

No.: 1742/Purchase Office/Biotech/Karyotyping workstation/2014

Dated: 14/02/2014

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मोतीलाल नेहरू राष्ट्रीय प्रौद्योगिकी संस्थान इलाहाबाद,
इलाहाबाद-211004 (भारत)

Motilal Nehru National Institute of Technology Allahabad
Allahabad-211004 (India)

An Institute of National Importance as Declared by NIT Act, GOI, 2007

INVITATION FOR SUPPLY OF KARYOTYPING WORK STATION
(For Contracts value estimated to cost less than Rs.25 lakhs)

1	Closing Date/Time for submission of Quotations	11/03/2014; 15:00 Hrs.
2	Opening Date/Time of Quotations	11/03/2014; 15:30 Hrs.
3	Quotations to be submitted at	The Office of Faculty-In-charge (Purchase) M.N.N.I.T. Allahabad, Allahabad-211 004 (U.P.)
4	Place of opening of quotations	The Office of Faculty-In-charge (Purchase) M.N.N.I.T. Allahabad, Allahabad-211 004 (U.P.)
5	Tender Fee	Rs. 200.00 (Non-refundable), in form of a Demand Draft drawn in favor of DIRECTOR, MNNIT Allahabad.
6	Earnest Money Deposit (EMD)	Rs. 50,000/- (Rs. Fifty thousand only) , in form of FDR/Bank guarantee, from any of the Commercial Banks, drawn in favour of "Director, MNNIT Allahabad" payable at Allahabad, and valid for a period of 45 days beyond the final bid validity period.

To,

Dear Sir

You are invited to submit your most competitive quotation for the following items. The quotation should be sent directly to the undersigned under Sealed Cover marked "Quotation Reference No., Date", and "The Due Date":

Sl. No.	Description of item with Specification	Quantity (No.)
1	KARYOTYPING WORK STATION Full Details of items and Specification as per ANNEXURE 'B'	01 No.

The sealed tenders must be submitted in the Office of the Faculty In-charge (Purchase), on or before **due date & time as mentioned above** in the office of the undersigned, in the presence of bidder's authorized representatives, who choose to attend and shall sign a register evidencing their attendance.

The tender/quotations NOT submitted in the prescribed format or Incomplete in any respect will be outrightly rejected.

Faculty in-Charge, Purchase
MNNIT Allahabad

INSTRUCTIONS/GUIDELINES TO BIDDERS (ITB)

1. Only bidders, who fulfill the ELIGIBILITY CRITERIA, as given in this tender document, should apply.
2. The bidders should enclose relevant documents wherever necessary to substantiate their eligibility.
3. The bidder should enclose the client list with contact address along with Phone/Fax for reference, for the quoted item.
4. The Bidders must submit their Quotation with EMD in the form of Demand Draft/ Bank Guarantee/ Short term Deposit of the cost of Printing Works/items in favor of “**The Director, MNNIT, Allahabad**” payable at Allahabad. Quotation without EMD will be summarily rejected. EMD's of all Bidders will be returned back after the purchase order /contract agreement is issued to successful bidder.
5. Successful Bidders must have to submit the performance security @ 10% of the purchase order or contract value and it will be retained up to the warranty period.
6. MNNIT ALLAHABAD reserves the right to reject, accept any or whole or part of any of the tender without assigning any reason thereof and no claim will be heard. In case of dispute, the decision of The Director, MNNIT Allahabad will be final and binding.
7. If the successful bidder is not able to complete the supply & Installation work within the delivery date specified in the purchase order, the purchase order will be automatically treated as cancelled after expiry of delivery date period. The vendor will have to submit an undertaking in this regard that this condition is acceptable to him. In case of extra ordinary circumstances the vendors must send a request for extension of validity of purchase orders, with proper justification prior to the expiry of validity date for consideration.
8. The quotation must be accompanied by leaflets/operation manuals/books etc.
9. The Bidder is expected to examine all instructions, forms, terms and specifications in the Bid Documents. Failure to furnish all information required as per the Bid Documents or submission of bids which are not substantially responsive to the Bid Documents in every respect may result in rejection of the bid.
1. Bidders who had supplied the Government departments, PSUs/NITs/IITs/IIITs and reputed Institutions and Organizations should only apply.
2. The bidder should enclose the client list with contact address along with Phone/Fax for reference, for the quoted item.
3. **Please quote the prices F.O.R. Motilal Nehru National Institute of Technology Allahabad (MNNIT ALLAHABAD), Allahabad ONLY.**
[NOTE: Custom/Excise Duty Exemption Certificate will be provided by MNNIT Allahabad after receiving your request letter for the same.
 - **MNNIT Allahabad avails Custom Duty Exemption in terms of Government Notification N. 51/96-Customs dated 23 July, 1996, and Central Excise Duty Exemption in terms of Government Notification N. 10/97-Central Excise dated 01 March, 1997, as amended from time to time.**
4. The bidder should enclose relevant documents wherever necessary to substantiate his eligibility.
5. The Institute is eligible for and can provide necessary documentation for Custom/Excise and Octroi exemption on demand, if permitted under rule.
6. In case of sophisticated items, an on-site training needs to be provided with no extra cost.
10. Wherever applicable the vendors must quote the branded /desired items.

