should be submitted in this technical bid. In short, the technical bid should contain all the necessary documents to prove the technical competency and capability of the bidders for supplying and installing a trouble free equipment meeting the quality standards and technical specification and the ability of the bidders for providing efficient after sales service to the satisfaction of the Tender Inviting Authority and the user institution.

PART - II titled as PRICE BID

2. The tender offers, duly filled, shall be submitted in sealed covers for **technical**. Such covers shall be super scribed as “**Tender No..... (here mention the tender no as specified) TECHNICAL BID for supply of (here mention the name of the equipment**”
3. Quantity of items may increase or decrease. Director, I.G.I.M.S. - Patna reserves the rights to purchase different sub items/ components of items from different bidders.

This rate Contract will be valid for one year from date of 1st satisfactory installation and acceptance of the equipment. Repeat Supply Order will be placed as per requirement of the Institute of all the quoted and approved items. The rate contract may be further extended for period of one year as decided by Director, IGIMS-Patna.

4. The “Bidding Document” along with terms and conditions, technical specification can be obtained from the office of the Store Officer, IGIMS, Patna on payment of Rs.2000/- (Rs. Two thousand only) Non –refundable for each Group by demand draft favouring Director , IGIMS, Patna payable at Patna.
5. The “ Bidding Document” can also be downloaded from institute website www.igims.org. In case, downloaded bidding document is used, Bidder(s) have to submit the cost of the Tender Document along with the completed documents in the form of demand draft in favour of Director , IGIMS, Patna, payable at patna towards cost of the “ Tender documents” Bidder is required to attach separate DD for the same in a separate envelop super scribed with “ cost of bidding document” if the cost of tender document is not submitted by the bidder, his offer shall be outright rejected .

6. Last date for submission of bidding document is 15/11/2019 up to 4.00PM by speed/Regd. post/ Courier only and technical bid will be opened on 16/11/2019 at 02.00 PM in Conference hall IGIMS, Patna

7. **Earnest Money Deposit (EMD):**
Earnest Money 2% of the cost of Equipment required to be submitted along with tender by Demand Draft from any scheduled Indian Bank (valid up to one year from the date of technical bid opening.) only along with the tender favouring Director, I.G.I.M.S. – Patna (payable at Patna). No interest is payable on EMD/ Bid security.

- a. Bidder may quote more than one/several models. In such a situation EMD will be payable on the basis of highest priced model.
 - b. EMD of the unsuccessful bidders will be returned to them at the earliest after expiry of final bid validity and latest on or before the 30th day after the award of the contract without any interest.
 - c. EMD must be submitted in separate sealed envelope and endorsement of the same with DD number & date Bank Guarantee No. and its validity period be made with technical bids without amount stating that the same has been complied with price bid. If same is later found not enclosed tender will be cancelled for the party.
 - d. Non- submission of sufficient EMD along with the Technical Bid shall be one of the primary reasons for rejection of the offer in the first round.
 - e. Cheque, Cash payment, Money Order, Fixed deposit etc will not be accepted as EMD.
 - f. Public Sector Units within the State or State micro, small and medium enterprises registered with Govt. are exempted from remittance of EMD subject to submission of valid documents.
 - g. The EMD shall be in one of the following forms:
 - i. A demand draft in favour of Director, I.G.I.M.S. – Patna (payable at Patna);
 - OR
 - ii. A Bank Guarantee issued by a nationalized/ scheduled bank located in India, in the form prescribed in the tender document as Annexure- IV (valid up to one year from the date of technical bids opening) Bank Guarantee in any other format will not be acceptable and render the bid non-responsive.
 - iii. The successful Bidder's EMD will be discharged upon the Bidders signing the contract and furnishing the performance security. The EMD deposited in the form of DD of the successful Bidder can be adjusted towards the security deposit payable.
9. Bidder(s) should mention the DGS & D registration, if registered, and attach photocopy of DGS & D registration certificate Photocopy of Income tax & sales tax clearance certificate should be enclosed.
10. For Imported Goods, Indian Agency Commission must be declared in financial bid.
11. The Bidder's shall have to submit the following documents (Certified by Notary) in technical bid: -
- a. User List (List of Govt. / Semi Govt., Reputed Pvt. Hospital) where quoted model of the items has been supplied and installed.
 - b. Supply order (minimum 3 nos. Or more issued by govt./semi govt./reputed pvt.institution/organisation for quoted items (same model)
 - c. Performance certificate of the same supplied machine (of quoted make and Model) issued by **Head of the deptt. or Institution** after a minimum period of six months of installation.
 - d. Prerequisite (if any) for installation of the Machine if any to be provided by the Institute.
 - e. If the manufacturing company and/or its Indian agent (for Foreign manufactured) have authorized some agency for participation in this tender for a limited period than in that case they (Manufacturer / Indian agent) shall have to submit an undertaking duly notarized by Public notary that if their tender is selected they shall be solely responsible for compliance of all the terms and conditions mentioned in the bilateral agreement for purchase and subsequent supply order even if their authorized agent is changed. Any tender offer without such certificate duly certified by public notary shall be rejected in technical scrutiny itself.
 - f. **Bidder must submit a compliance checklist along with the technical bid itself.**

- g. (Any tender offer without submission of above mentioned document (i.e. a to e) shall be rejected during technical scrutiny.)
- h. If any new System/ Latest model machine is a launched in the market and seller has not installed such quoted models they should submit an undertaking that he has not installed such models previously (Notarized by Public Notary).They may submit supply order / performance certificate of previous model, which was recently installed by them.

Installation & site plan:-

Requirement regarding site/location etc. for installation of equipment, if any, should be mentioned in the tender. Time required for installation of system after delivery must be mentioned. In case of delay in installation institute will have right to charge liquidated damage. Specify the following points for installation of the System: -

- a. Total power consumption along with break up of main System and Accessories.
- b. Whether the System needs uninterrupted power supply where ever applicable.
- c. Maximum tolerated transfer time in case of interruption of power supply.
- d. Whether the System needs any humidity control device.
- e. Whether the System needs any separate power line/isolation Transformer.
- f. Does the System need the electrical shielding?
- g. Does it require special civil works for installation?
- h. Whether Air conditioner is an essential requirement for the system.
- i. Does it require any special civil works for Installation?

12. After Sales Service Conditions:

- a. The Institute is in the pursuit of ensuring excellent after sales service for every user in respect of the equipment's supplied under this contract. The after sales services terms and conditions will be strictly enforced and those Bidders who are willing to support the Institute in its endeavour to provide trouble free operation/performance of the equipment's for the prescribed period need only participate in the tender.
- b. The after sales service shall be performed during the warranty period and also during the Comprehensive Maintenance Period (CMC)/ Annual Maintenance Contract, if awarded. The detailed terms and conditions for after sales service are mentioned hereunder.

c. Guarantee/Warranty Terms:

- i. The successful Bidder has to warrant that the Goods supplied under this Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.
- ii. The successful Bidder further have to warrant that the Goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by the Tender Inviting Authority's specifications) or from any act or omission of the successful Bidder, that may develop under normal use of the supplied goods.
- iii. All the equipment's including the accessories supplied as per the technical specification as mentioned in the bidding document should carry comprehensive warranty (including all spares, accessories and consumables) for a period mentioned in this document in the first instance. During this period, the successful Bidder shall replace all defective parts / accessories / consumables and attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful Bidder during the period of comprehensive warranty. The items which are not covered under warranty should be clearly mentioned along with rate of the items . If any spares / accessories / consumables etc. are not replaced by the bidder during warranty period, bidder should mention it clearly with name of the items with frequency of replacement and its rate of the item.

- iv. On expiration of the comprehensive warranty period, the successful Bidder shall be willing to provide after sales support for an additional period prescribed in this document.
- v. The prospective Bidder, who are not manufacturers, shall submit an undertaking from the Original Equipment Manufacturers (OEM) that they are willing to provide spare parts for the period of warranty as mentioned and also during the additional CMC/AMC period, if awarded. The OEM shall also assure continuity of service to their product, in the event of change in dealership or the Bidders – their existing dealers - couldn't provide service during the warranty / CAMC period. The undertaking from OEM is an essential document forming part of the Technical Bid, without which the tenders will be rejected summarily in the first round itself.
- vi. After sales service centre in Patna (Bihar) preferably or at least in East India should be available as part of the pre-qualification and the Bidder shall provide proof of their capability to undertake such maintenance/repair within the stipulated time.
- vii. The successful Bidder shall provide preventive maintenance as per the frequency mentioned in this document during the warranty period. The Bidder shall attend any number of break down/repair calls as and when informed by the institute authority.
- viii. Upon receipt of such notice for repair/breakdown from the institute, the successful Bidder shall, within the period as specified in this document, and with all reasonable speed, repair or replace the defective goods or parts thereof, without cost to the Tender Inviting Authority.
- ix. If the successful Bidder, having been notified, fails to rectify the defect(s) within the period specified mentioned in this document, the Tender Inviting Authority may proceed to take such remedial action as may be deemed necessary, at the successful Bidder's risk and cost and without prejudice to any other rights which the Tender Inviting Authority may have against the successful Bidder under the contract.
- x. Failure to attend the repairs in time or failure to attend the stipulated preventive maintenance visit or failure to replace the defective equipment's or to provide stand by equipment if the fault/down time exceeds the stipulated period or to ensure the stipulated up-time in an year shall lead to forfeiture of the performance security and/or may lead to blacklisting/debarring of the defaulting Bidder.
- xi. The equipment which requires quality assurance test shall be done at free of cost immediately after installation, during the comprehensive warranty period, during the CMC/AMC period, by the demand of User and also when major spares are replaced.
- xii. Any mandatory approval required for installation shall be obtained by the successful Bidder in liaison with the respective authorities.
- xiii. The Bidder shall submit the parameters which require calibration and the frequency of calibration required.
- xiv. The Bidder shall undertake on-site calibration of the equipment every year as part of the after sales service during the period of comprehensive warranty, CMC/AMC or on demand from the user.
- xv. The Bidders shall also have to submit whether periodic replacements of consumable items are required for proper functioning of their quoted machine/Equipment? If yes they should submit the list of such consumables along with price list and frequency of replacement per year, if the same is not replaced free of cost during warranty / guarantee period.
- xvi. An undertaking of the principal regarding continuity of after sales and services (CAMC) @ the agreement rate even in case of changes of Indian agent during the life span of the equipment, must be enclosed in the technical bid. Further, it will be the responsibility of the manufacturer Indian agent to get counter signature on the agreement to be executed with them by the principal.

xvii;- The offered warranty includes:

- Visits to the user institutions at frequencies prescribed as part of preventive maintenance.
- Testing & calibration as per technical/service/operation manual of the manufacturer or as per the period specified or as per the demand of the user.
- Quality Assurance tests (if applicable).
- The cost of labour for all repairs/ and all spares required for replacement during repairs all kinds of accessories, Probes, all types of sensors and transducers, Electrodes, Detectors, battery, battery for UPS, other vaccumatic parts etc wherever applicable and also the accessories and other devices supplied along with the equipments like stabilizer, UPS, AC, Computer, Compressor, Monitor, etc, which forms part of the equipment system, without which it cannot perform satisfactorily.
- The exclusion of warranty of any vital equipment parts will be compared with offers of other Bidders during evaluation of the bids and this may be taken into consideration in deciding the successful Bidder on the basis of expert advice.
- The Bidder shall provide up-time warranty of complete equipment as mentioned in this document, the uptime being calculated on 24 (hrs) X 7 (days) basis failing Warranty period will be extended for every additional day of down time equal to one week.
- All software updates, if any required, should be provided free of cost during Warranty period.

d. Comprehensive Annual Maintenance Contract:

- The decision to enter into CMC or AMC will be determined on the basis of cost and complexity of the equipment by the Tender Inviting Authority, at its discretion, prior to the expiration of warranty period.
- The Comprehensive Maintenance Contract (CMC) is otherwise an extended warranty. All the terms and conditions agreed by the successful Bidder for executing the comprehensive warranty of the equipment shall be extended during the period of CMC, only difference being the payment of CMC charges is absent during the period of comprehensive warranty.
- The cost of CMC, accessories spares, and consumables as in case may be quoted along with taxes applicable, if any. The taxes to be paid extra, to be specifically indicated. In the absence of any such stipulation the price will be taken inclusive of such taxes and no claim for the same will be entertained later.
- Failure/refusal on the part of the successful tender supplying/installing the equipment's to enter into CMC with the Tender Inviting Authority, at the end of the Comprehensive Warranty Period, if the Institute, as the case may be, desires so, shall lead to forfeiture of performance security and may also result in the blacklisting/debarring of the Bidder.
- The successful Bidder shall also indicate the rates for the CMC in price bid form and such rates are binding on the successful tenders after the expiration of the warranty period. The yearly rates for CMC shall remain the one and the same as quoted in the price bid form for the extended years.
- Cost of CMC (excluding taxes, if any) will be considered for Ranking/Evaluation purpose.
- The payment of the agreed CMC charges will be made as per frequency for payment after satisfactory completion of said period, on receipt of service report/ break down report from the user.