GENERAL TERMS & CONDITION (GCC)

1. **Eligibility Criteria:**
 - i. Firm/bidders blacklisted at any stage or by any NITs/IITs/IIITs/ Central Universities/ IISERs/CSIR/ labs or Central/State Government body/PSUs etc. need not to apply.
 - ii. The bidder should be an Indian registered company engaged in respective area of works with minimum experience of 05 (FIVE) years. The bidder should have sufficient Infrastructure, technical expertise and financial strength to undertake the contract.
 - iii. **Minimum AVERAGE ANNUAL TURNOVER** of Rs. 50 lakh in the last 3 financial years. (Balance sheet/CA certificate to be enclosed, duly supported by the income tax return for financial years 2010-11, 2011-12, 2012-13).
 - iv. The bidder should have experience of similar Work experience with at least 10 academic organization of higher education, in last 05 years. Out of which at least 05 should be NITs/IITs /IISERs/IIITs/IIMs and other Top ranking management schools. The nature of completed work should be supply & satisfactory installation in various Government Institutes/Firms/PSUs. **[NOTE: The documentary proof of Purchase orders as well as payments thereof in respect of works mentioned in bid MUST be submitted along with the bid.]**
 - v. The Bidder/Tenderer should provide the following mandatory information:
 - a. Bidder/Tenderer must provide the information on the similar works completed successfully & satisfactory in last 3 years. Bidder/Tenderer must submit satisfactory documentary proof from end-users.
 - b. List of Organizations/Customers dealt by them.
 - c. Last Three year's copies of Income Tax Return Form and PAN number, as per government norms.
 - d. Copy of Registration of Firm with CST/GST Nos.

NOTE

- i. The work executed in the own name of the bidder only will be considered for similar works, to meet the eligibility criteria. JVs / Consortiums / MOUs shall not be considered.
- ii. Tenderer should submit documents in support of minimum eligibility criteria along with the tender/bid. NO document in support of minimum eligibility criteria will be accepted / entertained after opening of tender.
- iii. Tenders/bids not meeting any of the above 'Eligibility Criteria' shall be rejected.

2. **Bid Price**
 - (a) The total contract price shall be for the full quantity as described above. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
 - (b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price.
 - (c) The quoted total contract price shall be fixed for the duration of the contract and shall not be subject to any adjustment.
 - (d) **The prices should be quoted in Indian Rupees only for indigenous items.**
 - (e) Each bidder shall submit only one quotation.
3. **Validity of Quotation**

The tender offer shall remain valid for **120 days** from the date of opening of Technical bid (part-1) of this tender.

4. Evaluation of Quotations

- (a) Any items left blank, will be treated as incomplete bid and liable to be rejected.
- (b) The purchaser will evaluate and compare the quotations determined to be substantially responsive, i.e., which
- are properly signed; and conform to the terms and conditions, and specifications.
 - will be with tender fees, and EMD required, if any.
 - Ink seal & sign on every page of tender document.
 - conform to the terms and conditions, and specifications.
 - The Quotations would be evaluated separately for each item.