- The Bidder shall also have to submit whether periodic replacement of consumable items are required for proper functioning of their quoted machine/Equipment? If yes they should submit the list of such consumables along with price list and frequency of replacement per year if the same is not included in quoted Comprehensive Annual Maintenance Contract charges per year.

13. Time Limits prescribed

Sl. No	Activity	Time Limit
a.	Installation & Delivery period	12 weeks from date of issuance of Supply Order
b.	Comprehensive warranty period	3 years from the date of successful installation.
c.	CMC period	7 years
d.	Frequency of visits to all User Institution concerned during Warranty/CMC	One visit every three months (4 visits in a year) for periodic/preventive maintenance and any time for attending repairs/break down calls.
e.	Frequency of payment of CMC charges	Every six months after completion of the Period.
f.	Submission of Performance Security and entering into contract	10 days from the date of issuance of Letter of Intent
g.	Maximum time to attend any Repair call	Within 24 hours.
h.	Uptime in a year during warranty as well as during CAMC period.	95% of 365 days.

14. Firm have to provide a minimum **UPTIME GUARANTEE** of 95% (95% of 365 Days) per year during the warranty period as well as during the Comprehensive Annual Maintenance Contract.
- 15. While calculating the total unit price of the item / system to be procured, expenditure to be incurred in maintenance of the quoted item / system including all spare parts for a total period of seven years after expiry of the warranty period of three years shall also be taken into consideration. Accordingly, it is mandatory for the bidders to submit the rate for Comprehensive Annual Maintenance Contract (with spares) for a minimum period of seven years after the expiry of warranty period of three years.**
16. Supplier will submit undertaking for ensuring uninterrupted supply of spares during the total life span of the equipment's.
17. Indian agency commission and Installation charge if any will be paid in Indian rupees after successful installation and demonstration of the equipment's.
18. Principal's Invoice of the quoted items must be submitted with the quotations.
19. Proof of the official Indian agent certificate of the firm must be attached. (Notary Certified Photocopy)
20. In order to fully and optimally utilize the equipment, training to Para Medical Staffs and Doctors should be provided. In continuation to this training, separatemaintenance training for the machine and the sub systems should also be given to the "Equipment Maintenance Engineer" and "Equipment Maintenance Technicians". All the financial commitments in this regard shall be met by the bidder(s).
21. Bidder(s) have to submit an affidavit to the effect that they have not supplied the offered item(s) to any Govt., semi Govt. / Pvt. Organization, Institution, Nursing Home etc. at the price lower than the price offered to I.G.I.M.S. – Patna.
22. All the claims regarding meeting the specifications shall be duly supported by appropriate, latest technical catalogues/brochures from the manufacturer. Simply stating that the equipment(s) meets the specifications is not sufficient and any such quotations will be summarily rejected. Computer printed documents or Photostat copy or laser printouts will not be accepted as technical catalogues / brochures.
23. Bidder might be required to demonstrate the system at the discretion of the institute.
- 24. Notification of Award/Letter of Intent (LOI)**
- a. Before expiry of the tender validity period, the Institute will notify the successful Bidder(s) in writing, by registered / speed post or by fax or by email (to be confirmed by registered / speed post immediately

afterwards) that its tender for equipment(s), which have been selected by the Institute, has been accepted, also briefly indicating there in the essential details like description, specification and quantity of the goods & services and corresponding prices accepted. This notification is undertaken by issuing a Letter of Intent (LOI) by the Institute.

- b. The successful bidder, upon receipt of the LOI, shall furnish the required performance security and submit an agreement in the prescribed format within ten days, failing which the EMD will be forfeited and the award will be cancelled.
- c. The Notification of Award shall constitute the conclusion of the Contract.

25. **Signing of Contract**

The successful bidder shall execute an agreement for ensuring satisfactory supply, installation, commissioning and the after sales service/support during the warranty period and during the Comprehensive Annual Maintenance Contract.

27. The Director reserves the right to accept or reject any or all tenders without assigning reasons.
28. The Director reserves the right to modify, add or delete any terms & conditions of the contract as and when required.

29. **Amendment of tender documents:**

- a. At any time prior to the dead line for submission of Tender, the Institute may, for any reason, modify the tender document by amendment.
 - b. The amendment shall be notified and uploaded on the institute website www.igims.org only and such amendments shall be binding on them thereafter.
 - c. The Institute shall not be responsible for failure to inform the prospective bidders. Purchasers of tender documents are requested to browse the website of the Institute for information/general notices/amendments to tender document etc on a day to day basis till the tender is concluded.
30. The Dispute, if any, will be subject to Jurisdiction at Patna (Bihar).

**Director,
I.G.I.M.S. - Patna**

CONDITIONS OF THE CONTRACT

01. Duty Free Clearance, Transportation, Forwarding & Handling Charges:

Clearance charges at point of Entry / Air Port and on ward transportation charges with Insurance up to I.G.I.M.S. - Patna will be borne by supplier's Indian Agent for which this Institute will not pay the charges. The firm should quote as FOR IGIMS Patna including all expenditure.

02. Demurrage, Taxes & Octroi:-

No demurrage charges will be paid by the Institute in case of delay on the part of supplier. However, this Institute will provide all necessary documents required for clearance / transportation of the goods and for exemption of the taxes/octroi for which supplier/Indian agent will have to intimate/furnish his requisition of document required, if any, well in advance. Octroi will be payable by supplier / Indian agent, if required.

03. Warranty Period:

a. The “**Complete System**” shall remain under warranty period of **three years** from the date of satisfactory installation. The Complete System should include the basic unit and allied supporting components like UPS, Computer System, Printer, De-ionizer, Dehumidifier etc. to be supplied by the bidder along with basic unit if necessary for running the system.

b. During warranty period of three years, bidder shall provide at least **four maintenance visits per year** at regular interval for usual maintenance and supervision. If bidder fails to provide these maintenance visits at regular interval, a proportionate deduction in the form of penalty on pro-rata basis will be recovered from the bidder from the Bank Guarantee amount. In case the Bank Guarantee is not adequate, Institute shall have right to recover the losses / penalty from other sources as well.

c. Bidder shall also attend all breakdown calls within 48 hours of the receipt of the information from institute through fax/e-mail/mobile/sms etc.

d. During warranty period, **bidder** shall maintain and keep **95% uptime** per year of the “**Complete System**” as per calculation given below:-

$$\begin{aligned} 1 \text{ Year} &= 365 \text{ days} \\ \mathbf{95\% \text{ of } 365 \text{ days}} &= \mathbf{347 \text{ Days per annum}} \end{aligned}$$

e. The bidder shall compensate the uptime less than the specified above for **every additional day** of down time over and above 18 days stipulated above, warranty period will get extended by one week as penalty at no extra cost i.e. the extended penalty period will be equal to one week for every additional day of down time.

f. During warranty period, **bidder** will make the “**Complete System**” in satisfactory working condition. In case, any spare parts, accessories, PCB, consumables etc. needs replacement due to normal wear and tear, **bidder** will supply and install the same for which no additional payment is to be made with a validity to cover warranty period if required.

g. In case, the **bidder** is not able to provide services (and the items / accessories is not functioning as the reason thereof) due to natural calamity (act of God), Political unrest, Riot and fire at the user site, then in such a situation the warranty period will be extended by the period for which the item / accessories could not be operated because of supplier not been able to provide services.

h. During warranty period, in case of any alleged damage due to accident / human error, a committee under the Chairmanship of Director, I.G.I.M.S. – Patna with one member from the bidder and one member from the Institute will decide the authenticity of the claim. The decision of the committee shall be final and binding on both the parties.

04. After Sales Services: -

a. After expiry of the warrantee/Guarantee period of the equipment, the Indian agent will have to undertake the Comprehensive Annual Maintenance contract (with spare parts, accessories, consumables etc.) of the Complete System for the further life span of equipment. The life span

of the equipment shall not be less than ten years. In special circumstances the total life span of the Equipment/ items may be reduced by the Institute.

- b. The Complete System should include the basic unit and allied supporting components like UPS, Stabilizer, Computer System, Printer, De-ionizer, Dehumidifier etc to be supplied by the bidder along with basic unit if necessary for running the system.
- c. During Comprehensive Annual Maintenance Contract, bidder shall provide at least **four maintenance visits per year** at regular interval for usual maintenance and supervision. If bidder fails to provide these maintenance visits at regular interval per year, a proportionate deduction in the form of penalty at the rate of 25% of contract amount per year will be deducted.
- d. Bidder shall also attend all breakdown calls within 48 hours of the receipt of the information from institute through fax/e-mail/mobile/sms etc.
- e. During Comprehensive Annual Maintenance Contract, **bidder** shall maintain and keep **95% uptime** per year of the “**Complete System**” as per calculation given below:-
1 Year = 365days
95% of 365 days = 347 Days per annum
- f. The bidder shall compensate the uptime less than the specified above for **every additional day** of down time over and above 18 days stipulated above, warranty period will get extended by one week as penalty at no extra cost i.e. the extended penalty period will be equal to one week for every additional day of down time.
- g. During Comprehensive Annual Maintenance Contract, **bidder** will keep the “**Complete System**” in satisfactory working condition. In case, any spare parts, accessories, PCB, all type of consumables etc. needs replacement due to normal wear and tear, **bidder** will supply and install the same for which no additional payment is to be made. .If any spares / consumables / accessories etc. are not covered under Comprehensive Annual Maintenance Contract charges, it should be clearly mentioned with frequency of replacement and with rate. The validity of rate of such items should also be mentioned clearly. What will be the rate of escalation on the quoted rate after expiry of the validity of rate of such item must be mentioned.
- h. The payment of Comprehensive Annual Maintenance Contract will be made on half yearly basis after submission of satisfactory functioning report of the Complete System by the officials authorized by the Institute.
- i. In case, the **bidder** is not able to provide services (and the items / accessories is not functioning as the reason thereof) due to natural calamity (act of God), Political unrest, Riot and fire at the user site, then in such a situation the Comprehensive Annual Maintenance Contract will be extended by the period for which the item / accessories could not be operated because of supplier not being able to provide services.
- j. During Comprehensive Annual Maintenance Contract, in case of any alleged damage due to accident / human error, a committee under the Chairmanship of Director, I.G.I.M.S. – Patna with one member from the bidder and one member from the Institute will decide the authenticity of the claim. The decision of the committee shall be final and binding on both the parties.

05. Performance Security

- a. There will be a performance security deposit amounting to 10 % of the total value of the equipment excluding taxes, which shall be submitted by the successful bidder within 10 days from the date of issuance of “Letter of Intent”.
- b. The contract duly signed and returned to the Institute shall be accompanied by a demand Draft or Bank Guarantee in the prescribed format.
- c. Upon receipt of such contract and the performance security, the Institute shall issue the Supply Orders containing the terms and conditions for the execution of the order.

- d. Failure of the successful bidder in providing performance security as mentioned above and / or in returning contract copy duly signed in time shall make the bidder liable for forfeiture of its EMD.
- e. The Performance security shall be denominated in Indian Rupees or in the currency of the contract as detailed below:
 - i. It shall be in any one of the forms namely Account Payee Demand Draft or Bank Guarantee issued by a Scheduled bank in India, in the prescribed form as provided in this document endorsed in favour of the Institute.
 - ii. Institute will release the Performance Security without any interest to the successful bidder on completion of the successful bidder's all contractual obligations including the warranty obligations & after receipt of certificates confirming that all the contractual obligations have been successfully complied with.

06. Delivery period/Liquidated Damage: -

Goods should be delivered within three months after receipt of irrevocable and confirmed Letter of Credit. If the delivery is not affected by due date, the Director, I.G.I.M.S. - Patna shall have the right to charge liquidated damage on supplier/his Indian agent as under: -

- i. 1st extension for a month or a part thereof @ 2% per month of C.I.F. value.
- ii. 2nd extension for an additional month or a part thereof @ 3% per month of C.I.F. value subject to maximum Limit of 20% of the order items. All expenses incurred for extension of L.C. will be borne by supplier/his Indian agent.
- iii. Cancellation.- If delivery is not done even after 2nd extension Institute shall have the right of cancellation of Supply order at its discretion.

07. Payment: -

100% payment through International Irrevocable Letter of Credit in favour of principal abroad, but 80% will be released on shipment of goods & balance 20% after satisfactory installation of equipment on submission of Bank Guarantee of value not less than 20% of the cost of the quoted equipment (with a minimum validity to cover up the warranty / guarantee period) will be submitted by supplier. This Bank Guarantee will be released after expiry of guarantee period.

- a. In case, the equipment is purchased in Indian Currency then the payment will be made as per following scheduled.
- b. 90% payment will be released against delivery and successful installation of the equipment & balance 10% will be released on submission of 10 % Bank Guarantee of the total cost of ordered value. This Bank Guarantee will be released after expiry of guarantee period.
- c. L. C. will be opened only after receipt of the 20% bank Guarantee of the total cost of equipment (with a minimum validity to cover up the warranty / guarantee period), confirmation letter of all our terms and condition, submission of agency certificate in favour of Indian agent who have submitted and quoted the price, name of the Bankers abroad; intimation about country of origin and 10 copies of Performa invoice of the ordered item. Indian Agency commission will be paid in Indian currency only to Indian agent, if any. No extra charges will be paid for installation/demonstration and training to personnel.

08. **Validity of Price:-**

Minimum up to one year from date of tender submission and it should be extendable.

09. **Part Supply:** No part supply/ wrong supply or short supply will be accepted by the Institute. The Director IGIMS, Patna will be the final authority and will have the right to reject full or any part of supply, which is contradictory to the terms and conditions agreed at the time of placement of order. In case of rejection of any supplied items due to nonconformity in quantity and/or quality, Institute will have right to charge liquidated damages, as it deems fit

10. **Packing & Marking:-**

Goods must be securely and adequately packed and protected in order to prevent damage, otherwise all losses and /or damage resulting from inadequate packing and/or inadequate protection or inadequate marking shall be borne by seller/seller's Principal abroad.

11. Supplier may have to provide required manpower for running the equipments at mutually agreed remuneration (Which shall not be more than remuneration payable for the particular category of staff at IGIMS) at the sole discretion of the Institute, till institute is able to arrange its own staff for the purpose.

12. **Insurance: -**

Insurance up to Patna will be borne/arranged by principal supplier/his Indian Agent.

13. **Installation & site plan:**

Requirement regarding site/location for installation of equipment, if any, should be mentioned in the tender. Time required for installation of system after delivery must be mentioned. In case of delay in installation institute will have right to charge liquidated damage.

Specify the following points for installation of the System: -

- a. Total power consumption along with breakup of main System and Accessories.
 - b. Whether the System needs uninterrupted power supply.
 - c. Maximum tolerated transfer time in case of interruption of power supply.
 - d. Whether the System needs any humidity control device.
 - e. Whether the System needs any separate power line/isolation Transformer.
 - f. Does the System need the electrical shielding?
 - g. Whether Air Conditioner is required for the System.
 - h. Does it require special civil works for installation?
14. The bidder should also quote for supply of "Un-Interrupted Power Supply" (UPS) with a battery backup of at least 30 minutes, "Constant Voltage Transformer (CVT)" of reputed manufacturer of required capacity along with Spike Suppressor or "Servo Voltage Stabilizer" as per requirement of the System. Bidder may quote the prices for all the above items (UPS/CVT/SERVO VOLTAGE STABILIZER) and the decision will be taken during technical evaluation of the item whether UPS is suitable or CVT / Servo Voltage Stabilizer will serve the purpose.

15. **Responsibility:-**

The principal as well as its agent will be severally and jointly responsible for ensuring the minimum life span of 10 years for the equipment. Both the said principal abroad and his Indian agent will have

the full responsibility for the proper functioning of the equipment/instruments within the warranty period and thereafter during the life span of the equipment

16. The bidder is required to provide list of persons (along with their permanent and correspondence address) owning more than 1% share ownership in the company/firm (both principle and Indian Agent).
17. The bidder is required to submit compliance sheet, which should reflect details of clause-by-clause compliance of technical specifications as well as general terms & conditions failing which their offer shall be rejected.
18. In order to fully and optimally utilize the equipment, training to paramedical staff and Doctors should be provided. In continuation to this training a separate maintenance training for the machine and the sub system should also be given to the Equipment Maintenance Engineer and Maintenance Technicians of the Institute. All the financial commitment in this regard shall be met by the firm/Principal.

19. Penalties for non-performance

The penalties to be imposed, at any stage, under this tender are;

- a. imposition of liquidated damages,
- b. forfeiture of EMD/performance security,
- c. termination of the contract,
- d. Blacklisting/debarring of the bidder.

20. Termination of Contract

- a. Termination for default:- The Institute, without prejudice to any other contractual rights and remedies available to it (the Institute), may, by written notice of default sent to the successful bidder, terminate the contract in whole or in part, if the successful Bidder fails to deliver any or all of the goods or fails to perform any other contractual obligation(s) within the time period specified in the contract, or within any extension thereof granted by the Institute.
- b. In the event of the Institute terminates the contract in whole or in part, the Institute may procure goods and/or services similar to those cancelled, with such terms and conditions and in such manner as it deems fit and the successful bidder shall be liable to the Institute for the extra expenditure, if any, incurred by the Institute for arranging such procurement.
- c. Unless otherwise instructed by the Institute, the successful bidder shall continue to perform the contract to the extent not terminated.
- d. Termination for insolvency: If the successful bidder becomes bankrupt or otherwise insolvent, the Institute reserves the right to terminate the contract at any time, by serving written notice to the successful bidder without any compensation, whatsoever, to the successful Bidder, subject to further condition that such termination will not prejudice or affect the rights and remedies which have accrued and / or will accrue thereafter to the Institute.
- e. Termination for convenience: - The Institute reserves the right to terminate the contract, in whole or in part for its (Institute) convenience, by

serving written notice on the successful bidder at any time during the currency of the contract. The notice shall specify that the termination is for the convenience of the Institute. The notice shall also indicate inter alia, the extent to which the successful bidder's performance under the contract is terminated, and the date with effect from which such termination will become effective.

21. **Fall Clause:**

The prices charged for the equipment supplies under the contract by successful bidder shall in no event exceed the lowest price at which the successful bidder sells the equipment's of identical description to any other persons during the period of contract. If any time, during the contract, the bidder reduces the sales price chargeable under the contract, he shall forth with notify such reduction to the Institute and the price payable under the contract of the equipment's supplied after the date of coming into force of such reduction or sale shall stand correspondingly reduced.

22. **Applicable Law & Jurisdiction of Courts**

- a. The contract shall be governed by and interpreted in accordance with the laws of India for the time being in force.
- b. All disputes arising out of this tender will be subject to the jurisdiction of courts of law in Patna (Bihar, India).

**Director,
IGIMS - Patna.**

CHAPTER:

SCHEDULE OF THE REQUIREMENT

List of Equipment's
Group -A- Multi-Disciplinary Research Unit
1. Shaker Incubator, 2.Refrigerator 310 ltr., 3. Microwave Oven, 4.Water Bath 5. Centrifuge Machine, 6. Electronic Balance, 7. DNA Gel Electrophoresis Systems, 8. Homogenizer, 9. Compound Microscope, 10. Sonicator, 11. Media Filtration assembly with vacuum pump, 12. Protein Electrophoresis and blotting systems, 13. Magnetic Stirrer, 14. Research Microscope with fluorescence (upgradable for Karyotyping and FiSH), 15. Liquid Nitrogen Cell Storage System, 16. pH Meter, 17. Elisa Processor, 18. Mass Spectrophotometer (Maldi TOF MS), 19. A real-time PCR amplification/detection system for HPV genotyping and oncology parameters like BRAF, KRAS and EGFR, 20. Hybridization System, 21. HPLC
Group -B- Advanced Molecular Microbiology and Molecular Genomics
<ol style="list-style-type: none">1. Next generation sequencing platform2. Automated DNA sequencer3. Digital ph meter4. Multi-well plate shaker5. Biospectrophotometer (nano volume spectrophotometer)6. Refrigerated micro centrifuge7. Electrophoresis system and power pack<ol style="list-style-type: none">a. Mini protein electrophoresis system (dual)b. DNA electrophoresis system8. Automated multiplex PCR system with panels - respiratory panel, blood culture identification panel, gastro-intestinal panel, encephalitis/meningitis panel9. Table top centrifuge (multiple rotors)10. UV- trans-illuminator11. Biosafety cabinet type 2, A2

ANNEXURES
Annexure - I (a)

**PRICE SCHEDULED FOR DOMESTIC GOODS OR GOODS OF FOREIGN ORIGIN
LOCATED WITHIN INDIA.**

1	2	3	4	5							6
				Price per unit (Rs.)							
Sched uled	Brief descript ion of goods Make: Model:	Countr y of origin	Qty. nos.	Ex- factory/ex- warehouse /ex- showroom/ off-the shelf	Excise duty(if any) % and value.	Sales tax/ vat(if any % and value.	Packi ng and forwa rding charg e	Inland transportatio n , insurance for a period including 3 months delivery, loading/ unloading and incidental cost till consignee site.	Incidental services (including installatio n and commissi oning, supervisio n, demonstra tion and training) at the consignee site. (f)	Unit price (at consign ee site basis(g) a + b + c + d+ e + f	Total unit price (At Consign ee Site) Basis Rs. 4x5(g)
				(a)	(b)	(C)	(d)	(e)	(f)		

Total quoted price in Rs.

In Words:

Note:

1. If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warrantee shall be quoted separately as per price scheduled.

Place:

Name:

Date:

Business Address; -

Signature of Bidder;-

Seal of the Bidder;-

Annexure: I (b)

PRICE SCHEDULED FOR GOODS TO BE IMPORTED FROM ABROAD

1	2	3	4	5					6
				Price per unit (CURRENCY)					
Schedule d	Brief descrip tion of goods Make: Model:	Country of origin	Qty. nos.	FOB price at port/ Airport of lading (a)	Carriage & Insurance (port of loading to port of entry) and other incidental cost . (b)	Incidental Services (Including Installatio n & Commissi oning, supervisio n, Demonstr ation And Training) at the consignee 's site. (C)	Extended Insurance (Local transportation and storage) from port of entry to the consignee site for a period including 3 month beyond date of delivery .	Unit Price on CIP Named port of Destination + Extended Insurance (Local Transportati on and storage) (e_)	Total Price on CIP Named Port of Destination + Insurance (Local Transportati on and storage) 4x5(e)

To be paid in Indian Currency (Rs) :

Total Tender Price in Foreign Currency:.....