5. Award of Contract

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

- Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
- The bidder whose bid is accepted will be notified for the award of contract by the Purchaser prior. The terms of the accepted offer, if falling under Govt. purchase rules, i.e., GFR-2005, shall be incorporated in the purchase order.

6. Formats and Signing of Bid

- Each & every pages of the submitted bid must carry the page numbers.
 - The bidders are not allowed to make additional and alteration in the tender document, any additions and alteration in the tender document, any additions and alterations shall be at bidder's risk. Conditional/modified tender are liable to be rejected.
 - The tender/quotations NOT submitted in the prescribed format or Incomplete in any respect will be outrightly rejected.
 - If the bid submitted without compliance sheet details of Printing Works the bid will be outrightly rejected.
 - The bid shall be typed or written in indelible ink and shall be signed by the Bidder/Tenderer or a person or persons duly authorized to bind the Bidder/Tenderer to the Contract. All pages of the bid, except for unamended printed literature, **must have Signature (in ink, with date) & Seal of Bidder/Tenderer.**
 - Any interlineations, erasure or overwriting shall be valid only if they are initiated by the persons or persons signing the bid.
 - The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.
7. **Payment condition:** 100% Payment shall be made only after supply the items in good condition alongwith successful delivery of items and satisfactory Installation report receive by competent authority. **No advance payment will be made.**
8. Normal Commercial warranty/guarantee shall be applicable to the supplied goods, (*If warranty/Guarantee is not mention in specifications of respective items*).

SPECIFIC TECHNICAL CONDITIONS (STC)

- The delivery of items securely and neatly packed should be made at MNNIT Allahabad.
- All duties, Taxes and other levies payable by the bidder under the Contract shall be included in the Total Price.
- Please quote the prices F.O.R. Motilal Nehru National Institute of Technology Allahabad (MNNIT ALLAHABAD), Allahabad ONLY.**
- You are required to return the original tender document (all the pages as it is duly signed by you on every page for your record), You may retain a copy of this tender enquiry for your record.
- The bidder should be last 5 years in existence in India.
- Incomplete or conditional bid will not be accepted.
- The tenderer should have the capability to distribute finished work to the specified destinations by Road Transport /Courier within the stipulated time schedule.
- The Director MNNIT Allahabad reserves the right to accept or reject the tender at any stage without specifying any reason.
- Compliance to above General terms & Conditions (GTC) and Specific Technical Conditions (STC), will be considered for overall evaluation of the bid and non-compliance of any of the above technical terms & conditions/specifications may turn into rejection.
- The Bidder/Tenderer must agree to all the technical terms and conditions of the offer, as mentioned in the technical proposal and no such additional terms & conditions from Bidder/Tenderer will be accepted, at a later stage.
- The Bidder/Tenderer is required to quote for supply the items as listed in specifications along with compliance of the terms and conditions. *Compliance to above Specific Technical Conditions*, given as **Annexure: B**, will be considered for overall evaluation of the bid and non-compliance of any of the above technical terms & conditions/specifications may turn into rejection.

SCOPE OF WORKS

The work includes the following:

- The supply and installation of equipment with accessories.
- Testing of equipment.
- to provide, one copy each of following documentation (on CD/DVD and printed manual, both)
 - installation manual,
 - operating manual, and
 - Service Manual.
- Repair/Refurnishing work to restore the damage caused due to cabling or any other work related to installation.
- Any other work required for equipment making functional up to the satisfaction of MNNIT Allahabad.

Place:

Date:

**CHECK LIST
(ON THE LETTER HEAD OF THE BIDDER)**

The Bid will be the compilation of following documents, along with required supporting documents. No document in support of minimum eligibility criteria will be accepted / entertained after opening of tender.