In Words;-.....

Note:-

- a) If there is a discrepancy between the unit price and total price THE UNIT PRICE shall prevail.
2. The charges for Annual CMC after warrantee shall be quoted separately as per price scheduled.
3. The Bidder will be fully responsible for the safe arrival of the goods at the named port of entry in goods condition as per terms of CIP as per INCOTERMS, if applicable

Indian Agent;-

Indian agency commission: % of FOB

Name:

Signature of Bidder;-

Business address;-

Signature of Bidder

Seal of the Bidder;-

Place;-

Date

Annexure - II
COMPREHINSIVE ANNUAL MAINTENANCE CONTRACT PRICES SCHEDULE

S. No.	Item Description	1 st Yr.	2 nd Yr.	3 rd Yr.	4 th Yr.	5 th Yr.	6 th Yr.	7 th Yr.	Total Comprehensive Annual Maintenance Contract over a period of seven years after expiry of warranty period of three years from the date of successful installation. (a + b + c + d + e + f + g + h + i)
a	b	c	d	e	f	g	h	i	j
1.	Name of the Equipment: Make: Model: Qty.:								
2.	Name of the Equipment: Make: Model: Qty.:								

Scope of Contract (details as mentioned in the Clause No. – 13 of “Instruction to Bidder” & Clauses No.: 3, 4 and 5 of “Condition of Contract”):

- a) The rate of Comprehensive Annual Maintenance Contract as mentioned above should cover the Complete System. Complete System should include the basic unit and allied supporting components like UPS, Stabilizer, Computer System, Printer, De-ionizer, Dehumidifier etc to be supplied by the bidder along with basic unit.
- b) **Preventive maintenance visit:** Four Maintenance visits at regular interval for usual maintenance & supervision failing which 25% of the contract amount per visit would be deducted as penalty.
- c) **Break down maintenance visit:** As & when required
- d) **Response Time:** within 48 Hours.
- e) Uptime Guarantee: 95% of 365 days
- f) The above-mentioned charges should includes labour charges for maintenance and breakdown visits per year, spares, accessories and all type of consumables required for the maintenance of the supplied items. If any spares / consumables /accessories etc. are not covered under above-mentioned charges; it should be clearly mentioned with frequency of replacement and with rate. The validity of rate of such items should also be mentioned clearly. What will be the rate of escalation on the quoted rate after expiry of the validity of rate of such item must be mentioned.
- g) Payment of Comprehensive Annual Maintenance Contract would be made on half yearly basis after completion of work and satisfactory working report. In no case, advance payment is to be considered.

Seal and Signature of the bidder

ANNEXURE – III

MANUFACTURER'S AUTHORISATION FORM

(To be submitted by authorized dealers/representatives/importers)

No.

Dated:

To

The Director
Indira Gandhi Institute of Medical Sciences,
Sheikhpura,
Patna – 800 014 (Bihar, India)

Dear Sir,

Tender No :
Equipment Name :

1. We (Name of the OEM) are the original manufacturers of the above equipment having registered office at (full address with telephone number/fax number & email ID and website), having factories at _____ and _____, do hereby authorize M/s. _____ (Name and address of bidder) to submit tenders, and subsequently negotiate and sign the contract with you against the above tender no.
2. No company or firm or individual other than M/s. _____ are authorized to bid, negotiate and conclude the contract in regard to this business against this specific tender.
3. We also hereby undertake to provide full guarantee/warranty /Comprehensive Annual Maintenance Contract as agreed by the bidder in the event the bidder is changed as the dealers or the bidder fails to provide satisfactory after sales and service during such period of Comprehensive Warranty / Comprehensive Annual Maintenance Contract and to supply all the spares/ accessories / consumables etc. during the said period.
4. We also hereby declare that we have the capacity to manufacture and supply, install and commission the quantity of the equipment's tendered within the stipulated time.

(Name)

for and on behalf of M/s. _____

Date:

(Name of manufacturers)

Place:

Note: This letter of authority should be on the letterhead of the manufacturing concern and should be signed by a person competent and having the power of attorney to bind the manufacturer.

ANNEXURE – IV
BANK GUARANTEE FORM

To

The Director
Indira Gandhi Institute of Medical Sciences,
Sheikhpura,
Patna – 800 014 (Bihar, India)

WHEREAS _____ (Name and address of the supplier) (Hereinafter called “the supplier”) has undertaken, in pursuance of tender no _____ dated _____ (herein after called “the contract”) to supply The Director, Indira Gandhi Institute of Medical Sciences, (address) with _____ (Description of goods and supplies).

AND WHEREAS it has been stipulated by you in the said tender/bid that the supplier shall furnish you with a bank guarantee by a scheduled commercial bank recognized by you for the sum specified therein as security for compliance with its obligations in accordance with the bid scope;

AND WHEREAS we have agreed to give the supplier such a bank guarantee;

NOW THEREFORE we hereby affirm that we are guarantors and responsible to you, on behalf of the supplier, up to a total amount of _____ (Amount of the guarantee in words and figures), and we undertake to pay you, upon your first written demand declaring the supplier to be in default under the contract and without cavil or argument, any sum or sums within the limits of (amount of guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein. We hereby waive the necessity of your demanding the said debt from the supplier before presenting us with the demand.

We undertake to pay you any money so demanded notwithstanding any dispute or disputes raised by the supplier(s) in any suit or proceeding pending before any Court or tribunal relating thereto our liability under these presents being absolute and unequivocal.

We agree that no change or addition to or other modification of the terms of the contract to be performed there under or of any of the contract documents which may be made between you and the supplier shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition no modification.

No action, event, or condition that by any applicable law should operate to discharge us from liability, hereunder shall have any effect and we hereby waive any right we may have to apply such law, so that in all respects our liability hereunder shall be irrevocable and except as stated herein, unconditional in all respects.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Supplier(s).

We, _____ (indicate the name of bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent, in writing, of The Director, Indira Gandhi Institute of Medical Sciences, Patna (Bihar). This Guarantee will remain in force up to (Date). Unless a claim or a demand in writing is made against the bank in terms of this guarantee on or before the expiry of (Date) all your rights in the said guarantee shall be forfeited and we shall be relieved and discharged from all the liability there under irrespective of whether the original guarantee is received by us or not.

(Signature with date of the authorized officer of the Bank)
Name and designation of the officer

.....
.....
Seal, name & address of the Bank and address of the Branch

ANNEXURE - V
POWER OF ATTORNEY
(On a Stamp Paper of relevant value)

I/ We.....(name and address of the registered office) do here
byconstitute,appointandauthoriseSri/Smt.....
.....(name
and address) who is presently employed with us and holding the position of
..... as our attorney, to act and sign on my/our behalf to
participate in the tender
no.....for
..... (Equipment name).

I/ We hereby also undertake that I/we will be responsible for all action of
Sri/Smt..... undertaken by him/her during the tender process and
thereafter on award of the contract. His / her signature is attested below

Dated this the ___ day of 201_ For _____

(Name, Designation and Address)

Accepted

(Signature) (Name, Title and Address of the Attorney)

Date : _____

Specification & Allied Technical Details

Group-A: Multi-Disciplinary Research Unit (MRU)

1. Shaker Incubator

(with adaptors for different volume flasks and a compatible voltage stabilizer)

It should be a bench top Orbital Shaker Incubator

Temperature Range at least from 15°C below ambient to 60°C

Control accuracy $\pm 0.1^\circ\text{C}$ by microprocessor/ PID controlled

Shaking features:

1. Speed range at least 30 to 400 RPM.
2. It should have timer time of up to 99.9 Hrs or more.
3. Drive: By triple eccentric, brushless motor is preferable to avoid costly maintenance
4. It should have soft start and stop features to prevent culture spillage
5. It should have auto restart function after power interruption with non-volatile memory (retain set parameters after power failure).

Display:

1. LED for indication of speed, running time and temperature.

Safety Features:

1. It should have open lid cut-out switch to stop platform motion.
2. It should have audible/ visible alarms for temperature and speed deviations.

Essential Accessories:

1. It should be supplied with universal platform (about 18 inches x 18 inches) having capacity to hold about 4-6 flasks of 2 liters. It should be supplied with the clamps/adaptors for flasks of 250 ml (8 Nos.), 500 ml (04 Nos), 1000 ml (02 Nos) and 2000 ml (02 Nos) and ~50 ml tube holder (1-2 Nos).
2. It should be supplied with compatible wall mountable stabilizer

Installation of an incubation tray for the petri plates is an optional requirement.

It should come with 3 years warranty and on-site repair services as and when required

2. Technical Specifications of Refrigerator 310 liters

Minimum Gross storage Capacity 310 to 330 ltrs

Model Type Double door

Voltage Range at 40 degree centigrade Capable of working on 220 volts + 12 % A.C 50 Hz

Power Source AC , 220 Volts to , 50 Hz

Method of Defrosting Frost Free

Insulation Puff / Maxi 2 / Polyurethane

Refrigerant Gas CFC free

Compressor Power saver compressor

Accessories Required Adjustable shelves , chiller Tray , Temperature controller, Auto lamp On/off feature , should be supplied with all standard accessories as per manufacturer catalog for the model supplied

Warranty with 3 year Comprehensive Warranty

Stabilizer Should be supplied with 0.5 KVA capacities CVT without any extra cost.

The CVT will also carry 3 years warranty.

3. Microwave Oven

General Requirement: This microwave oven shall be simple in operation and with turn able and capable in microwave cooking and defrosting.

Supply voltage: 220 volt, 50 Hz, single phase A>C>

Power consumptions: 1300 W approx

Microwave Frequency: 2450 Mhz

Control: Soft/one touch control

Timer: 60 minutes- 90 minutes

Exterior Dimensions: 520 mm (W) x 360mm (H) x 450 mm (D) approx. 10. Oven Dimensions 520 mm (W) x 360 mm (H) x 450 mm (D) approx.

Safety: The equipment shall be bounded to earth effectively in accordance with I.E.E. Wiring Regulations.

Sufficient, Safety interlocks to prevent leakage of microwave. 12. Accessories: Shall be supplied with a glass/ceramic tray.

Auto pipette (Fixed Volume)

Size Quantity (nos.) 0.2 uml 2 10.5 uml 2 1.0 uml 2 2.0 uml 2 5.0 uml 2 10.0 uml 2 25.0 yml 2 100.0 uml 2

Auto pipette (Variable Volume)

Size Quantity (nos.) 0.2 to 2 uml 2 1 to 10 yuml 2 10 to 100 uml 2 20 to 200 uml 2

4. Water Bath

Double walled chamber, these come with high speed stirrer with motor of 1/20HP that is fitted to unit for achieving continuous stirring as well as maintaining a uniform temperature throughout.

Further, the presence of speed regulator on front panel also allows controlling speed of stirrers heating mechanism comprising set of heaters with sensitivity of $+ 0.1^{\circ} \text{C} + 1$ digit from ambient to 100°C and work on 220 / 230 volts A.C. Supply.

Chamber size in inches : 17*10*9

5. CENTRIFUGE Machine

Specifications:

Non refrigerated bench top centrifuge

Micro-processor control

Max speed of approx. 17,000 rpm and max rcf of more than 30,000 g.

Acceleration time to maximum speed must be less than 15s for all rotors at max load and a deceleration time of less than 15s with the standard 30 x 1.5/2ml rotor.

Automatic rotor recognition with imbalance detection

Rotor types required

1. Fixed angle rotor accommodating 24 x 1.5/2ml tubes with a speed of 30,000xg
2. Fixed angle rotor accommodating 6x 15/50ml with 7000xg speed.
3. Swing-bucket Plate Rotor accommodating 2 x DWP

6. Electronic Balance

Specifications:

- Weighing Capacity 200 to 230 gm
- Readability 0.1mg
- ISO 9001:2008 CERTIFIED
- Fully Automatic Internal Calibration.