Sl. No	Documents
1.	Cover letter by bidder (On the Letter Head of the Bidder)
2.	Tender Fee
3.	Earnest Money Deposit (EMD), if required
4.	Ciential List for quoted item
5.	Annexure-A : Bid Proposal Sheet (On the Letter Head of the Bidder)
6.	Annexure-B : Technical Specification of Karyotyping Work Station
7.	Annexure-C : Affidavit regarding Blacklisting Form
8.	Annexure-D : Compliance of bidder with reference to the 'KARYOTYPING WORK STATION' (On the Letter Head of the Bidder)
9.	Annexure-E : PRICE BID (On the Letter Head of the Bidder)

ANNEXURE-A

**BID PROPOSAL SHEET
(ON THE LETTER HEAD OF THE BIDDER)**

To
Faculty In-charge (Purchase)
MNNIT Allahabad, Allahabad
Subject: Supply of "KARYOTYPING WORK STATION" at MNNIT Allahabad, Allahabad.

Dear Sir,

We, the undersigned Tenderers, having read and examined in detail the specifications as specified in this document in respect of Supply of **KARYOTYPING WORK STATION** at MNNIT Allahabad, Allahabad do hereby propose to supply the required products and services.

Tender No.				
Tender Fees submitted		YES / NO (Please strike off whatever is not applicable)		
Amount	Mode	Date of Issue	Name of Bank	Valid up to
	Demand Draft			
EMD submitted		YES / NO (Please strike off whatever is not applicable)		
Amount	Mode	Date of Issue	Name of Bank	Valid up to
	Demand Draft			

- (i) **ADDITIONAL PURCHASE/WORK ORDER:** We understand that the MNNIT Allahabad, Allahabad, in case of the requirements may also place repeat purchase order/work order on the company. In such cases, we shall accept and execute all the purchase/work order placed on us by MNNIT Allahabad, Allahabad.
- (ii) **BID PRICING:** We further declare that the prices stated in our proposal are in accordance with your Terms & Conditions in the bidding document. We further understand that the quantities as specified in this Tender may increase or decrease at the time of Award of Purchase Order as per the requirements of MNNIT Allahabad, Allahabad.
- (iii) **QUALIFYING DATA:** We confirm that we satisfy the qualifying criteria and have attached the requisite documents as documentary proofs. In case you require any further information/documentary proof in this regard during evaluation of our bid, we agree to furnish the same in time to your satisfaction.
- (iv) **CONTRACT PERFORMANCE SECURITY:** We hereby declare that in case the contract is awarded to us, we shall submit the performance Guarantee Bond in the form of Bank Guarantee for the amount of 10% of the total order value.
- (v) **PAYMENT TERMS:** We hereby declare that in case the contract is awarded to us, we agree with payment terms specified in the tender documents.
- (vi) **CERTIFICATE AND DECLARATION:**
 - a) I/We certify that no addition/modification/alteration has been made in the Original Tender Document. If at any stage addition /modification /alteration is noticed in the Original Document, I/We will abide by the terms and conditions contained in the original tender document, failing which MNNIT Allahabad reserves the right to reject the tender and/or cancel the contract
 - b) It has been certified that all information provided in tender form is true and correct to the best of my knowledge and belief. We hereby declare that our proposal is made in good faith, without collusion or fraud. No forged /tampered document(s) are produced with tender form for gaining unlawful advantage. We understand that MNNIT Allahabad is authorized to make enquiry to establish the facts claimed and obtained confidential reports from clients.
 - c) In case it is established that any information provided by us is false / misleading or in the circumstances where it is found that we have made any wrong claims. Further MNNIT Allahabad is also authorized to blacklist our firm/company/agency and debar us in participating in any tender/bid in future.
 - d) I / We assure the Institute that neither I /We, nor any of my /our workers, will do any act which is improper / illegal during the execution in case the tender is awarded to us.
 - e) I / We assure the Institute that I / We will NOT be outsourcing any work specified in the tender document, to any other firm.
 - f) Neither I / We, nor anybody on my /our behalf will indulge in any corrupt activities /practices in my /our dealing with the Institute.
 - g) Our Firm / Company / Agency is not been blacklisted or banned by any Govt. Department, PSU, University, Autonomous Institute or any other Govt. Organization.
 - h) I/We certify that, I have understood all the terms & conditions (GCC and ITB etc.), as indicated in enquiry of the tender document, and hereby accept all the same completely.
 - i) I/We, further certify that I/We, possess all the statutory /non-statutory registrations, permissions, approvals, etc., from the Competent Authority for providing the requisite services,
 - j) We understand that you are not bound to accept the lowest or any bid you may receive.
 - k) I/We hereby declare that this tender on acceptance communicated by you shall constitute a valid and binding contract between us.
 - l) I/We certify that the submitted quotation is duly paginated and contains from page no. 1 to