- Dye cast aluminum design for long term stability and accurate results
- Suitable stabilizer for Electronic Balance

7. DNA Gel electrophoresis systems

Specifications of Gel electrophoresis systems (Horizontal and Vertical) with Power Pack Vertical gel electrophoresis

1. Should run one to four precast or hand cast mini gels in less than an hour.
2. Dimension of gel should be of approximate size 7.3 x 8.3 cm.
3. Should have thermoplastic casting gaskets to form a tight seal with the glass plates to ensure leak-free casting.
4. Should provide casting frames with simple cam closure to provide precision alignment on any flat surface.
5. Should have side-by-side casting stand which allows access to both gels simultaneously, and a spring-loaded lever creates a tight seal against the thermoplastic rubber gasket.
6. The tank should hold a buffer volume of approximately 700-1000 ml.
7. The approximate dimension of the tank should be 12x16x18cm.
8. The short plate and spacer plates size should be approximately 10.1 x 7.3 cm and 10.1 x 8.2 cm respectively.

Horizontal gel electrophoresis

1. Should have a buffer tank, a safety lid with cables, and a leveling bubble.
2. Should be provided with removable electrodes for ease of cleaning.
3. Should have arrow on the side of the base indicates the direction of the run and ensures proper orientation of the gel.
4. Should have colour-coded, labelled electrodes and labelled base.
5. Should be provided with tabs on the base to permit easy removal of the lid.
6. Should come with reverse-compatible design Clear plastic construction for easy sample visualization.
7. Should be provided with UV-transparent gel trays with fluorescent ruler.
8. Should be provided with gel-casting gates to cast gels right in the cell.
9. Should be provided with combs to fit every need .
10. Dimension of the tanks should be approximately a) 9.2x25.5x5.6 cm (WxLxH) and provided with two gel trays of approximate dimensions as 7x7 cm and 7x10cm and should be able to run 8-30 samples in a single run and provided with both fixed and preparative 8 well and 15 well combs and b) 18x40.5x9.4 cm (WxLxH) and provided with four gel trays of approximate dimensions 7x7 cm and 7x10cm and should be able to run 8-30 samples in a single run and provided with both fixed and preparative 8 well and 15 well combs and b) 18x40.5x9.4 cm (WxLxH) and provided with four gel trays of approximate dimensions as 15x10, 15x15, 15x20 and 15x25cm and should be able to run 30-120 samples in a single run and provided with both fixed and preparative 15 well and 20 well combs.
11. Should be supplied with micropipettes, variable range 2-20µl, 20-200 µl and 100-1000 µl as essential accessories.

Power Pack

1. Should have a programmable output range of 10-300V, adjustable in 1V steps, 4-400mA and adjustable in 1mA steps with a maximum of 75 Watts.
2. Should have four pair recessed output terminals in parallel.
3. Should come with a timer ranging from 1min-99hr59min.
4. Should come with pause/resume function.
5. Should come with an output which could be constant voltage or constant current with automatic cross-over.
6. Should come with a 3 digit LED display.
7. Should be provided with a EN-61010,CE regulatory compliance.
8. Should include safety features such as no load detection, sudden load change detection, overload/short circuit detection and over voltage protection.
9. Should be provided with fuse on both hot and neutral for input protection.
10. Should be able to operate at temperatures from 0-40 C and 0-90% humidity.
11. Should be a space safer design with approximately 21x24.5x6.5 cm (WxLxH).
12. Should be able to take an input power range of 90-120 Or 198-264 VAC, 50/60Hz, auto switching.

8. Homogenizer

Specifications

Should be used for small and heavy samples.

Should have an ease of using either as hand held or stand mounted, Teflon coated.

Should have variable speed control from 5000 rpm to 30000rpm

Volume range should be at least 0.1ml up to 100ml.

Noise rating should not be more than 72 dB.

At least should come with a 3 years warranty on parts and labour.

9. Compound Microscope

- Body: Binocular, sturdy, stable base body with focus adjustment controls.
- Eye piece: Paired, High quality (the image of the object as seen through the binocular eyepiece should be well defined centrally in at least 2/3 field of view), achromatic, wide field 10 x with inbuilt pointer. The eye piece should be aplanatic and have a minimum field number of 18 dioper adjustment must be present on one/both eye pieces or on the eye piece tube.
- Optical system should be infinity corrected.
- System complete with illumination system is required.
- Objective: Three objectives 10X, 40x, 100x, 10x and 40x objectives should have numerical apertures of 0.25 and 0.65 respectively and should be of spring loaded type or otherwise. 100x should have numerical aperture of 1.25 and should be of oil immersion and spring loaded type. Suitable prominent marking should be provided on 100 x for easy identification. Unbreakable containers to be provided for storing the objectives. All objectives should be wide field, achromatic and parfocal.
- Making for the objectives: Each objective should be engraved with the following information's:-
 - Name of the manufacturer
 - Magnification and numerical aperture for example 10x/0.25
 - 100x objective should be engraved with the word Oil in changing from one objective to another or reintroducing the same objective by rotation of the nosepiece, the object at the center of the field should not appear displaced by more than 0.02 mm in the object plane in any direction.
- Nose piece: Revolving nose piece to accommodate a minimum of three objectives with click stops. It should be provided with ribbed grip for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment Extra ports if any should be fitted with dust proof metallic/ ebonite caps.
- Stage uniformly horizontal, mechanical stage having dimensions of length 140 mm (+/- 20mm with fine vernier graduations (minimum reading accuracy of 0.1 mm). The stage should be provided with spring loaded slide holder for exact positioning of specimen/ slide It should be designed with convenient sub-stage vertical co-axial adjustment for slide manipulation. The stage should have ball-bearing arrangement to allow smooth travel in transverse directions i.e. 80 mm (+/-5 mm) and front to back direction, 50 mm (+- 5mm).
- Sub-stage condenser: Abbe-type condenser numerical aperture (N.A.) 1.25 focusable with rack and pinion arrangement incorporating an spherical lens and an iris-diaphragm. The condenser should have a filter holder and removable/swing in/out blue filter (suitable for bright field Microscopy)

- Sub –stage illuminator:
- The system should have a build-in variable light source (Illuminator) This light source should have a 20 W, 6 V Halogen lamp. The circuitry for the light source should include a constant voltage supply.
- The system should be provided with a step down transformer and an on-off switch and intensity control. The lamp should be provided with a lamp socket which has the facility for easy replacement of the bulb
- Power supply: Voltage 220 V AC, 50Hz should have one on –off power switch, 3 core power cord with a 3 point male plug.
- The system should have an inbuilt protective/safety device to withstand fluctuations of voltage from 140 V to 280 V.
- A plano-concave mirror in fork mounting should be supplied which would be attachable to the base for field use when power is not available.
- The fuse for the halogen lamp should be easily accessible to the operator
- The illuminator should have a build –in field diaphragm for kohler illumination.
- Eye piece tubes: Binocular eye piece tubes, inclined at 45 degrees, rotatable through an angle of 360 degrees, having inter-pupillary distance range of 54-74 mm or wider, covering the above mentioned range.
- Focusing knob: Co-axial coarse and fine focusing knobs capable of smooth fine focusing movement over the full range of coarse travel. The fine focusing movement should have sensitivity of two microns or less (finer) over the entire coarsefocusing stop safety arrangement should be provided.
- General:
- All optical parts including objectives, eye pieces and prisms should have anti-reflective coating which also given anti-fungal property.
- All metallic parts should be corrosion-proof, acid proof and stain-proof.
- Working manual should be provided with each microscope.
- A bottle of at least 25 ml immersion oil, a roll of lens tissue paper and lens cleaning solution (100 ml) should be provided with each microscope.
- One anti static cleaning brush should be provided with each microscope for cleaning purpose.
- Microscope should be supplied with all spare parts including fuses- 6 Nos.
- All consumables required for installation and standardization of system and microscope cover to be given free of cost.
- The unit shall be capable of being stored continuously in ambient temperature of 0.50 deg C and relative humidity of 15-90%.
- Should be FDA or CE or ISI approved product.
- Three years warranty, 5 yrs. Comprehensive AMC should be available with service centers in close proximity.
- User /Technical/ Maintenance manuals to be supplied
- Certificate of calibration and inspection from factory.
- List of important spare parts and accessories with their part number and costing.

10. Sonicator

Ultrasonic frequency: 20-25 kHz

Supplied probe(s) can process sample volumes ranging from at least 0.5 to 50 ml.

Should have programmable timer for at least 60 minutes.

Must be supplied with sound/ noise enclosure including clamps for the safety of the user

Must be supplied with probe stand and clamps.

It should be supplied with two years Warranty and on demand repair services as and when required.

Technical features described above should be supported by original illustrated catalog, with list of users (with all contact detail), and authentication of vendor's business record in the form of Income

Tax return for, at least, of last 3 years

Installation, testing should be conducted

11. Media filtration assembly with vacuum pump (Polysulfone Bottle-Top Filter Holders with for media filtration)

Assembly should be Autoclavable

Securely screws onto glass media bottles* with 33 mm or 45 mm neck sizes

Deep screw threads attach directly to bottle allowing convenient filling and vacuum filtration without holding filter to bottle

Major components molded of durable, break-resistant, transparent polysulfone (PSF), which is non-toxic, easy-to-clean and exhibits low protein-binding

Removable sterilization membrane support plate provides maximum flow rate and throughput

Molded-in graduations

Cover ports accommodate 1/4" i.d. tubing for flushing procedures, sterile venting or pressure filtration

Without required membrane, accepts 47 or 50 mm membrane

Should be supplied with vacuum pump

12. Protein electrophoresis and blotting systems, (mini as well as regular)

Mini electrophoresis and blotting systems (complete set with power supply)

- It should be vertical mini electrophoresis unit that can run about 10x8 cm (WxL) size gels, with the running capacity of 2-4 gels simultaneously (Preferably 4 gels).
- Should have integrated spacers with glass plates for ease of casting.
- Should be a modular system to support western blotting in the same tank.
- Should come with all standard accessories like 10 well 1.0 mm thick combs (5 Nos.), 5 sets of glass plates – both spacer plates, and short plates; and dummy plates (2 Nos.)
- Should be supplied with four casting stands and frames to cast four gels simultaneously.

Blotting apparatus should have the following technical features

- It should be a transblot wet type
- Can hold gel size of about 10 x 7.5 (mini gels)
- Capacity: at least 2 mini gels simultaneously
- Should be supplied with cooling unit that absorbs heat generated during transfer

Power supply:

- Programmable power supply should be capable to operate four electrophoresis units simultaneously with graphic 3 digit LED display.
- The output range should be about 10- 300 Volts, 4- 400 mA, power 75 W.
- Option for constant voltage or constant current.
- Timer: 1- 999 min
- Safety: No load detection, short circuit detection, over voltage protection.

Regular electrophoresis system (complete set)

- It should be vertical gel electrophoresis system that can run about 16x 20 cm (WxL) size gels with the capacity to run 1-2 gels simultaneously.
- It should be supplied with casting stand (complete set), 15 well combs (2), 1.5 mm spacers (at least 4) and two

sets of plates (notched as well as normal)

- It should be supplied with necessary tank, clamps and gaskets and other accessories required for running and casting the gels
- Cooling should be an optional but preferred feature

13. Magnetic stirrer

Motor: Maintenance-free brushless motor drive and should not generate heat

Speed Range: From 5 up to 250 rpm,

Stirring performance: 100% jerk-free, Should be able provide even and smooth stirring also at slow speeds, and gentle mixing of cell cultures.

Should be suitable for viscous culture media.

14. Research Microscope with Fluorescence attachment

Trinocular/Binocular, inverted phase contrast microscope along with digital camera with Micro LED based Fluorescence attachment (Blue & Green excitation) Quadruple revolving nosepiece

Objectives: High performance Long working distance Objectives suitable for

Brightfield/Phase Contrast Observation with facility of coverglass correction (4X,10X, 20x, 40X, and 100X)

Halogen bulb Minimum 2 pcs. Of 6V 30W or higher version, Blue and green filter

Feature & immersion oil

Blue LED cassette with excitation wavelength minimum 450 nm.

Green LED cassette with excitation wavelength minimum 500 nm.

Light Source Lifetime: minimum 30000 hours

Focusing: Vertical and horizontal objective movement. Coarse stroke: 37.7mm per rotation, fine stroke 0.2mm per rotation.

System should Allow Transmitted Light Observation without removing the Fluorescence module to get accurate results.

Digital Camera system attachment: 12.5 Megapixel resolution or more, minimum 6.4" x 8.5" print size at 300dpi, quickly captures, highest-quality real-time images for dark field, bright field and phase contrast microscope, with 2GB memory card minimum and with 2 years warranty period.

Other essential Items

Data Collection and processing unit: Branded, Processor i3, 2 GB RAM, DVD Writer, 300GB or higher HDD, with 17" TFT Monitor

Software: Image analysis Software for Preview and Capturing, Dynamic measuring, Image mosaic, Software count, Image enhancement, Video recording. Image merging option.

Note: Apart from above specifications the unit must be Upgradable at any time in terms of fluorescence and other functions.

Warranty Period: two years minimum

UPS : 1 KVA

Should be upgradable for karyotyping and Fish

15. Liquid Nitrogen Cell Storage System

1. For long term storage of cell samples in 2 ml and 5 ml cryovials in cryobox racks in liquid nitrogen

2. The system must have strong, lightweight STORAGE TANK with AUTO-REFILLING DEVICE and TRANSFER/TRANSPORT TANK

3. STORAGE TANK should have liquid nitrogen storage capacity of 60 liters or more BUT NOT MORE THAN 120 liters

4. Static holding time of STORAGE TANK should be more than 120 days and static

evaporation time must be less than 0.9 liters per day

5. Neck diameter of STORAGE TANK should be between 8 to 10 inch
6. Storage space of STORAGE TANK should accommodate more than 2000 cryovials (1.2/2 ml capacity) in 10 x 10 cryobox format or 400 cryovials (5 ml capacity) in cryoboxes
7. Exterior of STORAGE TANK should be not more than 30.0 X 30.0 inch (diameter X height)
8. Storage system should be with wheeled accessory for easy movement
9. Storage system should be equipped with liquid nitrogen level monitor & alarm
10. The system must be equipped with AUTO-REFILLING wheel base device of approximately 50-100 liters capacity for supply of liquid nitrogen for a period minimum of two months without refilling
11. One TRANSFER/TRANSPORT TANK with wheeled accessory of approximately 20 liters capacity for transport of liquid nitrogen MUST be included in system
12. Complete system should have FIVE years warranty from the date of installation

16. pH Meter

Should be supplied with Combination Glass pH Electrode (0-70°C), Standard Buffer Tablets, Electrode Stand with Clamp, Dust Cover, Power Cord, Operational & Instruction Manual.

Ph Range – detection: 0-14 pH,

Resolution : 0.01 pH

Temperature Range : 0.0 to 100°C (Manual Compensation)

Display : 3 1/2 Digit LED Display

Power Supply : 230VAC ±10%, 50 Hz Calibration check facility & Calibration Error indication for 7.00 & 4.00 pH

17. Elisa Processor

Specifications:

- Automated ELISA System having integrated incubator, washer, reader and plate shaker for complete ELISA
- Provision to use reader & washer independently if needed
- The system should have a capability to handle minimum of 4 plates on deck with storage capacity of minimum 10 plates.

Pipetting arm:

- System should have independent pipetting arm with compatibility for generally available type 2. Each tip should have independent volume control & flexibility to move in x,y,z direction.
- Should have facility for liquid level & clot detection.
- Volume range 3ul- 25ml & different syringe capacity.
- Pipetting arm should be compatible for using test tube / eppendorf/microplates.
- The should have dedicated wash procedure.
- System should have capability of pipetting & sample dilution.
- Built incubator should have minimum 4 independently programmable incubators and temperature up to 60 degree centigrade with shaking feature.

Elisa Reader Component:

- Modular design micro plate reader
- Absorbance mode: filter based reader with necessary filter option
- Light source: UV Xenon flash lamp/ any other light source suitable
- Measurement range 0-3.0 OD

- Photometric resolution: 0.001OD
- Photometric accuracy: + 0.001 OD
- Spectral Scanning, well area scanning end point (all modes) kinetic (all modes)
- Reader capable of reading the plate 96 well
- Plate shaking linear and or bital.

18. Mass Spectrophotometer (Maldi TOF MS)

Technical Specifications of MALDI TOF/TOF MS: -

The MALDI-TOF/TOF MS instrument having features to deliver highest quality performance in resolution, sensitivity and mass accuracy for comprehensive proteomics applications.

[A] Complete Molecular Characterization and analysis of Metal-organic complexes, Oligonucleotides, PNA-DNA Hybrids, Polymers, Dendrimers, Supramolecular assemblies e.g., Synthetic Metalloporphyrins, Phthalocyanines and multiporphyrins and a Specialized software to determine Molecular mass, End group analysis ,co-polymer study and impurities.

[B] The system should be capable of performing the identification of intact protein, protein/peptide identification and characterization, protein biomarker research, PTM identification and analysis, de novo sequencing, gel based and non-gel based applications, quantitative proteomics including label free and labelled (iTRAQ, ICPL,SILAC etc.) studies, MALDI ISD analysis, glycan analysis and biopolymer analysis.

[C] Further, the system should be capable of both positive and negative ion detection and MS/MS applications.

Advanced & latest systems with all the accessories required to carry out all the above applications along with all applicable application software with perpetual licenses. Relevant literature and publications that support the quoted model's ability to perform all of these capabilities must be included.

General Specifications:

<p>1. System Hardware Specifications</p>	<ul style="list-style-type: none"> • It should be operational in Linear, Reflector and MS/MS mode (TOF/TOF Configuration). • Capable of TOF/TOF uses (MS/MS mode operation with gas collision cell). • Active video viewer and scanning of the target under acquisition. • MALDI plates are to be of Industry standard and have compatibility with LC and autos potter. • Unwanted Mass/Mass range suppression. Quantification of mass peaks. • High speed data digitizer (2 GHz or higher). • The ion refocusing region and detector with latest technology to better refocus the ions on the detector plane (necessary for higher mass accuracy) with a fast detector coupled to fast electronics for high digital sampling rate.
<p>MASS ANALYZER</p>	<ul style="list-style-type: none"> • The instrument should employ TOF/TOF optics technology for highest resolution and sensitivity. • The system should be capable of performing intact protein mass identification, peptide mass fingerprinting, and precursor ion selection followed by high energy fragmentation to generate high resolution MS/MS spectra. • High sensitivity in both linear and reflector mode (pmol range or better) fragmentation at high

	sensitivity and High energy (CID) and ISD.
MALDI ION SOURCE	<ul style="list-style-type: none"> • MALDI High repetition stable laser (1Hz – 50 Hz or higher) in both modes with capability to focus to 10 micron diameter or better. • The laser should have pulse energy 30 μJ or higher with long laser life 2 million shots or higher. • Collision Induced Dissociation (CID) facility with high collision energy for both type of ions. • User friendly cleaning of ion source. • A good quality pulse extraction source.
MODES OF OPERATION	<p>The system should be operated in the following modes.</p> <p>LINEAR Mode</p> <ul style="list-style-type: none"> • Measureable mass range in this mode: ≥ 100 kDa. • Minimum sensitivity for MS: 250 amol or better. • Mass Accuracy in this mode: Better than 90 PPM. <p>REFLECTRON MODE</p> <ul style="list-style-type: none"> • Mass Accuracy: ≤ 5 ppm with Internal Calibration. • Mass Accuracy: ≤ 50 ppm with External Calibration. • Minimum sensitivity: 250 amol or better with adequate S/N. <p>MS/MS mode</p> <ul style="list-style-type: none"> • The instrument should be capable of TOF-TOF mode and this mode operates with gas collision cell. • Mass resolution (M/ΔM): isotopic resolution of fragments should be achievable. • Minimum sensitivity: 2.5 fmol or better • Minimum measurable mass: 100 Da or less

Data System and Software, WorkStation should have:

a) Softwares related to Protein identification and characterization, de novo sequencing, protein/peptide quantitation (labelled & label free), PTM's discovery including glycan analysis and other proteomics application along with the intact molecular weight determination must be supplied. Capable of automated MS or MS/MS analysis.

b) Softwares supplied must be capable of molecular characterization and analysis of Polymers, Dendrimers and Supramolecular assemblies, oligonucleotides and PNA- DNA Hybrids.

c) Data processing software shall be compatible with data base search engines such as MASCOT or equivalent and relevant interfacing must be provided. This shall also be linked to protein annotation and classification databases.

d) High performance workstations (two in number: one for data acquisition connected to instrument and second for offline data analysis with connectivity to internet) with 24 inch LED monitor, a minimum of 1 TB storage space and high end graphic card with adequate memory and all interfacing software and hardware shall be included. Both computers shall have same specifications and these should be submitted along with the technical bid. An additional 4 TB external storage drive with networking capabilities must be provided. A total number of 5 or more user licenses shall be included.

e) Operating system shall be windows 7 or higher and the instrument firmware shall be upgradable. In case a previous version i.e. Windows XP is provided vendor must submit an undertaking that vendor takes complete responsibility of timely up gradation of the system within 2 years. Also vendor shall submit in the writing that all upgrades (software, firmware and hardware if any) up to windows 10 OS will be provided free of cost as soon as they are developed.

f) Suitable duplex B&W LAN enabled Laser printer should be provided.

g) Quoted System should have Remote Service facility for the immediate diagnosis and troubleshooting by the Vendor's Service Support team.

Other Items:

a) A complete online 10KVa UPS system including Servo Stabilizer with minimum 3 hrs backup for uninterrupted data acquisition.

b) One Helium and two nitrogen gas cylinders with appropriate levels of purity as needed for the safe and efficient operation of the instrument along with the regulator and all necessary accessories such as gas lines, connectors etc. should be quoted. Nitrogen cylinders shall be quoted with switchover system to ensure the uninterrupted gas supply in emergency situations.

c) A minimum of 5 year warranty should be provided for the complete system. Warranty shall include all the imported parts also.

d) In case of malfunction from the date of installation to end of 5th year, one set of power source related accessories, target plates, laser source, detectors, vacuum pumps and turbo pumps should be supplied free of cost (including service charges) by the vendor as and when required. If there are no malfunction within the stipulated time period a thorough assessment at the end of 5 years shall be carried out and above listed parts shall be replaced in case the lifetime remaining is less than two years.

e) For next 10 years [from date of installation] hardware support should be provided by the vendor.

f) Six set of plates for the analysis of Proteins, Polymer and Oligonucleotide samples should be provided.

g) Suitable reference standards should be quoted for mass calibration experiments in all three modes i.e. linear, reflection and MS/MS mode.

h) One pack each of Matrices should be quoted to analyse Proteins, Peptides, Polymers and Oligonucleotide samples.

i) System installation at the site to be done by the vendor and the full capabilities of the system has to be demonstrated to the complete satisfaction.

j) A hands-on training course for the users, by experts, for using the instrument after the installation process is complete on a set of dates. This shall be repeated at the end of 2nd and 4th year. Maintenance level training for at least three users either onsite or offsite.

k) In case of breakdown or any malfunction of the instrument, service should be provided by the vendor within 48 hours of the reporting time.

l) A complete technical manual shall be supplied listing all the capabilities and operations of the instrument. If printed copy is not available, a soft copy shall be provided on an appropriate electronic storage device.

m) Installation requirements of the quoted item must be submitted with the technical bid.

n) The bidder should provide a complete client list along with name and contact details to whom they have supplied earlier. Copies of customer feedback, from at least three different installations shall be submitted.