Date:

Signature and Seal of the Manufacturer/Bidder

**TECHNICAL SPECIFICATIONS OF ‘KARYOTYPING WORK STATION’
(ON THE LETTER HEAD OF THE BIDDER)**

S. No.	Name of equipment	Specifications	Quantity
1	Karyotyping work station	<p>A) Microscope specifications:</p> <ol style="list-style-type: none"> 1. Microscope Body Type: Upright Manual Research Grade Microscope 2. Optical System: Universal Infinity Corrected 3. Observation Tube: Trinocular with minimum three way light path selection with minimum F.N.22 mm 4. Eyepiece: Widefield with minimum F.N. 22 mm or better 5. Nosepiece: Fixed Sextuple Interchangeable revolving with with Analyser Slot for DIC attachment 6. Objectives: Plan Achromat 10X/0.25, Plan Semi-Apochromat 40X/0.75, (spring) , 100X/1.3 (spring, oil) 7. Stage: Ceramic Hard Coated Right Handed Control with Two Slide Holder and equipped with Rubber Grip as standard 8. Condenser: Swing out Achromat (N.A. 0.9-0.16) 9. Illuminator: Transmitted light 12v 100watt Halogen base 10. Filter Neutral Density 6 and Neutral Density 25. 11. Fluorescence attachment Universal reflected light illuminator with field stop, aperture stop and 8-position mirror unit cassette, including UV protective shield 12. Filter for FISH Single Band Pass filter for -DAPI, TRITC, Spectrum Aqua. FITC, and Triple Band Pass Filter for DAPI/FITC/TRITC. <p>B) Fish imaging software A user-friendly patient database with advanced search and report generation capabilities, it also offers statistical analysis and cross-case comparisons of all data. Efficient data management with</p> <ol style="list-style-type: none"> 1. Multiple gallery options and reports. 2. Compare same-case and multi-case metaphases and/or karyotypes. 3. Chromosome comparison. Same case and multi-case options. Enables comparing of results of G-band, FISH, and other applications within a single report. 4. Archive case, Search cases, Case details, Slide details 5. Thumbnail images of RAW, Processed Karyotyped or completed images. 6. Image processing history is saved with date and time of each modification. 7. Gallery display for image retrieval. 8. Custom report generator. <p>C) Karyotyping software description</p> <ol style="list-style-type: none"> 1. Touching chromosomes, optimized image enhancement, contrast and band sharpness. 2. Multi function tools which eliminates the need for switching between other functional tools. A single tool must used to select, de-select, separate touching and overlapping chromosomes, cut, join, delete or add parts of chromosomes, rotate or move the chromosomes etc in metaphase as well as in karyotype workspace. 3. It should be able to score, count and analyse chromosomes. 4. Should be able to prepare the customised ideograms. 5. It should support of ISCN ideogram with 300-850 band resolutions. 6. It should be able to perform automatic contour in to widen and shrink the chromosome in one click. 7. Must have ability to display spine and centromere of all chromosomes. 8. It should be able to accurately estimate the band resolution of metaphase. 9. It should be able to annotate chromosomes as well as ideograms. 10. Should have easy and unlimited data archival and retrieval. 11. Should be able to compare chromosomes of multiple cases. <p>D) Specification for 12 bit, monochrome ccd camera</p> <ol style="list-style-type: none"> 1. Resolution: 1360 x 1040 pixels 2. Pixel Size: 6,45 µm x 6,45 µm 3. Frame Rate: 17 fps @ full resolution 4. Shutter: Electronic shutter 5. Exposure Time: From 10 µsec to 10 sec. 6. Signal to Noise: >65db 7. Digitization Depth: 12/16 bit 	01

	8. Interface Type: Gigabit Ethernet/USB 9. Sensor Type: CMOS/CCD E) Specification for computer & monitor 1. Processor: Intel Pentium Technology or better 2.86GHz or above, Quad Core VT. 2. Memory : 8GB Non-ECC DDR2/3 SDRAM, 3. Chasis Orientation: Vertical or Horizontal Chasis orientation 4. Hard Disk: 1 TB (7200 rpm) Serial ATA II Hard Drive or better 5. DVD Writer : 16x DVDRW –ROM Drive, 6. Video Graphics Card: Yes, Min1:28MB 7. Network Card: Integrated 10/100/1000 Gigabit networking / Ethernet. 8. Speakers: Internal. 9. USB Ports: 8 USB ports (2 front, 6 rear) 10. Keyboard: Enhanced Quiet Key USB, 11. Mouse: USB Scroll Optical Mouse, complete with manuals. 12. Operating System: Genuine and latest operating system. 13. Antivirus: 1 Year Licensed Antivirus 14. Monitor: High Resolution 24" TFT Monitor to support 1280 x 1024 or higher resolution complete with Analog and Digital Input	
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ANNEXURE-‘C’

AFFIDAVIT REGARDING BLACKLISTING/ NON-BLACKLISTING FROM TAKING PART IN GOVT.TENDER BY DOT/GOVT. DEPT

(To be executed on Rs.10/- Stamp paper & attested by Public Notary/Executive Magistrate by the bidder)

I / We Proprietor/ Partner(s)/ Director(s) of M/S. ----- hereby declare that the firm/company namely M/S.-----has not been blacklisted or debarred in the past by MNNIT Allahabad or any other Government organization from taking part in Government tenders.

Or

I / We Proprietor/ Partner(s)/ Director(s) of M/S. ----- hereby declare that the firm/company namely M/S.-----was blacklisted or debarred by MNNIT Allahabad, or any other Government Department from taking part in Government tenders for a period of ----- years w.e.f.-----.

The period is over on-----and now the firm/company is entitled to take part in Government tenders. In case the above information found false I/We are fully aware that the tender/ contract will be rejected/cancelled by MNNIT Allahabad, and EMD/SD shall be forfeited. In addition to the above MNNIT Allahabad, will not be responsible to pay the bills for any completed/ partially completed work.

Signature

Name.....

Capacity in which assigned:

Name & address of the firm:

Date:

Signature of Bidder with seal.

**Technical Compliance of 'KARYOTYPING WORK STATION'
(ON THE LETTER HEAD OF THE BIDDER)**

S. No.	Name of equipment	Specifications	Whether meet the requirement (Yes/No)	Quoted model specifications
1	Karyotyping work station	<p>A) Microscope specifications:</p> <ol style="list-style-type: none"> 1. Microscope Body Type: Upright Manual Research Grade Microscope 2. Optical System: Universal Infinity Corrected 3. Observation Tube: Trinocular with minimum three way light path selection with minimum F.N.22 mm 4. Eyepiece: Widefield with minimum F.N. 22 mm or better 5. Nosepiece: Fixed Sextuple Interchangeable revolving with with Analyser Slot for DIC attachment 6. Objectives: Plan Achromat 10X/0.25, Plan Semi-Apochromat 40X/0.75, (spring) , 100X/1.3 (spring, oil) 7. Stage: Ceramic Hard Coated Right Handed Control with Two Slide Holder and equipped with Rubber Grip as standard 8. Condenser: Swing out Achromat (N.A. 0.9-0.16) 9. Illuminator: Transmitted light 12v 100watt Halogen base 10. Filter Neutral Density 6 and Neutral Density 25. 11. Fluorescence attachment Universal reflected light illuminator with field stop, aperture stop and 8-position mirror unit cassette, including UV protective shield 12. Filter for FISH Single Band Pass filter for -DAPI, TRITC, Spectrum Aqua. FITC, and Triple Band Pass Filter for DAPI/FITC/TRITC. <p>B) Fish imaging software A user-friendly patient database with advanced search and report generation capabilities, it also offers statistical analysis and cross-case comparisons of all data. Efficient data management with</p> <ol style="list-style-type: none"> 1. Multiple gallery options and reports. 2. Compare same-case and multi-case metaphases and/or karyotypes. 3. Chromosome comparison. Same case and multi-case options. Enables comparing of results of G-band, FISH, and other applications within a single report. 4. Archive case, Search cases, Case details, Slide details 5. Thumbnail images of RAW, Processed Karyotyped or completed images. 6. Image processing history is saved with date and time of each modification. 7. Gallery display for image retrieval. 8. Custom report generator. <p>C) Karyotyping software description</p> <ol style="list-style-type: none"> 1. Touching chromosomes, optimized image enhancement, contrast and band sharpness. 2. Multi-function tools which eliminates the need for switching between other functional tools. A single tool must used to select, de-select, separate touching and overlapping chromosomes, cut, join, delete or add parts of chromosomes, rotate or move the chromosomes etc in metaphase as well as in karyotype workspace. 3. It should be able to score, count and analyse chromosomes. 4. Should be able to prepare the customised ideograms. 5. It should support of ISCN ideogram with 300-850 band resolutions. 6. It should be able to perform automatic contour in to widen and shrink the chromosome in one click. 7. Must have ability to display spine and centromere of all chromosomes. 		