19. A real-time PCR amplification/detection system for HPV genotyping and oncology parameters like BRAF, KRAS and EGFR

1. The system should be USFDA and CE-IVD approved for screening and detection of HPV 16 and HPV 18 genotype along with detection of 14 high-risk human papillomavirus types (31, 33, 35, 39, 45, 51, 52, 56, 58,59, 66 and 68) in a single analysis.
2. The system should be fully automated for sample preparation/extraction combined with automated amplification and detection by Real time PCR technology.
3. The system should be able to screen at least 180 samples per day (8 working hour).
4. The system should be peltier based 96 well real-time PCR designed for both in-vitro diagnostic (CE-IVD) and open applications.
5. System should offer at least 5 excitation and 5 emission filters with fast amplification and fixed optics for detection of SYBR, FAM, HEX, VIC, JOE, TAMRA, etc.
6. Licensed and authorized Real-time PCR platform should be supplied along with the licensed software for HRM, Simple probes, Taqman Chemistry, Hybridization probes
7. The system should offer clinically validated HPV assay which can be used as a primary screening test without PAP cytology for Cervical Cancer screening.
8. The system should have multiple inbuilt features to prevent/minimize contamination like U.V light, UNG enzyme, CORE tip technology etc. The system shall have effective enzymatic contamination control (i.e. uracil-N-glycosylase) to allow the flexibility for the sample processing instrument and the real-time PCR analyzer to be operated either in one room or separate rooms
9. The instrument shall perform automated sample extraction and PCR reagent setup without any user intervention.
10. The instrument shall incorporate the total aspirate and dispense monitoring mechanism to monitor every liquid handling step to detect clogs and ensure liquid volume is accurately pipetted every time.
11. The system should offer Human Papillomavirus (HPV) detection and simultaneous genotyping assay. The assay should also incorporate an internal control to monitor the entire process from fully automated extraction to result interpretation.
12. The system should be capable of processing multiple specimen types directly from liquid-based cytology (LBC) vials.
13. System should accommodate the addition of laboratory-developed protocols to the existing test menu. The system should have a well-defined pre-analytical workflow and automate result interpretation
14. The system should offer US-FDA approved common assays like KRAS, BRAF and EGFR mutation tests along with HPV.
15. The system should offer approved microbiology assays for CT/NG, MRSA/SA, HSV1/HSV2 and C.difficile.
16. The company should be able to supply the reagents for the essential experiment in open channel.
17. Should come with the latest version of compatible Desktop/Laptop and compatible UPS with 1 Hr Backup.

20. Hybridization System

- It should be an open system that automates the denaturation and hybridization steps in slide based FISH procedures and provides walk-away convenience for laboratory personnel. The low cost unit should accept a wide range of sample types, easy to use, and should reduce hands-on time by more than 50% while ensuring overall precision and accuracy in all slide-based assays.

System should have following user Programmable Settings

- 40 User defined protocols and 3 operating modes
- Easy to read backlit display
- Numeric keypad allows for easy programming
- Can be used as a fixed temperature slide warmer

System should be Easy to Use

- Eliminates manual steps and reduces hands-on time during FISH procedures
- Slides do not need to be fully loaded to maintain temperature accuracy
- Slide guide keeps slides in place and allows for one hand removal
- Humidity control cards inside the lid maintain a humid environment.

System should have more Stringent Temperature Control:

- Rapid temperature ramp-up and accuracy of $\pm 1^\circ\text{C}$
- Temperature uniformity across all slide positions
- Heats slide to temperatures ideal for FISH Procedures

System Details:

- System should hold up to 12 slides. The lid seals tightly when closed providing optimal chamber humidity. The system maintains uniform temperature across all slide positions. Slides can be easily added or removed with one hand. The numeric keypad allows for easy programming with 40 user programmable settings and 3 modes of operation: Denaturation/ Hybridization, Hybridization, and Fixed Temperature.

21. High-Performance Liquid Chromatography (HPLC)

Specification

1. Quaternary Pump

- a) Flow Range : Set Point from 0.001 to 5.0 mL/min .
- b) Flow Accuracy: $\pm 1\%$ or better
- c) Flow Precision: $\pm 0.075\%$ RSD or Better
- d) Pressure Range: ≥ 60 MPa up to 2 mL & 0 - 20 MPa up to 5 mL/min
- e) pH Range: 1.0 – 12.0
- f) Vacuum Degasser: Degasser should be available for solvent degassing.
- g) Leak Sensor: Pump module should have leak sensor

2. Auto sampler:

- a) Injection Range: 0.1 - 100 μL in 0.1 μL increments
- b) Precision: Typically $< 0.5\%$ RSD of peak areas from 5 μL to 100 μL
- c) Minimum sample volume: 1 μL
- d) Carryover Typically: 0.005% or better with external needle cleaning.
- e) Sample capacity: 120 \times 2/1.5 mL vials.
- f) Pressure Operating range: ≥ 60 MPa.
- g) Leak Sensor: Module should have leak sensor

3. Column Compartment:

- a) Temperature Range: 20°C to 80°C
- b) Temperature Accuracy: +/- 0.5 °C or better
- c) Temperature Stability: ± 0.1°C
- d) Heat Up/Cool Down Time: <10 minutes from ambient to 40 °C/ ≤10 minutes from 40°C to 20°C.
- e) Column Capacity: Four 25 cm columns
- f) Leak Sensor: Module should have leak sensor

4. Photo Diode Array Detector

- a) Wavelength range: 190-800 nm or better
- b) Wavelength accuracy: ± 1 nm
- c) Slit width: Programmable
- d) Short term Noise: <+/- 1x 10⁻⁵ AU or less at 254 nm
- e) Drift :< 1.0 10⁻³ Au/h at 254 nm
- f) Linearity: > 2.0AU at 265 nm
- g) Detector Types: 512/1024 element Diode Array
- h) Data Rate: up to 80 Hz
- i) Light Source: Deuterium lamp and tungsten lamp
- j) Flow cell: Standard flow cell of 10 mm
- k) Time programmable: Wavelength, polarity, peak width, lamp bandwidth, auto balance, wave length range, threshold, spectra storage mode.
- l) Leak Sensor: Module should have leak sensor

5. Chromatography Software:

Standard Licensed Chromatography Software based on latest Windows version capable of controlling the entire HPLC system, data acquisition, analysis & storage.

6. Columns:

- a) C18 Columns: 2 nos. (4.6 x 150 mm & 4.6 x 250 mm)
- b) C8 Columns: 2 nos. (4.6 x 150 mm & 4.6 x 250 mm)
- c) Guard Columns: 2 nos.

7. Consumables:

- 1. Clear vials : 1000 nos.
- 2. Amber vials : 1000 nos.
- 3. D2 Lamp for PDA : 1 no.
- 4. Flow cell for PDA : 1 no
- 5. PEEK Ferrules: 40 nos.
- 6. PEEK Tubings : 6 m
- 7. Solvent filter : 12 nos.
- 8. Frits/Pre filters : 500 nos.
- 9. Pump seal : 8 nos.

8. UPS:

Suitable On-line UPS with 60 minutes back up (UPS & Batteries should be covered under warranty for 5 years)

9. Computer:

Processor Intel Core i7-4670 Processor (3.4GHz, 6M Cache), HDD 1TB 7200RPM, Graphics: Intel HD Integrated Graphics, Memory 4GB X 2 DIMM 1600MHz, Optical DVD Recordable, Wireless WiFi Operating System Window 7 or above, cordless mouse and Keyboard.

10. Printer:

LaserJet printer with print, scan & copy options should be quoted along with system.

11. Warranty:

5 years warranty from the date of installation.

12. Service Support:

Supplier should confirm the availability of minimum essential spares in the next 10 years after installation.

13. Training & Installation:

Installation and training to users should be given at IGIMS Patna free of cost. Compliance statement must be enclosed along with offer.

14. Installation in India

The quoted system or equivalent category system should have at least 10 numbers of installations in India by the vendor. List of such 5 users with contact numbers of faculty in-charge and copy of their installation report should be enclosed. At least two most recent PO copy must be submitted.

15. Future Up-gradation:

In future, the system should be upgradable to Fluorescence, ELSD, MS & RI Detectors.

16. Service Facility and Downtime Call Attendance:

Supplier should clearly mention about their service set up in India for prompt service support along with the contact details of service engineers specially trained on the offered system. Service should be provided within 72 hrs from the report of technical problem so that machine down time is minimized. In case, the Equipment/System remains non-operational for more than 5 days, then warranty period will be extended for the equivalent period for which Equipment/System remained non-operational. Warranty extension in such case shall be done without prejudice to any other term & condition of the contract.

17. Pre-Installation Requirement and Tool Kit

Necessary tool kit and pre-installation advice should be sent immediately after the placement of the order.

18. Re-installation

In case of shifting, the vendor should provide a free support and provision for one time reinstallation of instrument for free of cost.

19. Documentations

Quote should be in technical and price bid format & Compliance statement must be enclosed along with supporting literature. In case of Proprietary technology, relevant certificate must be enclosed along with offer.

Group-B: Advance Molecular Microbiology and Molecular Genomics

1. Next Generation Sequencing Platform

- The NGS platform workflow should be Fast, simple, scalable bench top type next generation sequencing platform that should enable highly accurate variant detection, extremely uniform coverage, and sensitivity to detect low-frequency variants.
 - The system should be a single instrument capable of performing all range of low to high throughput applications like targeted resequencing of small to large gene panels, de novo assembly/whole genome sequencing of microbes, metagenomics, aneuploidy detection (PGS), high res HLA Typing in the small to mid-range data throughput segment as well as mouse/ human whole exome/ whole transcriptome, small/microRNA sequencing or NIPT in the high data throughput segment etc.
 - The system should be able to do automated clonal amplification (templating/ clustering) to sequencing step should be on board or by attaching additional instrument to reduce manual intervention.
 - Sequencing should be based upon robust and globally proven with numbers of peer-reviewed publications.
 - Sequencing should support sequencing read length in the range of 200-600 bp in single or paired end direction.
 - The System should generated 15 GB or 80 million single/ paired end tags or more which should enable multiplexing of at least 2 whole exome/ whole transcriptome samples per sequencing run with 30-40 million reads/tags per sample
 - The NGS system should be provided with user friendly software and should not require bioinformatician for secondary data analysis and interpretation
 - The system have option for providing complete automation of library preparation to ensure complete walk-away type workflow and increase productivity and reproducibility as and when required in future
 - The secondary data analysis should be followed of industry standard like FASTQ, SFF, BAM and VCF.
 - Analysis should capable to automated SNV calling and provide option to its verification
 - Variants can be verified manually using alignment and other quality parameters
 - Analysis should also be capable enough to call CNV and Gene Fusion events as per instruction
 - Analysis pipeline should also be able to process UMI Based sequencing reads for bias free CNV detection and good quality and improved sensitivity and specifically for variant calls
 - Analysis pipeline parameters can be customized uniquely for each panel as per user requirement
 - The software should provide the options to export alignment and variant results in PDF or excel format.
 - Specification variants of interest should be recognized automatically
 - Support for Clinical interpretation of identified variants and actionability
 - Should have at least 12TB of data storage option on board or by attaching additional hardware/server to the quoted instrument
 - Vendor should supply the ancillary instrument, if required for preparing libraries using kits along with the system.
 - The vendor should have a fully functional NGS support lab in India for providing back up support if required for performing any troubleshooting activities
- Vendor should have strong base/resources available locally for providing quick onsite support with respect to instrument maintenance, application and bioinformatics training/troubleshooting exercises.

2. Automted DNA sequencer

1. Fully automated capillary based DNA sequencer
2. only licensed version of the system to be quoted along with user lincense to perform the sequencing by sangar method.
3. number of capillaries 8-16-24 capillaries operating in parallel to meet through put employ capillary array that use bare silica capillary with a useful life that exceeds 160 runs the preferred capillary length

is 36/50 cm.