		<p>8. It should be able to accurately estimate the band resolution of metaphase.</p> <p>9. It should be able to annotate chromosomes as well as ideograms.</p> <p>10. Should have easy and unlimited data archival and retrieval.</p> <p>11. Should be able to compare chromosomes of multiple cases.</p> <p>D) Specification for 12 bit, monochrome ccd camera</p> <p>1. Resolution: 1360 x 1040 pixels</p> <p>2. Pixel Size: 6,45 µm x 6,45 µm</p> <p>3. Frame Rate: 17 fps @ full resolution</p> <p>4. Shutter: Electronic shutter</p> <p>5. Exposure Time: From 10 µsec to 10 sec.</p> <p>6. Signal to Noise: >65db</p> <p>7. Digitization Depth: 12/16 bit</p> <p>8. Interface Type: Gigabit Ethernet/USB</p> <p>9. Sensor Type: CMOS/CCD</p> <p>E) Specification for computer & monitor</p> <p>1. Processor: Intel Pentium Technology or better 2.86GHz or above, Quad Core VT.</p> <p>2. Memory : 8GB Non-ECC DDR2/3 SDRAM,</p> <p>3. Chasis Orientation: Vertical or Horizontal Chasis orientation</p> <p>4. Hard Disk: 1 TB (7200 rpm) Serial ATA II Hard Drive or better</p> <p>5. DVD Writer : 16x DVDRW –ROM Drive,</p> <p>6. Video Graphics Card: Yes, Min1:28MB</p> <p>7. Network Card: Integrated 10/100/1000 Gigabit networking / Ethernet.</p> <p>8. Speakers: Internal.</p> <p>9. USB Ports: 8 USB ports (2 front, 6 rear)</p> <p>10. Keyboard: Enhanced Quiet Key USB,</p> <p>11. Mouse: USB Scroll Optical Mouse, complete with manuals.</p> <p>12. Operating System: Genuine and latest operating system.</p> <p>13. Antivirus: 1 Year Licensed Antivirus</p> <p>14. Monitor: High Resolution 24" TFT Monitor to support 1280 x 1024 or higher resolution complete with Analog and Digital Input</p>		
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ANNEXURE-'E'

**PRICE BID
(ON THE LETTER HEAD OF THE BIDDER)**

Sl. No.	Description of item with Specification	Quantity (No.)	U/ Price	T/Price (in Rs.)	
				In Figures	In Words
1.	KARYOTYPING WORK STATION MAKE _____ MODEL _____	01 No.			

We agree to supply the above goods in accordance with the technical specifications for a total contract price of _____ within the period specified in the Invitation for Quotations.

Signature and Seal of the Manufacturer/Bidder

Note:

- Bidders should provide copies of original Memorandum and Articles of Association, defining the constitution of legal status, place of registration and place of business of the company.