4. Excitation source single 505nm solid state long life laser utilizing a standard power supply and without heat removed ducting.
5. Dye detection, cooled CCD detection technology and spectrograph for color separation. system must be able to detect and analyze up to 6 fluorescent dyes simultaneously for DNA fragment analysis.
6. Capillary illumination simultaneous dual-side illumination detection to maximize and signal uniformity and sensitivity that in reduces the requirements placed on the user for sample preparation and cleanup.
7. Tracking of consumable, radio frequency identification technology to track key consumables data.
8. Heating/cooling : active temperature cooling/heating that can maintain temperature from 18 0C to 70 0C .
9. System should be quoted with both 96 well plate option.
10. Sequencing throughput>80-100 samples/ day having >500bp read length with QV26.
11. Electrophoresis voltage up to 20kv.
12. Minimum computer configuration i7 processor 3.0 GHz processor operating system: suitable OS , installed RAM 8 GB hard driver 500 GB with required external hard disk , 7200 RPM SATA 3.0 Gb/s and 8 MB Data Burst Cache Microsoft ® Office Home & student 2007 OEM Version 16 x DVD/RW Driver with DVD-R double layer write capability integrated Intel ® 17 inch flat panel LCD monitor Graphics Media accelerator , 5 USB port, ethernet (100BASE-TX single-port minimum), Optical USB mouse , 5 year licensed antivirus.
13. Software: The vendor must supply software that are optimized for the instrument in area of denovo re-sequencing. Fragment analysis application like SSR, ISSR ALFP plant & microbial finger printing, microsatellite long sizing SSCP, SNP validation and screening linkage analyses.
14. Real time analysis system software should allow real time data quality evaluation providing immediate access to base called.
15. Consumables: consumables for 700 sequencing reactions should be supplied as start up material. applications-specific kits and sequencing reagents required to perform the sequencing by synthesis (SBS) should be manufactured and available from the same supplier.
16. The vendor should provide application training on the operation of the instrument, chemistry options and software in their regional lab.
17. Vendor should have at least 25 installations (includes all the available models) in india.
18. Suitable UPS for running the system.
19. Electrical requirement :220 volt, 50hz.

3. Digital pH Meter

Digital pH range 0.00 to 14.00 units

Temperature range 32.0 to 212 degree F (0 to 100°C)

pH Resolution : 0.01 units

Temperature Resolution : 0.2° F (0.1° C)

pH Accuracy : +1 units within 10° C Calibration, +0.2 units within 20°C

Temperature Accuracy: +0.6° F (+0.3° C)

ATC Probe : Thermistor , 10kw at 25°C

pH Temperature Compensation Auto 32.0 to 212 °F (0.0 to 100° C)

pH Buffer Recognition : USA (4.01, 7.00 & 10.01) or NIST (4.01,6.86 & 9.18)10 pH calibration on Temperature 32.0 to 140.0° F (0.0 to 60° C)

pH offset Recognition: +90 mV at pH 7.00 or +98.3 mV/ +81.7mV at pH 6.86pH slope Recognition: 30% at pH 4.00, 4.01, 9.18 or 10.01

Data memory: Non volatile 50 sets (pH temperature data and time stamp): erase all data Function

Operation Temperature Range : 32.0 to 122.0° F (0.0 to 50.0° C)

IP Rating: 67

Power: Four LR44 button batteries

Battery Life: 200hours or greater (Low battery indicator)

Size: 0.9x7.4x1.8 inch (23x188x46 mm)

Weight : 3.70z (105g)

4. Multiwell plate shaker

- Orbital diameter 4mm
- Permissible shacking weight 4 microplate
- Motor rating input 12-15 watt
- Motor rating output 55-60 watt
- Permission on time 100%
- Speed min (adustable)-100 rpm
- Speed range 100-1100 rpm
- Speed display - digital led
- Timer eyes.
- Timer display about 100hrs
- Number of microtiter plates maximum 4 permissible ambient temperature 15-40 c voltage 200 to 240 volts

5. Biospectrophotometer Kinetics (Nano Volume spectrophotometer).

Wave lenght range absorption– 200 to 850 at nm increments. Absorption measuring range -0a to 2.9a (260nm)
Random error absorption <0.001 at A=0, <0.005 at A=1, should able to undertake kinetic applications -enzyme activity at different temperature should have temperature controlled Cuvette shaft should have a LCD display for curves with provision for printout ds DNA concentration range (UV 260nm) ucuvette G1.0= 25 ng/μL-1200ng/L +1ng/ μL at A=0, +2.5 ng/ μL at A=1 ds DNA concentration range (UV 260nm)Uvette 2nm=n 12ng/UL to 700ng/ μL+0.5ng/ μL at A=0, +1.25ng/ μL at A=1

BSA concentration range (UV 280nm)Cuvette G1.0= 70ng/ μL to 750 pg/ μL+0.03Yg/UL at A=0, +0.75Yg/ μL at A=1

BSA concentration range (UV 280nm)Cuvette 2 mm=35ng/ μL to 25 Yg/UL+0.015Yg/pL at A=0, +0.35 μg/ μL at A=1

Adjustable temperature range 20°C to 40°C(smallest step size 0.1°)

Systemic temperature error +0.1°C at 25 to 37°C

Random temperature error +0.1°C at 25 to 37° C

Measuring time range 00:05- 10:00 min: second

Interval between two measuring points 00:05- 10:00 min: second.

6. REFRIGERATED MICRO CENTRIFUGE

Quite and reliable, 2. Small footprint, 3. Built in power supply, 4. Digital display of timer and RPM, 5. Standard 6 place rotor for 1.5 tubes , 6. Spare 12 place rotor for 0.5 ml tubes, 7. Centrifuge should have refrigeration system, 8. RCF of 2 ml tube rotor Should be above 20000g force, 9. Should include micro plate rotor for 96 well PCR plate. Rotor capacity 12 place closed rotor with metal safety lid Maximum Speed RPM / RCF (g) 13500 rpm/12.300xg RPM to RCF conversion yes

Display LCD display

Imbalance detection -Imbalance detection with auto cut- off Noise Level<60dB

Motor Type (BLDC) Brushless DC motor

Timer setting 1 to 999mins

Speed / Time setting 500 to 15000 RPM/ Min-Sec timer Dimensions (WxDxH) in mm 230x262x131 mm.

12 place x 1.5/2.0 ml micro tubes.

Reduction Adaptors for 0.2 ml micro tubes Rotor and Adaptors (included in standard pack)

Reduction Adaptor for 0.4/0.5 ml micro tubes

PCR strip Rotor (2 x 8 x 0.2 ml with metal safety lid)

7. ELECTROPHORESIS SYSTEM AND POWER PACK

A. Mini Protein Electrophoresis System (Dual)

1. Gel Size 8x7 cm
2. Spacers 0.75&1.0 mm thickness based with glass plates , sample loading guides.
3. Two gel running capacity Ridged combs 10 & 15 well
4. Optional Preparative comb Gel casting Stand, no tapes or grease.

B. Submarine DNA Electrophoresis system

1. Single caste mould to prevent leakage.
2. Mini 7 x 10cm gel tray UV transparent 1.5mm and 1.0mm thick 10 x 15 well comb (2 pairs) detachable electrodes, 15 x 15cm UV transparent gel tray, tape free gel caster along with casting gates. Optional preparative combs.
3. Large 15 x 25 cm gel tray UV transparent gel tray, 15 x 20x 30 well 1.5 x 1.0 mm thick combs (2each) Detachable electrodes, 15 x 15cm transparent gel tray, tape free gel caster along with casting gates, optional preparative combs.
4. Power supply: 5-200 V in V step 200W maximum.
5. Type of output: constant voltage or current with automatic crossover.

6. Output terminals 4 recessed sets in parallel.
7. Timer: 0.999 minutes.
8. Safety features: No load detection, ground leak detection, sudden load change detection, overload/short circuit detection, auto power up after power failure.

8. Automated multiplex PCR system used for syndromic testing:

1. Molecular system should be based on nested PCR technology and detection by DNA microarray technology.
2. The detection should be based on dye hybridization and high resolution melting curve analysis (HRM).
3. Reports should be generated automatically without setting any threshold or manual base line adjustments.
4. System should be able to do the comprehensive multiplex infectious syndrome based testing at one go (comprehensive panels) such as respiratory pathogens panel, gastrointestinal pathogens panel, blood culture pathogens panel and meningitis pathogens panel.
5. System should be very compact and should not require molecular setup or infrastructure such as per PCR area, amplification area and post PCR area.
6. Should have minimum manual hands on time less than 5 min and results should be available within 90 mins.
7. Gastro intestinal panel should detect bacteria, viruses as well as protozoa, especially for organisms like - vibrio, V cholera, shigella , diarrheagenic, E. coli, rota virus, entamoeba, cryptosporidium etc. directly from stool samples.
8. Blood culture ID should detect most common gram positive , gram negative bacteria and fungus (yeast) with antibiotic resistance genes especially- mecA , vanA/B and KPC.
9. Respiratory panel should combine- viral and bacterial targets directly from nasopharyngeal swab.
10. Pneumonia panel should be a semi quantitative test, which should include antibiotic resistance genes especially, ESBL: CTX-M, Carbapenemases: KPC,NDM, Oxa48-like, VIM,IMP, Methicilin Resistance : mecA/mecC and MREJ.
11. Reagents (kit) should have US FDA / DCGI/ CE-IVD certification.

9. Table top centrifuge (multiple rotors)

Specification :

Non refrigerated bench top centrifuge.

Micro- processor control.

Max speed of approx. 17,000 rpm and max rcf of more than 30,000 g.

Acceleration time to maximum speed must be less than 15s for all rotors at max load and a deceleration time of less than 15s with the standard 30 x 1.5/2 ml rotor.

Automatic rotor recognition with imbalance detection.

Rotor types required

1. Fixed angle rotor accommodating 24 x 1.5/2 ml tubes with a speed of 30,000xg
2. Fixed angle rotor accommodating 6x 15/50 ml with 7000xg speed.

3. Swing- bucket plate rotor accommodating 2 x DWP

10. Technical specifications for UV-trans-illuminator

UV trans-illuminator with unique UV protective glass can be adjusted to the operator's visual angle and fixed.

It should be equipped with better UV protection.

It should have dual wavelength feature.

Dual-light trans-illuminator should provide two 20cm x 20cm work surfaces.

White light filter surface is designed for coomassie blue stained protein gels, methylene blue stained DNA gels, silver stained protein gels, autoradiographies, and microtiter plates.

Excellent transmission efficiency

Small figure and airproof frame

11. Technical Specifications for Bio- safety cabinet (TYPE 2, A2)

1. Class II Bio-safety cabinet, type A2, open-front, ventilated cabinet in ergonomic design-vertical type
2. ULPA/HEPA-filtered, re-circulated mass airflow within the work space
3. Exhaust air from the cabinet is also filtered by ULPA/HEPA filters
4. Size: approx 4ft
5. Air inflow velocity: Approx 0.45m/s
6. Air down flow velocity: Approx 0.30m/s
7. ULPA/HEPA Filter with minimum 99% efficiency against 0.3 µm particles, minimum 99% filter efficiency at MPPS
8. Low noise (<65db), Low energy consumption and heat output
9. Microprocessor controlled functions with LCD display
10. Audible and visual alarms
11. Florescent Light intensity approx 1200 lux
12. Standard UV light along with additional UV- interlock
13. Cabinet made of steels (works zone- stainless steel and side walls-electro galvanized steel) with antimicrobial coating
14. Electric supply requirement : 220-240 V, AC , 50Hz
15. NSF/ANSI-49/ETL/CE/FDA certification
16. Compatible stabilizer
17. Should have support stand with caster wheels for 4 ft cabinet
18. Warranty 2 years from date of installation
19. User list with phone number and e- mail ID
20. Quote for the price of CMC/AMC per year after the expiry of standard warranty
